Diffusion, Development, and Democracy, 1800–1999

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While a trend of growth in democratization over the past two centuries has been generally observed, it is the remarkable growth in the democratization of the world over the past 30 years that has truly captured the imagination of social scientists, policymakers, and the general public alike. Two major sets of factors have dominated studies attempting to predict democratization. One set characterizes endogenous or internal features of countries, and may be referred to as socioeconomic development. The other set, less often tested, characterizes exogenous variables that influence democratization via forces at work globally and within the region in which a country resides; this set may be referred to as diffusion processes. This study provides the first systematic comparison of these two sets of variables. When assessed alone, development indicators are robust predictors of democracy, but their predictive power fades with the inclusion of diffusion variables. In particular, diffusion predictors of spatial proximity and networks are robust predictors of democratic growth in both the world and across all regions. The results demonstrate that regional patterns in democratization are evident, and hence world analyses are only the first approximation to understanding democratic growth. Finally, this study introduces an application of Multilevel Regression Models to studies on democratization. Such models fit observed data on world democratization better than the simple regression models used in most previous studies.

Since the French Revolution and the Declaration of Independence, democratic regimes have spread across the world. As early as the 1800s, democratic systems were established in various parts of North and South America, in Europe and Africa, and, by the end of the nineteenth century, in Asia. Although most of the first democracies were not consolidated or long-lasting, a steady increase in the number of democratic transitions, most remarkably over the past 30 years, signaled the coming democratization of the world (Doyle 1983; Fukuyama 1992; Grassi 2002; Gurr, Jagger, and Moore 1990). Not surprisingly, there has been a recent increase in the curiosity of scholars, policymakers, and the public as to which factors contribute to or modulate the growth of democratic institutions (Lipset 1994; Przeworski...
et al. 1996, 2000). Democracy is best understood not simply as a dichotomy in which a country is either democratic or not, but as a developmental process from nondemocracy to some achieved level of democracy (Dahl 1998; Held 1987; Kissinger 2001). The successive temporal growth in a country's democratic-ness (the achieved level of democracy) is addressed in this paper and is referred to as a country's democratic growth.

Most studies on democracy have focused on socioeconomic, endogenous characteristics as predictors of countries’ levels of democracy (Bollen 1983; Lipset 1960). The majority of these studies have explored the role of socioeconomic conditions, such as GNP, education, economic crises, and the level of urbanization and industrialization. Accordingly, it was believed that democratic transitions and democratic growth result from a country's development and therefore democratic transitions are slow and monotonic and typically occur randomly in various parts of the world.

Less often researchers have been interested in factors that lie outside endogenous influences. These scholars believe that countries often democratize in clusters within regions of the world, and that, moreover, democratization occurs in waves, each wave having its own characteristics and growth rate (Huntington 1991). For instance, the most recent clustering of democratized countries—the Third Wave—is considered to include Southern Europe in the 1970s (Priddham 1990; Tarrow 1989), Latin America in the 1980s (Higley and Gunther 1992; Linz and Stepan 1996; O'Donnell, Schmitter, and Whitehead 1996), the former Soviet bloc countries in the 1990s (Bermeo 1992; Stark and Bruszt 1998; Wejnert 2002a), followed by South Korea, Taiwan, and the democratization of many postcolonial African states (Bratton and Matses 2001; Spears 2003).

The very existence of clustering within regions, and the resulting complex temporal nature of regional democratization, suggests that endogenous socioeconomic conditions may be modulated by exogenous factors. Such factors would influence democratization processes of a country via (a) global forces, such as the spread of modern media communication; as well as (b) forces within the region where a country resides—for example, the influence of a high regional density of democratic countries.

As Dahl (1998) and others suggest, the exogenous processes may operate as diffusion and may include the impact of global media information, spatial and temporal proximity, countries' structural equivalence, and the hegemonic imposition of a democratic system by economic powers on less developed states, as in the influence of the British Empire on colonial dependencies or of the United States on recipients of its economic aid.

Although it has often been assumed that a country's development (endogenous factor) is the most predictive of democratization, the predictive power of endogenous vs. exogenous factors has never been compared. This study provides that comparison and demonstrates that when assessed alone, development indicators are robust predictors of democracy, but that their predictive power fades with the inclusion of diffusion variables. This examination explores predictors of the level of democracy and the rate of democratic growth in the world and in each of the world's regions from 1800 to 1999, by the use of hierarchical growth models.

