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Peace and Democracy

THREE LEVELS OF ANALYSIS

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Peace and regime type can be examined at the dyadic, nation, and system levels. At the dyadic level, it is well established that democracies rarely if ever fight each other. At the national level, the broad consensus is that there is no significant relationship between democracy and war participation, but this conclusion remains controversial. At the system level, there has been little research; most scholars have taken for granted that the answer can be inferred from the findings at the dyadic or national levels. The authors show that, if the conventional wisdom holds at the dyadic and national levels, the probability of war in a politically mixed dyad must be higher than the probability of war between two nondemocracies, and the relationship between democracy and war at the system level must be parabolic. Thus increasing democratization initially produces more war, and the reduction of war starts only at a higher level of democratization.

DEMOCRACY AND PEACE

THREE QUESTIONS

In this article we investigate the relationship between democracy and peace at three levels of analysis:

Dyadic: Do democracies usually keep the peace among themselves?

Nation: Do democracies more frequently maintain peace overall?

System: Is an international system with a high proportion of democratic states more peaceful?

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The prevailing opinion appears to answer these three questions yes, no, and yes. The first question has been extensively researched, with clear results. The second question has also been analyzed a great deal, with conflicting results and with the prevailing opinion leaning in the direction of a no, but now shifting in the direction of a perhaps. The third question has rarely been subjected to empirical investigation, but it is commonly assumed that it can be answered by a simple deduction from one of the two other levels. The most common conclusion is that if democracies do not fight each other, an increasing number of democracies in the system will produce a more peaceful system. Others have argued that if democracies are as war prone as nondemocracies, it makes no difference at the system level if the number of democracies increases. Both of these system-level statements cannot be true at the same time, so there must be something wrong either with the deductions or with the empirical regularities.

In this article we first confirm the democratic peace at the dyadic level and the lack of a clear relationship at the national level, using several measures of conflict. Next we show that, given the conventional wisdom—that democracies hardly ever fight each other but overall participate in war as much as other countries—it follows logically that the probability of war in a politically mixed dyad must be higher than the probability of war between two nondemocracies, and the relationship between peace and democracy at the system level must be bell-shaped (i.e., parabolic). Finally, we look briefly at the empirical evidence at the system level. Although democracy is clearly relevant for subnational conflict, we do not examine those effects here.¹

RESEARCH DESIGN

SPATIAL AND TEMPORAL DOMAIN

Our empirical study is based on the data on militarized disputes and interstate wars in the Correlates of War (COW) data set, data on post-Cold War armed conflicts from the Uppsala University data set, and data on political system characteristics from the Polity III data set. To the COW data on interstate wars we have added data for 1993 and 1994 from the Uppsala data to cover the entire Polity time span² from 1816 to 1994 in the study of interstate wars. Following the COW criteria for membership in the interstate system (Small and Singer 1982, 39–43, summarized in Gleditsch 1995a, 304–5), we have added the new UN member, Andorra, as a system member in 1993.

THE DEPENDENT VARIABLE

In the COW project, an interstate war is defined as a violent conflict between two or more members of the international system involving more than 1,000 annual battle

1. Other studies have found a bell-shaped relationship between the degree of democracy and violent domestic conflict (Muller and Weede 1990; Ellingsen and Gleditsch, forthcoming). Democracies have less domestic violence, presumably because they permit the expression of opposition in peaceful ways. Dictatorships also have less violence because they repress any opposition before it can organize. The “in-between” countries are the most violence prone.

2. There were no new international wars in these 2 years, but the Armenian-Azerbaijan war continued.

deaths (Small and Singer 1982; Singer and Small 1994). Our two other data sets have a lower threshold on violence. The militarized interstate disputes data for 1816 to 1892 (Singer and Small 1994) include all interstate conflicts with the use or threat of force. The Uppsala data (Wallensteen and Sollenberg 1996) include all armed conflicts with more than 25 dead in a given year.³

DEMOCRACY

We use the most recently corrected version of the Polity III data set generated by Ted Gurr and associates (Gurr, Jagers, and Moore 1990; Jagers and Gurr 1995), the only such data set to cover the full spatial and temporal domain of the COW data.⁴ The Polity data set includes 172 current and historical countries. In terms of units of analysis, the overlap between the Polity and COW data is very high (Gleditsch 1995a, 306). However, the Polity set of countries is somewhat smaller than COW's. Thus some country years and dyad years included here have no Polity data at all. For simplicity, we have merged this category with the Polity codes of interruption, interregnum, transition, and missing data (Gurr, Jagers, and Moore 1989, 6-8).

For the measurement of democracy, we first compute for each country year the difference between the Polity III indices of institutionalized democracy and institutionalized autocracy. If DEMOC-AUTOC is 3 or higher, we define the country as democratic. By using the difference between the two scales, we avoid categorizing ambiguous regimes as democracies. Prime examples of countries with a high score on the two indices are Japan from 1868 to 1944 (DEMOC = 5, AUTOC = 4) and Germany from 1908 to 1917 (DEMOC = 5, AUTOC = 3).

The DEMOC and AUTOC indexes in Polity are additive indexes ranging from 0 to 10. Combining them (DEMOC-AUTOC) yields an additive index ranging from -10 to 10, combining assessments of the competitiveness of political participation (-2 to 3), regulation of political participation (-2 to 0), competitiveness of executive recruitment (-2 to 2), openness of executive recruitment (-1 to 1), and constraints on the chief executive (-3 to 4). The cutoff at 3 is fairly arbitrary but is set to give roughly the same proportion of democracies as in previous studies with a cutoff of 6 on the democracy scale alone. Our democracy index may be validated intuitively by considering values for a few selected countries: The United States exceeds 3 for the entire time span, Germany achieves it during the Weimar Republic (1919-1932) and again from 1949, Russia is coded with a 4 in 1917 but did not reach this level again until 1991, and France is classified as a democracy from 1848 to 1950, from 1877 to 1939, and from 1946 onward.

3. The Uppsala conflicts have been updated until 1995, but we can go only as far as the Polity data have been updated (i.e., to 1994). The data are published by conflict. We have coded all countries at opposite sides in a war as being opponents. The Uppsala data require that at least one government to be among the contending parties. Wherever another government is listed on the opposing side, we have coded the conflict as international.

4. The corrected version of the data set is available by anonymous ftp from <isere.colorado.edu>. Relative to the version publicized in Jagers and Gurr (1995), the new version has corrected a small summation error in the scores for democracy and the autocracy scores and a few other errors that barely affect the statistical results.

DO DEMOCRACIES USUALLY MAINTAIN PEACE WITH EACH OTHER?

The evidence from previous studies is straightforward: there are few if any wars between democracies. Some disagreement remains as to whether the relationship is merely very strong (e.g., Weede 1992, 382) or virtually without exception (Rummel 1983, 1995; Ray 1993).

Table 1 summarizes the evidence for the entire 179-year period. The data indicate that the relative frequency of war between two democracies is about two fifths of the relative frequency of war between two nondemocracies. Politically mixed dyads (democracy/nondemocracy) have an even higher relative frequency of war than nondemocratic dyads.

Although this is a strong and highly significant relationship, it is by no means perfect. Table 2 lists the exceptions. The anomalous cases of war between democracies comprise 30 dyad years. No less than 24 of these are made up by Finland versus various Western democracies in World War II. These cases could be interpreted as "derived war," resulting from the change of sides of a major actor (the Soviet Union) in a three-way contest. It would not be unreasonable to modify the theory of the democratic peace to incorporate such major shifts in a multipolar war as one of the circumstances under which small democracies might unwittingly find themselves at war with other democracies. However, it seems more appropriate to dismiss these shifts as a weakness in our measurement of dyadic war data because there was no war action at all, even where there was a formal declaration of war.⁵

Two anomalous dyad years occur because the time variable in the Polity data set is too coarse. The 1971 Bangladesh War between India and Pakistan was preceded by a state of emergency in Pakistan. Similarly, the Turko-Cypriot War in 1974 was preceded by a Greek Cypriot military coup, instigated by a military regime in Greece. Five days later, Turkey responded by an invasion, which divided the island and, ironically, brought down the Greek colonels' regime. Thus these dyad years should be classified as wars between a democracy and a nondemocracy. These anomalies occur because regime changes in Polity are coded by year rather than by date.

Of the remaining four anomalous dyad years, the Lithuanian-Polish War of 1919 was considered too small to be included in earlier versions of the COW set of interstate wars⁶ and therefore has not turned up in earlier lists (e.g., Gleditsch 1993, 313). It is included in the newest version of the COW data set but as a marginal war (1,000 battle deaths) between two brand-new democracies. Because Lithuania's constitution was not adopted until 1922 (*The Baltic States* 1991, 180), one might question the Polity coding of Lithuania as a democracy from 1918 (cf. also Weart 1994). Coding Spain

5. The United States resisted Soviet pressure to declare war on Finland, so the United States-Finland dyads are particularly inappropriate as war dyads. The senior author has dealt more extensively with the case of Finland elsewhere (Gleditsch 1993), as has Ray (1993, 271). The discussion in Spiro (1994, 61-2) is somewhat misleading. He charges Finland with having "pursued an alliance with fascists and . . . declared war on democracies" (it was, of course, England that declared war on Finland). Spiro also counts England's attack on German shipping in a Finnish harbor as an attack on Finland more than 4 months before England declared war on Finland.

6. In Small and Singer (1982, 338) the Lithuanian Polish War is listed as a war but with different dates (1920-1927) and is excluded because it did not meet the battle casualties threshold. For 1919 they also list (p. 337) a Polish-Ukrainian War, excluded for the same reason.

TABLE 1
Democracy and Dyadic Relationships in War, 1816-1994 (percentage of dyad years at war)

Type of Relationship	Two Democracies	One Democracy	No Democracies	Missing Regime Data or Regime Transition		All Dyad Years	Number of Dyad Years	χ^2	p
At war with each other	.05	.17	.12	.61	.17		916	54.9	1.2×10^{-12}
Allied in war ^a	.51	.18	.12	.74	.23		1,268	396.9	4.2×10^{-87}
Other ^b	99.44	99.65	99.76	98.65	99.60		547,094		
Total	100.00	100.00	100.00	100.00	100.00				
Number of dyad years	62,581	219,563	227,537	39,693		100.00	549,374		

NOTE: Interstate wars from the Correlates of War project, updated to 1994. Democracy defined as 3 or higher on the difference between the democracy and autocracy indices in the corrected Polity III data. Each dyad is counted separately for each year. The number of dyads in the system increases from 253 in 1816 to 17,020 in 1994. The χ^2 tests at the end of the first two rows refer to the two 2×3 tables that emerge when the other rows are merged and the missing or transition column eliminated. Two possible objections to our use of chi-square tests are the following: (1) the observed counts of war are not independent because wars continuing over several years are counted as several observations. We admit the validity of this objection and discuss it in a later section. Table 4 presents figures where this dependency has been reduced and even eliminated. (2) The number of observations has been inflated by dividing time into short spans (years) and thus securing significant results. This objection, however, is not valid as long as there is no dependency between units counted as in war. The number of onsets of dyadic conflict or war (see Table 4) would not change if we had chosen the dyad month as the unit of measurement. Further, because $\chi^2 = \sum_{ij} ([\text{observed count}_{ij} - \text{expected count}_{ij}] / \text{expected count}_{ij})$ and the expected counts for nonwar are much higher than those for war, the nonwar cells hardly contribute at all to the statistic.

a. Means that the two countries in the dyad are at war and on the same side of the war.

b. Includes all dyads where neither country is at war or where only one country is at war (with someone else).

TABLE 2
Anomalous Cases: War between Democracies, 1816-1994

Country 1	Country 2	War	Years	Anomalous Dyad Years
Spain	United States	Spanish-American	1898	1
Lithuania	Poland	Lithuanian-Polish	1919	1
Finland	Australia, Canada, New Zealand, South Africa, United Kingdom, United States	World War II	1941-1944	24
Israel	Syria	Palestine	1948	1
India	Pakistan	Second Kashmir	1965	1
India	Pakistan	Bangladesh	1971	1
Cyprus	Turkey	Turko-Cypriot	1974	1
Total				30

NOTE: Data as in Table 1. Countries 1 and 2 are listed in alphabetical order.

as a democracy in 1898 has been questioned by Ray (1993). Coding Syria in 1948 and Pakistan in 1965 as democracies is also debatable. None of these four deviant cases concerns stable or established democracies.

Obviously, one should be careful about reclassifying deviant cases without reexamining other cases. Temporal mismatches and fictitious dyadic opposition in multipolar wars may occur among nondemocracies and politically mixed dyads as well. Moreover, correcting for temporal mismatch may conceivably yield new wars between democracies. But even in the absence of such systematic reconsideration, Table 1 confirms the very strong dyadic relationship between democracy and peace, and given our caveats about the data, it is consistent with the idea of a near-perfect relationship.

Although democracies rarely, if ever, fight each other, they are more frequently allied in war. An average pair of democracies is allied in war more than four times as frequently as the average pair of nondemocracies.

How far can we lower the violence threshold while retaining the strong dyadic relationship between democracy and peace? Weede (1992, 380), using data with a threshold of 100 dead, found no military conflicts between democracies between 1962 and 1974. Likewise, no major military interventions (i.e., claiming more than 100 lives) between democracies are mentioned in the data set generated by Tillema (1991). If we look at all the interventions in this data set, the relationship is no longer perfect. But there are few such interventions between democracies, and “almost all were symbolic and short-term uses of armed force” with little loss of life (Kegley and Hermann 1996, 319). Studies using militarized interstate disputes (MIDs) (Gochman and Maoz 1984) find some conflict between democracies (Maoz and Russett 1992, Table 2, 254) but not for the highest category of MIDs (“war disputes”) and fewer than for other combinations of regime types.⁷

7. Many of the MIDs between democracies are fisheries disputes (e.g., the Cod Wars between Iceland and its neighbors). In such conflicts, the threat or use of force is usually acted out between the government on one side and a private fishing vessel on the other. The intergovernmental interaction is generally limited to diplomatic exchanges, and it is questionable whether such conflicts have any place in a data set on interstate disputes.

Apart from the higher risk of coding error in the MID data, it is unreasonable to expect joint democracy to eliminate all militarized conflict down to the level of force found, for instance, in the Cod Wars. The theory of the democratic peace does not assume that joint democracy will eliminate all conflict, and we should expect some conflicts to develop military overtones. But we should also assume that the nonviolent norms of democracies will intervene to prevent further escalation.

In the second line of Table 3, we test the dyadic relationship for the Uppsala conflict data for the post-Cold War period (1989-1994). For this data set, more inclusive than the COW data but not as inclusive as the MID data, we find a single case of armed conflict between two democracies (India and Pakistan in 1989) and little difference between nondemocratic pairs and the mixed dyads. This is, in a sense, a stronger finding than the one in Table 1 because the violence threshold is lower. On the other hand, the time span for the Uppsala data is much shorter than for the COW data. The third line of the table tests the dyadic relationship on the disputes data, where we also find the least conflict for double democratic dyads, although the relationship is not nearly as strong as for interstate war. Thus both data sets provide supporting evidence for the dyadic democratic peace.

Just as we have asked whether the dyadic democratic peace holds at lower levels of violence, we may ask if the relationship varies with differing levels of democracy. If we lower the threshold of democracy minus autocracy to zero, the ratio of war incidence among democracies to that among nondemocracies increases from 2:5 to more than 2:3. Conversely, if we raise the level of democracy minus autocracy from 3 to 8, we eliminate all wars between democracies except Finland versus the Western democracies in 1944. This is another case of temporal mismatch between Polity and COW because Finland's change to a high level of democracy occurred after the end of the war. Thus, at this level of democracy, the correlation may be perfect.