DEVELOPMENT AND DEMOCRACY

The first cross-national studies on world democratization emphasized the conditioning effect of industrialization and economic development (e.g., Lipset 1960; Neubauer 1967), and these were followed by additional analyses of the distribution of income, economic dependency, and economic growth (Bollen and Appold 1993; Boswell and Peters 1990; Przeworski and Limongi 1993; Przeworski et al. 2000; Simpson 1990).

Two arguments have dominated studies on the effects of countries' socioeconomic development on democratic growth: the modernity approach (e.g., Lipset, 1960; Neubauer 1967) and the class-conflict approach (e.g., Rueschmeyer, Stephens, and Stephens 1992; Stephens 1989). The modernity approach demonstrates that economic development leads to increases in education, literacy, and media technology (Almond and Verba 1989; Merritt and Rokkan 1996; Somers 1993) and in turn promotes the differentiation and specialization of social structures, which leads to a separation of political structures (e.g., governing institutions) from other social structures (e.g., economic or religious institutions). This separation
makes a society ready to proceed to democratization.¹

Students of the class–conflict approach, agreeing that "modern democracy is a product of capitalist processes" (Schumpeter 1950:297), believe that an increase in socioeconomic development stimulates the development of social classes of entrepreneurs, workers, and intellectuals, and that these classes challenge the established social groups, demanding civil rights and inclusion in political decision-making (Maravall and Santamaria 1986; Markoff 1996; Moore 1966; Porter and Alexander 1961). As a result of class conflict, a political culture based on democratic principles evolves.²

The primary focus of the class–conflict approach to democratization is the individual country, but the extension of this approach refers to the world system, where the increase in a country's urbanization and industrialization is viewed as a function of its historically determined position within that system (Bollen 1983; Snyder and Kick 1979; Wallerstein 1974). A country's core (affluent), semi-peripheral (semi-affluent), or peripheral (marginal) position in the world system significantly alters the level and rate of democratic growth, and growth is delayed or inhibited in countries that are peripheral and hence disadvantaged in the world trade system.³

The nature of the clustered and recent rapid spread of democratization raises the possibility that the effect of socioeconomic conditions specific to each country or to its position in the world system may be enhanced by exogenous processes that contribute to democratization, and that the "diffusion, contagion, or demonstration effect seems operative" (Lipset 1994:16).

DIFFUSION AND DEMOCRACY

Generally, diffusion indicates the spread of a practice within a social system, where the spread denotes flow or movement from a source to an adopter typically via communication, role modeling, and/or coercion (Rogers 1962, 1995). Mechanisms of diffusion are frequently employed to analyze social changes characterized by temporal processes (Rogers and Shoemaker 1971; Thomas, Meyer, Ramirez, and Boli 1987). Remarkably, the impact of diffusion on change toward democracy has been rarely tested, except for an empirical study on a single component of diffusion, for example, the effect of neighboring democracies on nondemocratic countries (O'Loughlin et al. 1998), a work on the imposition of democracy on colonial or economic dependencies (Crenshaw 1995; Bollen and Jackman 1985), and a study of the influence of modern media on the recent spread of democracy (Gunter and Mughan 2000). Of the previous works, only O'Loughlin et al. (1998) assessed the spread of democracy across time and space. The authors did not test the predictive power of economic vs. diffusion variables and, not using multilevel growth models, they did not assess the simultaneous impact of regional- and country- specific characteristics on democratic growth.

There are, however, many discussions about the potential relevance of diffusion processes for democratization. These include Przeworski and Limongi's (1997) statement that international conditions most likely predict a democratic regime's survival better than does the level of socioeconomic development⁴ and Whitehead's (1996) findings that the vast majority of countries did not generate democracy through an independent innovation.

This study adds to the ongoing discussion by focusing on a set of diffusion indicators that, according to diffusion literature, are identified as the most relevant predictors of countries' democratization. The indicators concern communication channels, external promotion of

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¹ There are limits or exceptions to the influence of socioeconomic development on democratic growth. See, for example, Crenshaw's (1995) and Russett's (1964) arguments referring to the traditional agrarian societies, or Przeworski and Limongi (1997) and Przeworski et al.'s (2000) notion of the effect of economic growth mainly on democratic stability.

² The undisturbed increase in standards of living also inhibits the growth of anti-democratic political opposition (Burton, Gunther, and Higley 1992).

³ The evidence regarding the world system approach is mixed (e.g., Bollen and Appold 1993).