Empirical findings such as those in Tables 1 and 3 have frequently been questioned on the basis that the dyad years do not represent independent observations. If two countries are at war in year t , the chances are much better that they will remain at war in year $(t + 1)$ than that two new countries will go to war. Similarly, once a conflict has broken out between countries a and b , there is a higher probability that the conflict will spread to country c (particularly if this is a neighboring or allied country) than for an entirely new conflict to start between c and d . We may call these two forms of dependency between the units dependence on the past and simultaneous dependence. To eliminate this problem, Bremer (1992, 320) limits his investigation to the dyad years that occur on the first day of a war, arguing that "the question of how wars begin is fundamentally different from the questions of why wars grow in size, duration, or severity." But this is not a question that can be settled *a priori*. During a war, decision makers are constantly forced to reexamine its costs, and a decision to stay in a war rather than give up or withdraw from conquest may be a result of the same forces that made war break out in the first place. Bremer's approach has the disadvantage of reducing long wars with many participants to a single dyadic observation or, at most, a few, if several countries enter the war on the first day. Thus World War II is reduced to one dyad year, Poland-Germany in 1939. Another problem with Bremer's work is that his censoring is inconsistent: he eliminates dependent cases of war but not

TABLE 3
Democracy and Dyadic Armed Conflict (percentage of dyad years in conflict)

<i>Type of Armed Conflict</i>	<i>Two Democracies</i>		<i>One Democracy No Democracies</i>		<i>Missing Regime Data or Regime Transition</i>		<i>Total</i>		<i>Number of Conflict Dyad Years</i>		χ^2	p
Interstate war, 1816-1994	.05	.17	.12	.61	.17	.916	549,374	54.9	1.2×10^{-12}			
Armed conflict, 1989-1994	.01	.05	.06	.02	.04	36	91,666	7.5	.023			
Militarized disputes, 1816-1992	.38	.87	.68	1.51	.78	4,013	515,334	157.7	5.7×10^{-35}			

NOTE: The line for interstate war is repeated from Table 1 for purposes of comparison. The data on armed conflict are from Wallenstein and Sollenberg (1996). The line for militarized interstate disputes is from Singer and Small (1994). Democracy is defined as 3 or higher on the difference between the democracy and autocracy indices in the corrected Polity III data set. Each dyad is counted separately for each year.

dependent cases of peace. His analysis lumps dyads continuing at war and dyads in the process of joining an ongoing war with dyads at peace.

In a companion article from our project, Raknerud and Hegre (1997) tackle this problem in a radically different way by modelling the interstate dyad as a continuous process (cf. also Beck and Tucker 1996). This leads to results that also confirm the democratic peace while seeing it in connection with war diffusion and recurrence. Here, we choose a simpler approach, by comparing the results obtained in Tables 1 and 3 with the results of an analysis in which we have eliminated the unit dependency for war (but not for peace). The assumption is that if we find the same relationship for the incidence of war and the onset of war, our confidence in the results will increase. In Table 4, we have cross-tabulated democracy with onsets of dyadic war and onsets of war. The second half of the table corresponds to Bremer's radical reduction of conflict dyads to new conflicts only, but the first half of the table is a less drastic solution in which all new conflict dyads are counted in their first year. Although the frequency of dyadic war onsets is naturally lower than the dyadic incidence of war, and the frequency of war onsets even lower, Table 4 confirms that war occurs much more rarely in jointly democratic dyads. The number of anomalous cases is reduced, mainly because the Finnish war dyads from 1941 to 1944 are eliminated.

The dyadic relationship between democracy and peace has been subjected to various tests of third variables (Maoz and Russett 1993; Oneal et al. 1996; Bremer 1992, 1993; Gleditsch 1995a); no evidence has been found for considering the relationship spurious. Indeed, if the relationship between democracy and peace was perfect, tests for spuriousness would be superfluous—unless a control variable was proposed that in itself had a perfect relationship to the dependent and the independent variable. Even if the relationship is just very strong rather than perfect, the search for single third variables seems unpromising.

ARE DEMOCRACIES MORE PEACEFUL?

There has been much more controversy around the proposition that democratic countries are less warlike. Some of this controversy is no doubt due to confusion about the meaning of *warlike*. We take as our starting point whether or not democracies participate in war more frequently than others. The point that democracies are no less prone to participate in war than other polities was made in an influential article by Small and Singer (1976). Most of those who have addressed this topic in the decade since the debate was reopened with the seminal articles by Doyle (1983a, 1983b) and Rummel (1983) have drawn the same conclusion. Rummel is a major deviant, but the empirical evidence in his 1983 article has been questioned because of its limited empirical base. More recently, Rummel (1995) has complained, with some justification, that he was not alone in finding democracies to be more peaceful. For instance, Haas (1965, 319) found "a slight but consistent tendency for democratic countries to have less foreign conflict than undemocratic political systems," based on conflict data from the end of the 1950s and political variables in *A Cross-Polity Survey* (Banks and Textor 1963). Ray (1995) and Benoit (1996) are also revisionists on this issue.

TABLE 4
Democracy and Dyadic Onsets of Armed Conflict

Type of Armed Conflict	Two Democracies		One Democracy		No Democracies		Missing Regime Data or Regime Transition		Total		Number of Conflict Dyad Years		χ^2	p	
	Democracies	Democracy	Democracy	Democracies	Democracies	Regime Transition	Regime Transition	Total	Dyad Years	All Dyad Years					
Dyad years with onset of new dyadic conflict (%) ^a															
Interstate war, 1816-1994	.02		.06 (-)		.05 (+)		.18		.06		331		549,374	15.9	.00036
Armed conflict, 1989-1994	.00		.05 (-)		.05 (-)		.02 (-)		.03		31		91,666	8.4	.015
Militarized disputes, 1816-1992	.32		.59		.48		.82		.53		2,730		515,334	69.5	8.2*10 ⁻¹⁶
Dyad years with onset of new conflict (%) ^b															
Interstate war, 1816-1994	.01		.01 (+)		.03 (-)		.04 (+)		.02 (-)		118		549,374	18.3	.00011
Armed conflict, 1989-1994	.00		.00 (+)		.00 (+)		.01 (-)		.00 (+)		3		91,666	.8	.68
Militarized disputes, 1816-1992	.28		.43		.36		.61		.40		2,033		515,334	32.4	9.4*10 ⁻⁸

NOTE: To avoid exaggerated accuracy, we have limited the conflict frequencies to two significant digits, but to facilitate horizontal comparison, we have added a plus or a minus sign to indicate if the unrounded figure is higher or lower.

a. Conflict data and democracy data as in Tables 1 and 3. Each dyad is counted separately for each year, but conflicts are counted only in their first year for that dyad. To determine which dyadic armed conflicts and which armed conflicts were new in 1989, we consulted a list of armed conflicts in 1988 from the same project. The 1988 list is more inclusive (no lower threshold on violence), so it cannot be used to extend the time series, but with some caution it can be used to determine which cases of incidence in 1989 were also onsets.

b. Data as in the first half of the table, but dyadic conflict is counted only for the first year of the conflict. To determine the starting date of the Mauritania-Senegal conflict, we used *Keesing's Contemporary Archives* (1989, 36579f).

TABLE 5
Democracy and Armed Conflict: The National-Level
Relationship (percentage of country years with conflict)

<i>Type of Armed Conflict</i>	<i>Democracy</i>	<i>No Democracy</i>	<i>Missing Regime Data or Regime Transition</i>	<i>Number of Conflict Dyad Years</i>	<i>All Dyad Years</i>	χ^2	<i>p</i>
<i>Incidence of conflict</i>							
Interstate war, 1816-1994	5.4	5.3	6.6	639	5.5	.04	.85
Armed conflict, 1989-1994	4.8	4.5	1.8	43	4.2	.03	.86
Militarized disputes, 1816-1992	33.6	32.9	22.8	3,632	32.1	.61	.43
<i>Onset of new dyadic conflict</i>							
Interstate war, 1816-1994	2.1	2.3	2.6	266	2.3	.78	.38
Armed conflict, 1989-1994	3.9	2.8	1.2	31	3.0	.85	.36
Militarized disputes, 1816-1992	28.0	26.3	16.9	2,928	25.9	3.45	.06
<i>Onset of new conflict</i>							
Interstate war, 1816-1994	1.1	1.8	1.6	182	1.6	5.92	.02
Armed conflict, 1989-1994	.7	1.0	.6	8	.8	.33	.56
Militarized disputes, 1816-1992	24.6	26.0	14.5	2,718	24.0	2.20	.14

NOTE: Conflict data and democracy data as in Tables 1 and 3.