⁴ Przeworski and Limongi (1997), however, do not statistically assess the effect of international climate, nor do they assess the predictive power of specific mechanisms of international climate relative to socioeconomic conditions of a country.
models of democracy, and internal facilitations, as well as barriers to the spread of democracy, and could be categorized as: (a) spatial factors, (b) networks (socioeconomic, political, and colonial), and (c) media communication.\(^5\)

**Spatial Factors**

In the literature on diffusion, the probability of the transmission of an idea from one country to another is enhanced by proximity and density. The importance of proximity rests in its effect on the frequency of communication and the close nature of interactions between democracies and potential adopters, both of which enhance the spread of ideas and facilitate imitative behavior. In other words, the closer countries are to each other, the greater the number of possible linkages through which democracy can be promoted or spread. In addition, the geographic as well as numeric expansion of democratic countries increases the capacity to observe and to model democratic states. Therefore, the density of adoptions in one region may influence the adoption rate in another region (Strang 1990; Starr 1991).

Thus, the spatial factors are best estimated as a joint function of distance and density (O’Loughlin et al. 1998) where the larger the proportion of democracies on the globe and in the region during a particular year, the more likely the democracy is to survive in any particular region (Przeworski et al. 1996:42). Estimating spatial effects, however, is complicated by the need to consider countries’ structural equivalence (Uhlin 1993). Structural similarity of countries most likely stimulates communication and facilitates diffusion of democratic principles, as was the case with the formation of democracy and of the suffrage movement in Sweden in the late nineteenth century, which were inspired by the successful suffrage movement in structurally similar Switzerland and France (Vallinder 1962). Similarly, in Finland women’s voting rights were gained in 1809 following the attainment of rights not in one of the European great powers but in structurally sim-

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\(^5\) In depicting the strongest predictors of diffusion of many types of phenomena including political, the author was guided by a prior work on a conceptual framework of diffusion models (Wejnert 2002b).

**Networks**

Studies have shown that the channel of communication and influence on diffusion of democracy within a network depends on the network’s structure (Wejnert 2002b). Highly centralized, stratified networks use coercive pressure on their members to achieve conformity of practices, causing homogeneity and increasing rates of adoption. One of the prime examples of such influence would be the highly stratified economic and political networks of communist countries, in which the anti-democratic Soviet Union imposed and controlled the implementation of anti-democratic ideology throughout the entire bloc of countries, including those that used to be democratic (Havel 1985).

Other important networks were colonial ones, where institutionalization of democracy by the empire on colonial dependencies constituted in part a colonial legacy. For instance, prior to decolonization, Britain reacted to colonial discontent by the gradual introduction of a representative form of rule, which aided transition to a more democratic form of government across British colonies (Bollen and Jackman 1985a; Crenshaw 1995). Other colonial powers, such as France, Portugal, Spain, Belgium, and the Netherlands, left their colonies ill prepared for democratic transition (Emerson 1960:230–37; Theobold 1960:37; Porter and Alexander 1961:9–19). The recent conditioning of United States aid on an introduction of democratic principles in economically dependent countries resembles British policy (Robinson 2004).

Another example of the impact of network could be a country’s membership in an international economic and political pact—such as an economic network of the Nordic Council or the Council of Asian Industrial Development, or a political network such as the North Atlantic Treaty Organization.

**Media Communication**

When convincingly presented with sufficient frequency, media exposure by itself has been associated with increased rates of democratization (Dahl 1971; Lipset 1994; Karatnycky 1995). With media exposure, the need for actors
to interact directly to provide information about democracy is markedly reduced because modern communication promotes democracy (Gunther and Mughan 2000; McColm 1990). For example, the increase in the growth of democracy in Bulgaria after the introduction of satellite antennas suggests that gained societal knowledge about the standard of living in Western European democracies provided additional incentives to create a sustainable democracy (Bakardjiva 1992).

Of course, media exposure interacts with the characteristics of countries and characteristics of social networks to influence adoption. Countries that are privileged in the world market have higher positions in the world system, and therefore are more conducive to democratic growth; and, as the earliest adopters of democracy, they influence subsequent adoption by other countries. In contrast, countries with a lower position are more economically dependent, and hence are later adopters of democratic models and are low-level democracies (Wallerstein 2002).

Each factor (level of development and level of diffusion), emphasizes differing sets of variables that are expected to influence a country's democratization. In the remainder of the paper, I will compare the relative predictive power of the two factors in accounting for countries' variations in democratic growth. The relative effect of development vs. diffusion will be controlled by the third indicator—the historical events that may alter the growth of democracy (Schwartzman 1998). For example, it is argued that the 1980 democratization in Latin America in part resulted from the worldwide economic decline caused by the world oil crisis (Huntington 1991:51). Similarly, in the challenging economic conditions after World War I, an increase in the democracy level in Western countries occurred when women were granted the right to vote in part because of their direct involvement in war efforts (Tuttle 1986).

In assessing the predictive power of indicators, I view the democratic growth as a joint function of characteristics of countries and of regions. Country and regional characteristics are analyzed with hierarchical models that simultaneously assess the impact of indicators on an average country's democratic growth (the level and rate of growth) and on three types of variance: (a) variance in the level and rate of democratic growth among regions; (b) variance in the level and rate of democratic growth among countries; and (c) variance in the democratic growth within countries (residual). The hierarchical models are expressed in the form of growth models (Singer and Willett 2003). These models provide a more comprehensive view of democratization processes than has been possible in the simple regression models used in most previous studies.

**METHODOLOGY**

**DATABASE**

To test the hypotheses of this study I constructed a database by merging variables derived from existing datasets (Wejnert 2000). The database assesses 187 sovereign countries from 1800–1999 on indicators that represent the level of democracy, socioeconomic characteristics, and diffusion processes. Nineteen countries for which substantial data on indicators of socioeconomic development and/or of diffusion were missing were dropped from analyses yielding 168 countries in this study (see Appendix for further description of the database).

**MEASUREMENT OF DEMOCRACY**

Most studies of democracy have used a categorical variable of democracy whereby countries are viewed as democratic or not, yielding a scaling of democracy as either “1” or “0.” It is more accurate, however, to view democratization as a continuous variable, whereby one would refer to the level of democratization in countries rather than simply its existence, because states frequently accept either some democratic principles while ignoring others, or they accept most of the principles of democracy but differentially apply them across societal strata. Prime examples are democratizing African states that claimed to be democratic in the 1990s (Kissinger 2001:26) or European and American liberal democracies at the time of exclusion of women and ethnic/race minorities from the right.

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6 Following Gurr, Jagger, and Moore (1990), "sovereign country" was defined as an independent member of the international system that had a population greater than 500,000.
to vote (Tuttle 1986). The continuous index of democratization detects small gradations of change in democracy levels over time that are missed by the categorical index and yields results that are more accurate. In the study, I use data on countries’ democracy level assessed with the continuous scale of 0–10. The index component of democracy level defines a democratic regime according to the ideal model that describes criteria for a democratic process of governing (Dahl 1998:38). This model refers to the competitiveness and regulation of political participation, competitiveness and openness of executive recruitment, and constraints on chief executives (Gurr 1974; Jagger and Gurr 1995).

The Jagger and Gurr index is highly correlated with the other democracy scales of Gasiorowski (1993), Bollen (1980), Arat (1991), Vanhanen (1990), Coppedge and Reinicke (1990), and Freedom House (annual 1973–1994); the correlations ranged between 0.85 − 0.92, p < 0.01 (convergent validity of the scale) (Jagger and Gurr 1995). The data were drawn from the Polity III (Jagger and Gurr 1995a) dataset for the years 1800–1994 and extended with the Political Freedom Indicators (Freedom House 2000) for the years 1995–1999 (see Appendix for the description of how the two data sets were merged). As Dahl (1998:199) explains, “Although at this point a complete, reliable, and current account of all democratic countries in the world appears to be unavailable, the two datasets Polity III and Freedom House allow fairly good estimates of democratization.”

Indeed, as demonstrated in Figure 1, over the past two centuries, the observed mean level of democracy in the world substantially differs when assessed as dichotomy versus the 10-point democracy index. Across all years the mean level of democracy is lower when assessed with the 0–10 index vs. the simple dichotomy. In other words, the world looks much less “democratic” and the magnitude of changes in democracy level is more gradual. In addition, the relation of predictors to democracy growth should be stronger when assessed with the democracy index because predictor variables are also continuous; and therefore, the predictive validity is increased.

For example, in 1900 more than half of the countries in the world were democratic, if democracy is viewed as a dichotomy. The extent of democratic governance, however, was often quite low, as indicated by a mean score of 3 out of 10 on the democracy index.