Although Rousseau et al. (1996, 526) found the previous evidence in support of the conventional wisdom at the national level “actually quite thin,” they also concluded that the evidence for the dyadic thesis was much stronger. The bulk of the large-*n* studies agrees with Chan (1984), who found that “relatively free” countries participated in war just as much as the “less free”—6.7% versus 6.1%, respectively, of all country years between 1816 and 1980.⁸

Table 5 gives our national-level results for the corrected Polity III data using the three indicators of conflict. The same problem of dependency between units occurs at the national level. Therefore, we have computed data for the incidence of conflict as well as for the two forms of onset. The frequency of participation in war or militarized interstate disputes (whether measured by incidence or onset) is not very different between democracies and nondemocracies. However, in an analysis dividing the war data by time periods (not reproduced here), we found that during the cold war, democracies participated significantly less frequently in war than nondemocracies. This pattern appears to continue into the post-Cold War period.

It might be suspected that the “no relationship” finding was dependent on the cutoff for the level of democracy. Perhaps a positive relationship between democracy and peace would emerge if the requirement for democracy were more stringent. This idea was tested with a negative outcome. At least for the period as a whole, there is no clear trend in the war participation of democracies relative to nondemocracies when the level of democracy is varied systematically.

8. For extrasystemic wars (i.e., colonial and imperial wars), democratic countries were at war significantly more frequently. However, this figure exaggerates the relative war participation of democracies because nondemocratic opponents in colonial wars are not counted as separate actors.

Rummel (1995) has shown that democratic countries suffer much smaller losses in war than nondemocratic countries, from .24% of the population in democratic countries killed per year in war in this century to .56% for totalitarian countries (using COW data).⁹ He argues that studying the frequency of war means asking the wrong question. For instance, countries with extremely small losses may be counted as being at war because they form part of a coalition and have more than 1,000 troops involved, even if they suffered negligible losses (Small and Singer 1982). Even for participants who do qualify for the threshold losses, Rummel argues that it is unreasonable to equate country years of major actors in World War II with minor border skirmishes.

Rummel's (1995) finding about democracies suffering less violence in war is, of course, also compatible with an argument that democracies are stronger in war and technologically more advanced and better able to deploy force at greater distances, so that most of the fighting occurs on the opponent's territory. These data are even compatible with Galtung's (1996) notion that democracies are more self-righteous and therefore more belligerent. Stam (1996) shows that democracies tend to win the wars they participate in, and Singer (1991) has suggested that there has been a process of displacement in the later stages of the cold war: war was reduced in the central system—not just among democracies, but among industrial and postindustrial nations generally. In the periphery, war not only continued but was accelerated by major power rivalries. If Singer's argument were valid (and we tend toward skepticism), it would be consistent with lower war losses in democracies. There is a great deal of other evidence that democracies value human life more highly, notably because of the absence in democracies of genocide (Rummel 1994) and famine (Sen 1994) and the lower incidence of civil war (Ellingsen and Gleditsch 1996). But we cannot conclude from figures on war losses alone that democracies are more peaceful in their foreign behavior, although Rummel has indeed shown that their populations are on the average less negatively affected by war. How to properly test an argument relating war severity to peacefulness remains unclear. It would probably require data about who kills whom and where, and such data have not yet been compiled.

One fairly simple explanation for the high overall participation of democracies in war is the tendency for democracies to ally in war. Some of the war participation of the allied states is fairly limited, as with Belgium and the Netherlands, which are listed as full-fledged combatants in the Korean War even though their casualties were only about 100 each (Small and Singer 1982). This is seen clearly when we compare data on the incidence of conflict with those on the onset of new conflict in Table 5. Although democracies have a slightly higher incidence of war, they have fewer onsets of new conflict. The latter measure of war participation does not include countries brought into the war through their alliances, except those that enter a war on the first day. This finding corresponds to the lower frequency of onsets of war in mixed dyads relative to nondemocratic dyads (cf. Table 4).

Yet another way of reconciling the lack of war between democracies with the high war participation of democracies is to argue that democracies are unlikely to initiate

9. Rummel (1995) also found that the negative relationship between democracy and relative human losses in war held up when controlling for the level of economic development or capability, although not for the value "high" on either of the control variables.

war. Rummel (1979) did not posit a correlation between freedom and the frequency of involvement in war because free states by their very example represented a subversive challenge to authoritarian and totalitarian systems. Therefore, libertarian states would have to engage in defensive and reactive violence against attempts from nonlibertarian states to change the status quo.

This idea was tested by Small and Singer (1976, 66), who found that in the 19 wars in which democracies participated, they initiated (or were on the side of the initiator) in 58%. This result should have been adjusted for the number of democracies in the system, but this involved more work collecting democracy data than they were prepared to undertake at the time. Because at all times there were more nondemocracies than democracies, nondemocracies should be expected to initiate more wars. When the opposite is found, it appears that democracies are even more prone to initiate wars than Small and Singer's results indicate.

Table 6 lists all wars between 1816 and 1994 involving democracies from the start of the war. The table includes 30 of the 75 interstate wars in the Small-Singer data set. Twenty-two of these, or 73%, were initiated by a democracy. To determine war initiation is a difficult coding task because it depends on identifying the country that crosses the decisive borderline in a process of escalation. In some cases, the threshold is obvious, as when Germany attacked Poland in 1939. In other cases, with a protracted process of escalation in many small steps, identifying the initiator may require an arbitrary cutoff. Moreover, the possibility of preventive war muddies the waters. If *A* intends to attack *B*, and *B* strikes first to prevent it, *B* will be the initiator in Small and Singer's (1976) terms, but in discussing nations' peacefulness, it may be just as reasonable (or unreasonable) to identify the other party as the aggressor.

When the Small and Singer (1976) list of initiators is examined more closely, such problems emerge quite clearly. Looking at some of the wars initiated by democracies, we find several protracted high-tension disputes (India vs. Pakistan in the Second Kashmir War in 1965, Israel vs. its neighbors in the 1956 and 1967 wars, and Syria vs. Israel in 1948) in which mutual thoughts of preemption must have been so pervasive that the coding of war initiation becomes highly suspect. In four other wars (United States vs. Vietnam in 1965, India vs. Pakistan over what became Bangladesh in 1971, Turkey vs. Cyprus in 1974, and Armenia vs. Azerbaijan in 1991) an interstate war was initiated only after violence had already started in the form of civil war, government massacre, or a coup d'état. Thus all eight wars initiated by democracies in the post-World War II period seem rather irrelevant to determining the peacefulness of democracies. We have not analyzed in similar detail earlier wars initiated by democracies, but the data from the post-1945 period alone cast considerable doubt on the notion that democracies are as war prone as nondemocracies. At least in the modern era, democracies would appear to initiate violence very rarely, except in protracted conflicts; but if violence has started in some form, they are not averse to intervening or escalating the dispute to the point where it can be settled by superior force. The prior existence of violence may serve as a justification for the intervention of democracies.

The six most violent interstate wars in the entire COW period—World War I (1914), World War II (1939), the Sino-Japanese War (1937), the Korean War (1950), the Vietnam War (1965), and the Iran-Iraq War (1980)—were all initiated by nondemoc-

TABLE 6
Democracy and the Initiation of War, 1816-1994

Starting Year	War	Initiator(s)		Target(s)	
		Democracy Level	Country	Democracy Level	Country
1846	Mexican-American	10	United States	m.d.	Mexico
1856	Anglo-Persian	3	United Kingdom	-10	Persia
1879	Pacific	3	Chile	-7	Bolivia
1884	Sino-French	7	France	-6	China
1893	Franco-Thai	7	France	-10	Thailand
1897	Greco-Turkish	10	Greece	-10	Ottoman empire
1898	Spanish-American	10	United States	4	Spain
1900	Boxer Rebellion	10	United States	-6	China
		7	United Kingdom		
		8	France		
		-10	Russia		
		1	Japan		
1909	Spanish-Moroccan	6	Spain	-6	Morocco
1912	First Balkan	4	Yugoslavia/Serbia	-1	Turkey
		10	Greece ^a		
		-9	Bulgaria ^a		
1913	Second Balkan	m.d.	Bulgaria	4	Yugoslavia/Serbia
				10	Greece
1914	World War I	-4	Austria-Hungary	4	Yugoslavia/Serbia
1919	Russo-Polish	-1	Russia	8	Poland
1919	Lithuanian-Polish	8	Poland	4	Lithuania
1919	Hungarian-Allies	7	Czechoslovakia		Hungary
		-4	Rumania		
1919	Franco-Turkish	8	France	m.d.	Turkey
1939	Russo-Finnish	-9	USSR	4	Finland
1948	Palestine	5	Syria	m.d.	Israel
		-4	Iraq		
		1	Egypt		
		2	Lebanon		
		-10	Jordan		
1956	Sinai	10	Israel	-7	Egypt
1962	Sino-Indian	-8	China	9	India
1965	Vietnamese	10	United States	-8	North Vietnam
1965	Second Kashmir	9	India	3	Pakistan
1967	Six Day	9	Israel	-7	Egypt
				-9	Jordan
				-7	Syria
1971	Bangladesh	9	India	3	Pakistan
1973	Yom Kippur	-7	Egypt	9	Israel
		-10	Jordan		
		-10	Saudi Arabia		
1974	Turco-Cypriot	9	Turkey	10	Cyprus
1982	Falklands	-8	Argentina	10	United Kingdom
1991	Armenia-Azerbaijan	7	Armenia	-1	Azerbaijan