**OPERATIONALIZATION OF DEVELOPMENT AND DIFFUSION INDICATORS**

Using prior theory and research on democratization as a guide (e.g., Bollen, 1979; Crenshaw 1995; Lipset 1994; Starr 1991; Wejnert 2002b, 2002 d), I selected five indicators representing the strongest predictors of socioeconomic development on democratic growth, and four of the strongest predictors for the diffusion of political phenomena from the database. In addition, a historical events variable was created and

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**Figure 1.** The Mean Level of Democracy in the World 1800–1999, assessed with scale 0–1 vs. 0–10

*Source:* Database Nations, Democracy and Development: 1800–1999 (Wejnert, 2000). The mean level of democracy refers to the observed mean level of democracy in the world.
tested in the study. The indicators were assessed yearly for each country for the past two hundred years or since a country became sovereign. Grouped by their categories, the indicators are as follows.

Socioeconomic Development: (i) GNP per capita measured in $1000 units; (ii) urbanization measured as the percent of the population living in cities to the total population in a country; (iii) literacy rate measured as a percentage of each country's population that is literate; (iv) yearly measured mean regional level of labor force that is not employed in agriculture depicted as a percent of non-agricultural labor force to the total labor force; and (v) a country's world system position. These variables were derived from the Banks (1993) dataset and extended by variables of the World Bank (1999). To test the comparability of the merged variables, correlations of each variable from Banks and from the World Bank were performed on overlapping years and the correlation score ranging from 0.9 to 0.95 was obtained. All indicators are measured since 1800 except for GNP/c, which the Banks dataset records since 1825. (See Appendix for the description of each development indicator). The variables GNP/c, urbanization, and literacy are not collinear; the correlation scores for GNP/c and literacy, GNP/c and urbanization, and literacy and urbanization are .129, .248, and .227 (p < .0001), respectively.

Finally, a country's world system position was recorded following Snyder and Kick (1979) and Bollen and Appold (1993) to test whether this position alters a country's chance of becoming democratic. Countries were recorded as either core (18 countries), semi-peripheral (31 countries), or peripheral (112 countries; see Appendix for the list of countries in each group). The created "world system" measure depicts the world's system position of countries as fixed at its 1950 level, which, considering arguments about the dynamic nature of countries' positions in the international trade market (e.g., Smith and White 1992), presents a limitation to the analysis. Nonetheless, to test my finding further, I conducted the same analysis with the modified variable of the world system position that reflected dynamic changes in the measurement throughout 1960–1989 as indicated by Smith and White (1992). The control analysis yields similar results (the coefficient of the variable world position changed from −.8 (SE = .3) in this study to −.9 (SE = .4) in the control study). Also to my knowledge, there is no available dynamic measure of countries' positions in the world system for all sovereign countries across the past two centuries. Such a study needs to be conducted in the future.

Diffusion Processes: (i) spatial density of democratic countries; (ii) membership in economic or political networks; (iii) colonial networks; and (iv) media. The indicator of spatial density depicts the density of democratic countries within subregions. To derive this indicator, countries were recorded according to their location in subregions: geographically proximate areas within regions of Europe, the Americas, Africa, the Middle East, Asia, and Oceania. Then the sum of democratic countries was divided by the total number of countries in each subregion and presented as a percentage.

The indicator of economic and political networks was constructed by coding (using Osmanczyk's [1982] encyclopedia supplemented by the Statesman's Yearbook [2000]) each country's year of entering and duration of membership within an economic or political network, which was then weighted by the number of democratic members in each network.¹

¹ Using data from the World Trade Organization, the following geographically proximate subregions were recorded. The Americas: North America, South America, Central America, the Caribbean. Europe: Western Europe, Eastern Europe. Africa: Central Africa, East Africa, South Africa, West Africa. Middle East: Middle East, North Africa. Asia: East Asia, Southeast Asia, Indian Subcontinent, Central Asia (see Appendix for the list of countries in each subregion).

² A country's membership in the following networks was recorded: Union of Central African States, American Union, Union Africaine et Malgache de Cooperation Economique, Council for Mutual Economic Assistance, Nordic Council, Council of Europe, Council of Asian Industrial Development, Council of Arab Economic Unity, Arab League, Organization of Central American States, Organization of African Unity, Union Lliga Confederacion Permanente, International Union of American Republics, Warsaw Pact, NATO, Association of Southeast Asian Nations, Organization of American States (see Appendix for the list of countries in each network and the duration of countries' membership).
Most existing and historical networks were included in the data, with the exception of bilateral economic and political networks as well as networks that included almost all sovereign countries, such as the League of Nations and the United Nations.