TABLE 6 Continued

NOTE: m.d. = missing data. In the 1969 Israeli-Egyptian War, Israel (9) and Egypt (–7) participated, but COW has no information on initiation. This table includes all interstate wars in the Correlates of War data set involving at least one democracy from the start. Small and Singer (1982) have coded the initiator variable only up to 1980. For the remaining years, we have used Singer’s update of the war data to 1992 (Singer and Small 1994), the Wallensteen and Sollenberg (1996) data on wars between 1993 and 1994, and our own coding of the initiator. Three wars had to be eliminated from the COW list when the present table was compiled. In the Israeli-Egyptian War (1969–1970) and the Vietnamese–Cambodian War (1975–1980), no initiator is named. The war called Roman Republic (1849), according to the COW data set, was initiated by France, which was not one of the original parties (Two Sicilies vs. Austria-Hungary). This makes no sense, so this war has also been left out. Of these three, only the first involved a democracy. Note that the two world wars have also been excluded. Although they involved several democracies, the original initiator and victim (Austria-Hungary vs. Serbia in World War I and Germany vs. Poland in World War II) were not democracies when the wars broke out. The same goes for the Crimean war, the First Balkan War, and the Korean War. Wars in bold print are those initiated by democracies. Democracy scores are from Polity III. a. Greece and Bulgaria not coded by COW as initiators but as participating on the initiator’s side from the first day of the war.

racies, although mostly with other nondemocracies as the initial victims. When democracies became involved, as they did in four of these wars, they joined the target rather than the initiator. This adds force to the contention that if democracies participate at all, they tend to be on the reactive side, at least in major wars.

This is not tantamount to saying that democracies are more peaceful. Such a statement would require a more detailed analysis of the patterns of escalation and consideration of a wider set of wars. For instance, many extrasystemic wars have been initiated by democracies engaged in colonial conquest. Second, in the post-World War II period there appear to have been many more military interventions abroad conducted by democratic (Western) countries than by the Soviet Union and its allies. Some interventions have been justified with reference to stopping domestic violence or promoting democracy, but others are more commonly interpreted as power politics. Third, major powers, including large democracies, may fight war through proxies.

Finally, what about controls for third variables? That task is much more urgent at the national level than at the dyadic level because we are not dealing with a perfect or near-perfect relationship. Many of the third variables controlled for at the dyadic level—for instance, those tested by Bremer (1992)—could be translated to the national level. But few if any studies control for third variables in a convincing manner.¹⁰

CONNECTING THE LEVELS LOGICALLY

Although the relationship between the dyadic level and the national level has been the subject of some debate, there has been little research at the system level and very little discussion about the links to the other levels. Most have taken it for granted that the systemic relationship could be deduced from the dyadic level (Singer and Wildavsky 1993) or from the national level (Small and Singer 1976). In one of the few

10. A partial exception is Schjølset (1996).

studies to address directly the logical connections between two levels, Starr (1992) argues that a greater number of democracies produces a larger number of democratic dyads, and this in turn lowers the level of violence in the system. But this is not so obvious. A greater share of democracies also means a larger number of mixed dyads with a higher probability of war. So what is the net effect on war in the system?

Obviously, if all countries become democratic, interstate war will hardly occur any more. In other words, given complete democratization, a yes to the dyadic question logically implies a yes to the system-level question, and the national-level question becomes irrelevant. But what about links between the levels at lower levels of democratization? As long as the democracies are in a minority among the countries, double democracies will be an even smaller minority among the dyads, and it will take only a slightly higher incidence of war between democracies and nondemocracies to compensate for the lack of war between democracies. If an increase in the incidence of democracy over time is accompanied by an increasing rate of war between democracies and nondemocracies, a system with a higher proportion of democracies need not be more peaceful. Quincy Wright's notion ([1942] 1965, 266) that "the greater the number of sheep, the better hunting for the wolves" is consistent with this idea: the greater the number of democracies, the greater the value of war to the despots.

However, the perspective changes when the democracies become a majority. To see the problem, we may ask what happens when there is just one nondemocracy left. If a war occurs, the single nondemocracy must be at war. To maintain the equal war participation of democracies and nondemocracies, that single nondemocracy must be at war with all the democracies in the course of the year. This seems highly implausible, although one might conceivably imagine a United Nations of all countries except one going to war to rid the world of the last vestige of authoritarianism. The Gulf War of 1991 pointed in this direction. Iraq fought a coalition of no less than 29 countries (Wallensteen and Sollenberg 1996), backed by a series of UN resolutions. Of course, only a minority of these countries deployed any force to speak of, several of them were far from democratic, and democracy in Iraq was not a stated objective of the war.

The relationship between the levels becomes clearer when we formulate it formally. Assuming a very simple model in which the political character of the regime is the only factor, we will show how parameters for the different levels are interrelated. The argument is easily generalized for more than these three categories, but the formulae quickly become very complex.

DYADIC VERSUS NATIONAL LEVEL

In the development of a model, we will assume throughout that no country can start a war against more than one other country in a given time interval. If this interval is short, this is a fairly realistic assumption. If the interval is as long as a year, it holds for 75 of the 118 "new wars."

First, consider the simple case that war probability is independent of regime type. If there are N countries, the probability of an outbreak of war in a dyad in the course of a year is π_{dyad} and the probability of a randomly chosen country getting involved in a war in a year is π_{nation} ; the relationship between the probabilities for the two levels is

$$\pi_{dyad} = \frac{\pi_{nation}}{N-1}, \quad (1)$$

$$\pi_{nation} = \pi_{dyad} (N-1). \quad (2)$$

If we view π_{nation} as constant, π_{dyad} is proportional to $1/N$. Conversely, if we look at π_{dyad} as constant, π_{nation} is proportional to N . And because $0 \leq \pi_{nation} \leq 1$, $0 \leq \pi_{dyad} \leq 1/(N-1)$. This means that π_{dyad} is not a primitive parameter but has to decrease with increasing N ! This is confirmed by empirical analysis: between 1954 and 1994, the relative frequency of national onsets of war was about one third of what it was between 1851 and 1953. At the same time, the relative frequency of dyadic onsets of war was less than one tenth. That the reduction at the dyadic level is three times larger than at the national level is explained by formula (1): the reduction at the dyadic level is due to the increase from an average of 48 countries in the first period to 111 in the second. The relationship between the probabilities at these two levels of analysis is thus expected to change from

$$\pi_{dyad} = \frac{\pi_{nation}}{48-1} \text{ to } \pi_{dyad} = \frac{\pi_{nation}}{111-1}.$$

Quantitative studies based on dyad years in this field routinely assume that π_{dyad} is constant (conditional on the independent variables) and thus run the risk of generating spurious results. Because the international system is steadily increasing in size over time *and* the share of democracies is also increasing over time, the effect of increasing N can be falsely attributed to increasing democratization.

Maoz and Russett (1992, 1993) use a subset of the population of dyads that they call "politically relevant" (i.e., dyads that are either contiguous or include one or two major powers). This limitation results in a reduction of their number of dyad years by nearly 88%. Because this reduction of the units of analysis involves a loss of 26% of the disputes in the data set on militarized interstate disputes and 20% of the conflicts in the International Crisis Behavior set (Brecher, Wilkenfeld, and Moser 1988), we are skeptical of this procedure. Moreover, it seems unfortunate to reduce the units on the basis of variables that are potentially highly relevant for the analysis. But, unintentionally, this reduction also alters the relationship between π_{dyad} and π_{nation} and reduces the danger of spurious correlation. We will return to this point later.