To delineate colonial networks, a country’s former colonial status was recorded as a dummy variable following the Statesman’s Yearbook (2000) and Osmanczyk’s (1982) encyclopedia. Accordingly, the colonies of the largest colonial empires of Britain, France, Portugal, and Spain were depicted. Based on the literature on democratic transition in the former communist countries, the democratizing postcommunist states were also expected to follow paths of democratic growth that were more typical of postcolonial than noncolonized states (Evens and Whitefield 1995; Havel 1985; Holmes 1997). Hence, these states were considered as part of a semi-colonial network of Soviet alliances (see Appendix for the list of dependencies in each colonial network).

The last diffusion indicator of media was drawn from Banks (1993) and the World Bank (1999) datasets. To represent societal access to media communication, this indicator was coded as the mean number of TVs, radios, and newspapers that a citizen in each country has access to each year. Since TV was invented in the late 1920s, but was not broadly produced for commercial sale until 1950, missing data for this variable for the nineteenth century and the first four decades of the twentieth century were coded as zero. Similarly, “0” was coded for missing data for radios per capita for the period before radios became publicly used (prior to 1930). Due to its relation to both development and diffusion, however, media is not an ideal measure to differentiate between development and diffusion, a point to which I return in the “Results” section.

Historical Events: To depict democratic development as a latent function of historical events, the key historical events were recorded as dummy variables, where “1” represented the years in which a historical event took place and “0” represented non-event years. A value of “1” was assigned to the following years: (a) 1918–1922, the end and aftermath of WWI; (b) 1933–1939, the Great Depression; (c) 1945–1950, the aftermath of WWII and the redrawing of the world’s political map, and the UN Declaration of Human Rights; (d) 1955–60, the United Nations decolonization act; (e) 1962–1967, the collapse of fragile democracies in many African postcolonies; (f) 1975–1985, the effects of the worldwide oil crisis; and (g) 1989–1991, the collapse of the communist bloc. It is expected that many of these events facilitate worldwide democratic growth or decline but, on average, have a positive impact on the world’s level of democratic growth.

STATISTICAL ANALYSES

The cross-national dataset is organized as a hierarchical structure of yearly changing predictor values within each country, nested within 168 countries and within the regions of Europe, the Americas, Africa, the Middle East, Asia, and Oceania. To conduct a longitudinal analysis with hierarchically structured data, the hierarchical models are expressed in the form of growth models (Little, R. C., G. A. Milliken, W. W. Stroup, and R. D. Wolfinger 1996; Singer and Willett 2003).

The advantages of using hierarchical models are (i) the ability to measure hierarchical data, (ii) the adaptation to independence of observation, (iii) the adaptation to a potential homoscedasticity (variances of regions most likely are unequal), and (iv) analysis of data where all units do not have the same number of data points across time (Goldstein 1995).

STATISTICAL MODELING OF DEMOCRATIC GROWTH

Prior to performing these analyses, the time variable was rescaled to make the year 1950, when about half of the countries existed as sovereign states (87 countries out of the total 177), and the centered time is $t_{1950} = 0$ rather than 1800, the initial year of this study, when only 16

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9 Within each region, countries are assessed in subregions as listed in footnote 7 and in the Appendix.

10 The method is ideally suited for research in which the values of indicators are not always available for all years and where countries vary in the duration of their sovereign existence. For example see Marsh, Hau, and Kong (2000), Peffley and Rohrschneider (2003), or Yang, Goldstein and Heath (2000).
countries were independent. Hence, the intercept in the growth model was specified to represent the average status of world democratization in 1950 to allow for a more meaningful interpretation of the results. Moreover, the parameter of a regression line for an average country in the world and in each region (the rate of democratic growth) was estimated and slopes were selected as a year squared.\(^{11}\)

In addition, valid time spans were identified. Two main criteria were employed in selecting these time spans, the application of which can be seen by reference to the observed data in Figure 2: (a) the existence of sufficient variability in democratic level; and (b) the number of sovereign states as a percentage of the total number of states existing at the end of the 1990s. The years prior to the time when sufficient variability in the average democratization level was observed and the years prior to when at least one-fourth of the states in the world or in a particular region received independence, were omitted.