We will now extend (2) to formulate the relationship between the two levels, given the countries' distribution on a dichotomous variable, such as democracy or non-democracy, and given dyadic probabilities for the different resulting dyads. If the probability of war outbreak is dependent on regime type, the relationship between the two levels will be dependent on the distribution of democracies and nondemocracies. We will write the share of democracies as d . Then there are Nd democracies and $N(1-d)$ nondemocracies. There are $Nd(Nd-1)/2$ dyads consisting of two democracies, $N(1-d)(N(1-d)-1)/2$ dyads consisting of two nondemocracies, and $N^2 d(1-d)$ politically mixed dyads.

The probability of a war outbreak in a randomly chosen democracy is then the expected number of democracies $E(D)$ in war outbreaks in a given year, divided by the number of democracies. $E(D) = 2E(DD) + E(ND)$ because an outbreak of war in a double democratic dyad will involve two democracies, and an outbreak of war in a mixed dyad will involve one democracy (as long as the assumption holds that no country starts a war against more than one opponent in a given year). We may now express the probability π_D of a democracy entering a war in terms of N , d and the probabilities of war outbreak in dyads with different regime combinations π_{DD} and π_{ND} :

$$\pi_D = \frac{E(D)}{Nd} = \frac{2E(DD) + E(ND)}{Nd} = \frac{2(Nd(Nd-1)/2) \pi_{DD} + N^2 d(1-d) \pi_{ND}}{Nd} \quad (3)$$

$$= (Nd-1)\pi_{DD} + N(1-d)\pi_{ND}.$$

In the same way,

$$\pi_N = \frac{E(N)}{N(1-d)} = \frac{2E(NN) + E(ND)}{N(1-d)} = \frac{2(N(1-d)(N(1-d)-1)/2) \pi_{NN} + N^2 d(1-d) \pi_{ND}}{N(1-d)} \quad (4)$$

$$= (N(1-d)-1)\pi_{NN} + Nd\pi_{ND}.$$

As in (2), the relationship between the national and dyadic probabilities are proportional to N .

To illustrate our point, we have selected a set of 30 countries that have been members of the international system for most of the period between 1853 and 1992. The observed frequencies for "new disputes" (corresponding to Table 4) for this set are: $\pi_{DD} = .0063$, $\pi_{ND} = .0158$, and $\pi_{NN} = .0105$. The average system size, N , was 27.7 countries, varying from 21 to 30. Based on these parameters, π_D and π_N are plotted as functions of d in Figure 1.

For these particular parameters, where $\pi_{ND} > \pi_{NN} > \pi_{DD}$, π_D decreases with increasing d and π_N increases with increasing d .

DYADIC VERSUS SYSTEM LEVEL

At the system level, we are most interested in the proportion of the system's countries in war outbreak in a year. For a start, we assume that the probability of war between two democracies π_{DD} is 0. Then the frequency of war is a function of π_{ND} , π_{NN} , d , and N , the number of countries in the system. Clearly, if $\pi_{ND} < \pi_{NN}$, the replacement of a dyad of two nondemocracies by a mixed dyad of one democracy and one nondemocracy must involve a decrease in the frequency of war. Therefore, as long as $\pi_{ND} < \pi_{NN}$ (as we have found empirically to be the case for the onset of new interstate war and for all measures of armed conflict at a lower threshold of violence), the frequency of war declines monotonically with increasing d . In other words, the more democracies in the system, the less war.

On the other hand, if $\pi_{ND} > \pi_{NN}$ (as we have found empirically to be the case for the incidence of war, the onset of new dyadic interstate war, and all measures of militarized

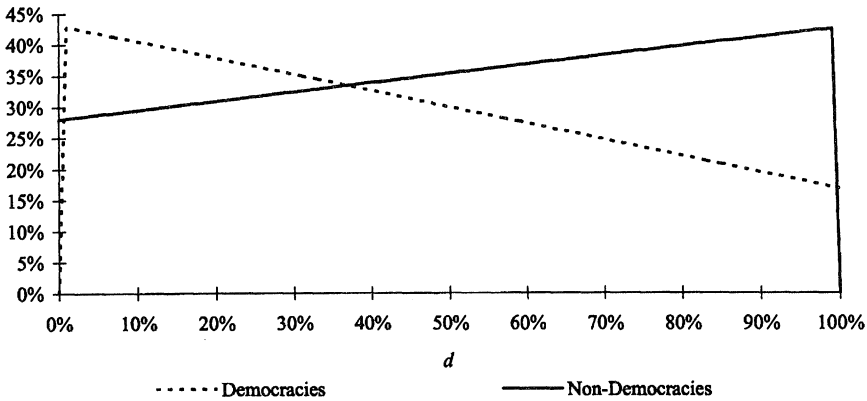


Figure 1: Expected Share of Democracies and Nondemocracies in Onset of New Dispute in a Year as a Function of d , Given the Sample Values for N , π_{ND} , π_{NN} , and π_{DD}

NOTE: Data as in Table 1 for a subset of 30 countries.

disputes), the system-level relationship is more complex. Imagine that we have no democracies in the system at all. In that case, the frequency of war in the system is a function only of the probability of war among nondemocracies. If we introduce one democracy, the frequency of war must go up because $(N - 1)$ dyads now become politically mixed with a higher probability of war, but there are as yet no double democracies where the probability of war is zero. On the other hand, if all countries but one are democratic, increasing democratization must decrease the frequency of war in the system because the last $(N - 1)$ remaining mixed dyads are replaced by double democracies.

This reasoning is confirmed by deriving π_{nation} , the weighted average of π_D and π_N , from expressions (3) and (4):

$$\begin{aligned}\pi_{\text{nation}} &= \frac{E(D) + E(N)}{N} = \frac{2E(DD) + 2E(ND) + 2E(NN)}{N} \\ &= \frac{2}{N} \left(\frac{Nd(Nd-1)}{2} \pi_{DD} + \frac{2}{2} N^2 d(1-d) \pi_{ND} + \frac{N(1-d)(N(1-d)-1)}{2} \pi_{NN} \right) \quad (5) \\ &= d(Nd-1)\pi_{DD} + 2Nd(1-d)\pi_{ND} + (d-1)(N(d-1)+1)\pi_{NN}.\end{aligned}$$

We see that if $\pi_{DD} = 0$ and $d = 1$, π_{nation} has to be 0. The formula can also be expressed as

$$\pi_{\text{nation}} = Nd^2(\pi_{DD} - 2\pi_{ND} + \pi_{NN}) + d(-\pi_{DD} + 2N\pi_{ND} - 2N\pi_{NN} + \pi_{NN}) + N\pi_{NN} - \pi_{NN}. \quad (6)$$

As a function of d , this expression is quadratic. In other words, if the conventional wisdom holds about the dyadic and the national-level regularities, it follows logically that there must be a parabola-shaped relationship between the degree of democratiza-

tion and the frequency of war at the system level. Thus, with increasing democratization over time, we should expect the frequency of war to increase initially and only decline when reaching a break point. The derivative of (6) with respect to d is the rate of change of π_{nation} when d increases:

$$\frac{d\pi_{\text{nation}}(d)}{dd} = 2dN(\pi_{DD} - 2\pi_{ND} + \pi_{NN}) + (-\pi_{DD} + 2N\pi_{ND} - 2N\pi_{NN} + \pi_{NN}). \quad (7)$$

The maximizer of $\pi_{\text{nation}}(d)$ is the value of d for which (7) equals 0 (given values for the other parameters). In the special and not very realistic case of $\pi_{NN} = 0$ and $\pi_{DD} = 0$ (i.e., no war among similar regimes), the frequency of war peaks for $d = .5$, at which point half the dyads are mixed; hence any further democratization must replace a mixed dyad with a pure dyad of one sort or the other. For our numerical example, the maximizer is $d = .36$.

These points are illustrated in Figure 2, where we have plotted π_{nation} as a function of d in a our subset of countries, using expression 6. If the observed frequencies are representative, initial democratization in the international system is followed by a slightly increasing frequency of war until 36% are democratized, and then it starts to decline.

It can be derived from (7) that the maximizer of $\pi_{\text{nation}}(d)$ is independent of N when we assume that the dyadic probabilities π_{ND} , π_{NN} , and π_{DD} are constants. In other words, the expected frequency of war at the system level peaks for the same share of democracies regardless of the size of the system. But, as argued in the previous section, the assumption of constant dyadic probabilities is untenable: both π_{nation} and π_{dyad} are dependent on the size of the system. The relationship between the levels is inextricably tied to the size of the system, making strict empirical testing of our argument difficult.

The fact that N has been constantly expanding in the time frame covered probably does not alter the relationship between the levels shown here, although we have not worked out the formal relationship. In the absence of such an extended formula, it is thus necessary to limit the analysis in some way to keep N roughly constant if we want to test our propositions. We might do this by applying some variation of the politically relevant dyads. Elsewhere, we (Raknerud and Hegre 1997) propose a flexible version of this procedure in which the irrelevant dyads are weighted down instead of being deleted. Another way to bypass the problem is to confine the empirical analysis to a region that is expanding only moderately (such as Europe) or to a fixed set of countries as in our numerical example.¹¹ In Table 7, the 140-year time span has been divided into four periods of 35 years each for the 30-country sample. The share of democracies d and the observed share of nation years with the onset of a new militarized interstate dispute has been computed for each period. In the final column, we report the π_{nation} predicted by expression (5), given the observed proportions at the dyadic level. These predicted figures correspond with Figure 2.

Although double democratic dyads have a considerably lower proportion of dyad years with new disputes (.0063 vs. .0105 and .0158), the predicted probabilities at the

11. We conducted an analysis similar to the one reported in Table 7 for all European countries with similar results.

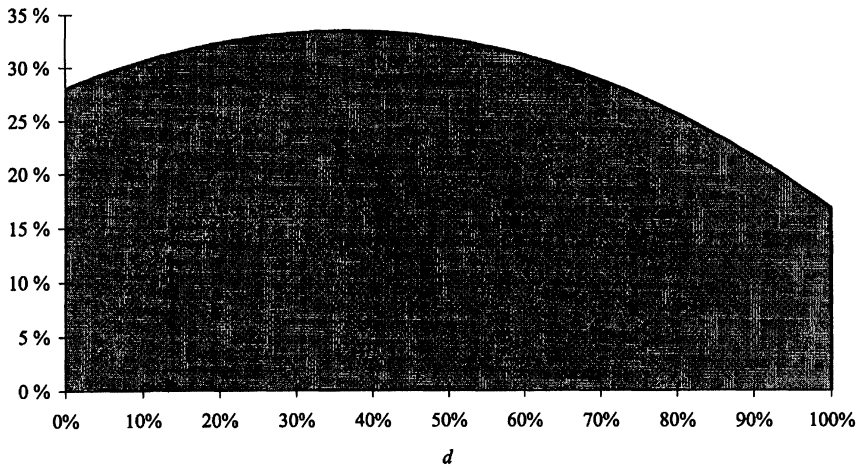


Figure 2: Expected Share of Countries in Onset of New Dispute in a Year as a Function of d , Given the Sample Values for N , π_{ND} , π_{NN} , and π_{DD}

NOTE: Data as in Table 1 for a subset of 30 countries.

national level are almost similar. At 63% democratization, the democratic peace still has only a limited effect at the system level (cf. Figure 2). The observed proportions are considerably lower than predicted. This is due to violations of the assumption that no country can start a war against more than one other country in the given time interval (i.e., in a year). If a country starts two separate disputes with two other countries in a year, this is counted as two dyadic disputes and three national-level disputes, not four as assumed. Second, the parabola is much steeper than predicted because the dyadic probabilities are not constant over time: militarized disputes are less frequent for all regime types after World War II. The observed frequencies indicate a much lower level of MIDs at recent high levels of democracy.

This analysis may also shed some new light on the debate between Mansfield and Snyder (1995, 1996) and Enterline (1996), Weede (1996), and Wolf (1996) on democratization and the danger of war. Mansfield and Snyder argue that the process of political change, in general, and democratization, in particular, create instabilities that increase war participation.¹² Mansfield and Snyder's argument is strictly at the national level. Enterline and others have argued that their data do not support their argument. From our analysis, it is clear that the war participation of a given country depends on the political mix of surrounding countries. For a nondemocracy, increasing the number of democracies increases war participation. For a democracy, the effect is the opposite. The studies done to date are underspecified and fail to distinguish two

12. Many current armed conflicts, such as those in the former Yugoslavia and in the Caucasus, can be related to ongoing democratization or attempts at democratization, even if few of the warring parties fail to reach the threshold for democracy used here.

TABLE 7
Observed and Predicted Probabilities of MIDs
at the National Level in a Set of 30 Countries

<i>Period</i>	<i>Average N</i>	<i>d (%)</i>	<i>Observed p_{nation} (%)</i>	<i>Predicted π_{nation} (%)</i>
1853-1887	27.8	22.2	24.1	32.6
1888-1922	27.6	32.2	29.8	33.4
1923-1957	25.8	43.3	22.6	33.2
1958-1992	29.7	63.4	14.9	30.4
1853-1992	27.7	40.6	22.7	33.4

different effects of democratization: the effect of the process of change for the country itself and the effect of a changing political environment.

SPREADING DEMOCRACY, SPREADING PEACE?

If the simple dyadic- to system-level argument had been true, the increasing democratization reported in many studies, and particularly “the third wave” of democratization since 1974, should have provided considerable cause for optimism—leaving aside the issue of short-term instabilities associated with the democratization process. However, as noted earlier, the conventional wisdom at the dyadic and the national levels leads to the conclusion that the relationship between democratization and the frequency of war at the system level, *ceteris paribus*, should be parabolic. In tracing the historical pattern from the birth of modern democracy, we should expect it to be accompanied, then, by a relative increase in the frequency of interstate war before the effect of democratization starts working in the opposite direction. The absolute number of democratic countries has never been higher, and even though there has been a vast increase in independent states (from 23 in the COW data set in 1816 to 186 in 1994), the fraction of independent states under democratic rule is also approaching an all-time high. Because colonies and other dependent territories can rarely be classified as democratic, the increase in relative democratization is even greater than what we find when we consider only independent states. As the democratic group of countries passes above 50%, more than 25% of all randomly selected pairs will have ruled out war among themselves. At this level, we might reasonably hope that it should have consequences for the level of violence in the system as a whole.

In Figure 3, the relative number of democracies and the incidence of war (measured by the fraction of country years at war to all country years) are plotted in the same graph.¹³ No clear monotonic relationship emerges: democratization shows a long-term increase, but the amount of interstate war appears to increase and then to decline after World War II. The peak of war activity around 1940 followed a long and drastic decline

13. Plotting the war data on an annual basis, not shown here, gives the same overall impression but in a somewhat more erratic fashion. We could also have measured systemic war by the frequency of dyadic war, but the trend would be very similar.

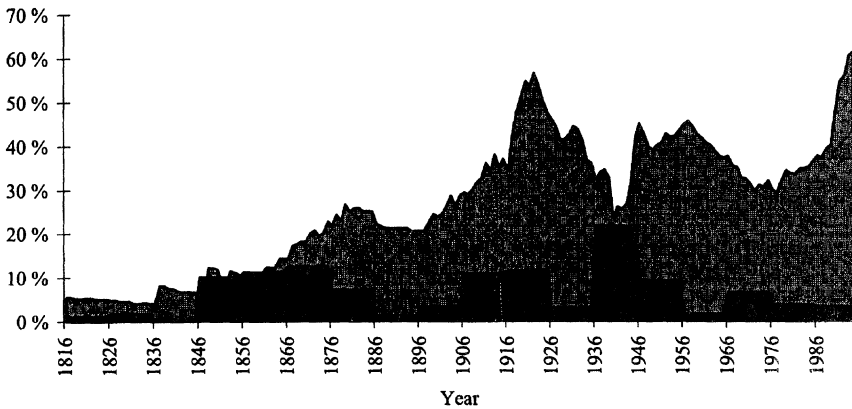


Figure 3: Relative Number of Democracies in the World and Incidence of War, 1816 to 1994 (%)

NOTE: Data as in Table 1. War data accumulated by country and by decades. Countries in transition or without codes in Polity have been excluded.

in the level of democracy in the 1920s and 1930s. Earlier periods of war accompanied periods of democratization. All this is broadly consistent with the hypothesized curvilinear pattern if we fix the turning point between 1910 and 1920.

A similar approach is taken in Figure 4, where the two variables are plotted on separate axes. Here the frequency of war in the system (measured by the percentage of country years at war) is plotted against the degree of democracy (measured by the percentage of country years accounted for by democratic countries) for each of six time periods. The first five time periods each cover 35 years, but the final period covers only the postcold war era. Figure 4 shows that for the first 100 years, the world became more democratic and also more war prone. After the world wars, it became more democratic and peaceful. However, in examining the changes between neighboring periods, we find too little war in the third period and too little democracy in the fifth for the pattern to be completely consistent with our theoretical expectations. Nevertheless, the curve as a whole may (with some imagination) be characterized as parabolic, where increasing democratization, as expected, is first associated with more war, then with less.

Although it is difficult to predict theoretically where the break point might occur, we can simulate it. If we assume π_{ND} and π_{NN} to be constant over time and equal to the frequency of war in mixed and pure nondemocracy dyads over the entire time period, using the actual figures for d (the fraction of democracies), we get a predicted pattern of war that peaks in the late 1920s and generally declines from then on. Because war peaked only 20 years later and the late 1920s were in fact quite a peaceful period, this might seem to be wide of the mark. But if we regard the two world wars as essentially one conflict (not an unreasonable assumption in view of the fact that the actors and conflict lines were largely the same, at least in Europe), the midpoint of that conflict lies somewhere in the late 1920s and early 1930s.

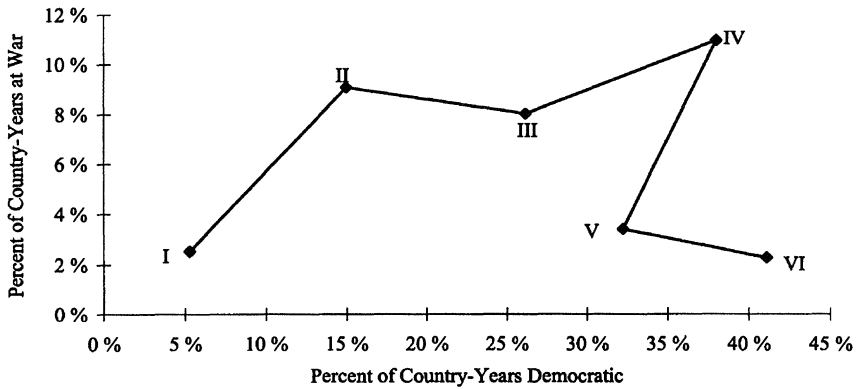


Figure 4: Degree of Democratization by War Incidence at the System Level, 1816 to 1994 (%)

NOTE: Data as in Table 1 and Figure 1. The periods include the following: I. Post-Congress of Vienna (1816-1850), II. Italian and German Unification (1851-1884), III. World War I (1885-1918), IV. World War II (1919-1953), V. The Cold War (1954-1986), and VI. Post-Cold War (1987-1994). The initial division, up until the end of the cold war, was arbitrarily made into five periods of 35 years each, and the labels have been added afterward as an indication that they seem to make some substantive sense.

It is tempting to suggest that some kind of system shift has occurred, perhaps at the end of the long European conflict known as the two world wars or perhaps at the end of the cold war. This shift could be related to the fact that democratization has reached such a high level—at least in certain regions—that there is a lack of opportunities for war. The level of democracy in Europe is now higher than ever before. Because Europe has accounted for so much of the world’s war in the previous periods (Gleditsch 1995b), this could explain the recent decline in interstate war.

In one of the few studies at the system level,¹⁴ Maoz and Abdolali (1989) tested regime type (democratic, anocratic, autocratic) against the occurrence of militarized interstate disputes between 1816 and 1976. This study is not so relevant here because it posits a positive relationship between democracy and peace at the national and dyadic levels. Obviously, then, a simple monotonic relationship must follow at the system level, although it would appear that these authors also think that the system-level hypothesis is a logical extension of the dyadic-level hypothesis alone. The tests reported in the empirical part of the article generally reflect the same lack of attention to possible curvilinear relationships. They first report that the proportion of double democracies is positively related to system conflict (Maoz and Abdolali 1989, 26) and that this held even when corrected for autocorrelation (p. 27), but the proportion of double democracies had a negative effect on the number of wars, although only a small proportion of the variance was accounted for (p. 27). When broken down into two subperiods, the relationship between the degree of democracy and conflict was found

14. Another important study at the system level (Maoz 1996) deals more with systemic changes and its causes than with consequences of regime type measured at the system level.

to be different in the 19th and 20th centuries. This is reminiscent of the famous early findings by Singer and associates of differences between the 19th and the 20th centuries with regard to the influence of alliances and capability distribution.¹⁵ Such findings are unsatisfactory because “century” is not a theoretical category. When the difference between centuries is interpreted as a question of crossing a threshold of democratization in the international system, the shift in the relationship to war becomes theoretically meaningful, but the shift is unlikely to follow the calendar quite so neatly.

What about controls for third variables at the system level? The issue has hardly been touched in the literature. Clearly, the empirical pattern found in Figures 3 and 4 might be very different if we had incorporated the influence of other variables. The “shrinking world” might be one such variable, measured for instance by the time it takes to travel between two randomly picked members of the interstate system. Because there is more war between neighboring and proximate states (Bremer 1992; Gleditsch 1995a), we might expect a higher frequency of war as countries come closer to each other in terms of the time and cost expended in interaction. This might outweigh the effect of democratization or influence the relative size of the probabilities π_{ND} and π_{NN} , moving the break point at which democratization starts to produce peace at the system level. Once again, we might take all of Bremer’s third-variable tests and translate them to the system level. To date, there has been little theoretical or empirical research of this kind.¹⁶

SUMMARY

The evidence for the democratic peace is overwhelming at the dyadic level. Double democracy is virtually a sufficient condition for nonwar in the dyad.

At the national level, the evidence is mixed. Our own empirical evidence confirms most previous studies in suggesting that over the period covered by the COW project, democratic states are about as prone to participate in war as other states. Democracies have fewer battle fatalities, but it is not obvious what this implies for their peacefulness. The war participation of democracies is inflated by their tendency to ally in war. Finally, the question of war initiation is marred by problems of interpretation; the possibility that democracies are less aggressive cannot be ruled out.

At the system level, the question has not been explored much in previous studies. For most of the period under study, democratization was associated with increasing violence between states, whereas more recently democratization occurs simultaneously with decreasing violence. This is in line with our theoretical argument based on the dyadic- and national-level relationships. We surmise that the world, or at least certain

15. Singer and Small (1968) found that a high number of alliances tended to be associated with peace at the system level in the 19th century but with war in the 20th century. Singer, Bremer, and Stuckey (1972) found a balance-of-power model of peace to fit the 19th century, but a power preponderance model seemed more suitable for the 20th century.

16. For a first attempt, see McLaughlin (1996), who finds more support for a linear than a curvilinear relationship between democracy and peace at the systemic level but cautions that at this stage of her research, inference is difficult.

regions, may now have passed through a system shift in crossing a threshold value for democratization.

If this (admittedly somewhat speculative) conclusion is correct, further democratization should continue to lower the probability of war, at least in regions where democracy is at a reasonably high level. As noted, democracies tend to win the wars in which they participate (Stam 1996), and unsuccessful conduct of a war is frequently punished with a violent regime change (Bueno de Mesquita, Siverson, and Woller 1992). Losers seem more likely to imitate the winner, so the net outcome will probably be further democratization. The experience of the two world wars and the end of the cold war confirms this expectation. Although, in the short term, participation in war is likely to undermine democracy (e.g., through restrictions on freedom of speech or the postponing of elections), war would seem to promote more democracy in the longer run, and—at least above a certain level—more democracy in turn leads to a reduction of war. Thus the optimism of the democratic peace literature would seem warranted in the long run, but on the basis of a somewhat more complex reasoning than ordinarily assumed. Of course, if the idea gains currency that war may be pursued as a deliberate strategy of democratization, the world could be in for a transitory unpeaceful period.

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