Accordingly, for the world analysis, the years 1860–1999 were selected; for the Americas, 1820–1999; for Europe, 1800–1999; for Africa: 1949–1999; for the Middle East: 1917–1999; and for Asia: 1900–1999. Oceania, which includes a small number of countries and no variability in democratization (only four states in the region are democratic, two of which were highly democratic for over a century), was excluded from the regional analyses.

In this study, I apply the two-level growth models for the regional analyses, and the three-level growth model for the world analysis. In addition to evaluating the means for the intercept and the slope as a function of variables at the within-country level (country-year level covariates), variables that are characteristic to each country (country-level covariates) and/or each region (region-level covariates), the variances (marked differences) are estimated. The variances in the level and the rate of democratic growth among regions; the variance for the intercepts, the slopes, and the covariance for intercepts and slopes between countries; and the residual are calculated.

The modeling was implemented in “SAS PROC MIXED,” a procedure that allows hierarchical modeling (Singer 1998). In the simplest form (without added predictors), the two-level growth model is expressed as the sum of two parts: a fixed part with two fixed effects (for the intercepts and for the effect of time) and a random part, which contains estimates of variances for the intercepts, the time slope, the covariance, and the residual. The following equation summarizes the simplest form of the two-level hierarchical growth model employed:

\[
Y_{ij} = (\beta_{00} + \beta_{10} Year_{ij}) + (e_{0j} + e_{1j} Year_{ij} + r_{ij}),
\]

where \(e_{0j} \sim N(0, \tau_{00})\) \(e_{1j} \sim N(0, \tau_{10})\) \(r_{ij} \sim N(0, \sigma^2)\)

- \(\beta_{00}\) represents an average democracy level in the world in 1950
- \(\beta_{10} Year_{ij}\) represents an average slope of democratic growth in the world
- \(\tau_{00}\) represents variation in the democracy level among countries (between countries’ intercepts)
- \(\tau_{10}\) represents variation among countries’ temporal rate of democratic growth (among countries’ slopes)
- \(\sigma^2\) represents residual (the within country variance)
- \(ij\) the subscript denotes the within country level (the level-1)
- \(j\) the subscript denotes the country or region level (level-2)

The dependent variable \(Y\) (growth of democracy) is explained with an intercept \(\beta_{00}\) and a slope \(\beta_{10} Year_{ij}\). The fixed part of the model contains fixed effects for the intercept (\(\beta_{00}\)) and for the effect of time (\(\beta_{10} Year_{ij}\)). The random part contains three estimates of variances: for the intercept (\(e_{0j}\)), representing variation in the democracy level between countries in the world; for the slope of time (\(e_{1j} Year_{ij}\)), representing variation in the slope of the temporal rate of democratic growth among countries in the world; and for the within-country residual (\(r_{ij}\)), representing variation in democracy level within countries or the departure from the predict-

\(^{11}\) It was estimated that the slopes that best fit the observed data varied between a year squared in the Americas, a year in Europe, and a year cubed in Africa, the Middle East, and Asia. However, to prioritize logical consistency over a model that fits the data best, a year squared was selected for all analyses.
ed score of the country’s actual score in 1950 on the democracy scale.

To explore whether the variations within a country relates to covariates, or whether intercepts and slopes are related to covariates, independent variables were added to this unconditional model, where a variable $X_{ij}$ represents the level-1 (within-country) predictor and a higher-level variable $X_j$, the level-2 (country- or region-level) predictor. For example, a model with a level-1 and level-2 covariate is summarized by the following equation:

$$Y_{ij} = [\beta_{00} + \beta_{10}Year_{ij} + \beta_{01}X_{ij} + \beta_{11}(X_j)(Year_{ij}) + \beta_{02}X_j + \beta_{12}(X_j)(Year_{ij})] + \left[\epsilon_{ij} + e_j(Year_{ij}) + r_{ij}\right]$$

This model is also expressed as the sum of two parts of fixed and random effects. The fixed
effects for the intercept ($\beta_{00}$) represent an average democracy level in the world in 1950; for the slope, ($\beta_{10} Year_{ij}$) represents the average growth rate of democracy; the predictor of democracy level $\beta_{01} X_{ij}$ and $\beta_{01} X_{ij}$ captures the relationship between the covariates and the status of democracy in 1950; and the predictor of slope $\beta_{11} X_{ij} (Year_{ij})$ and $\beta_{11} X_{ij} (Year_{ij})$ captures the relationship between the covariates and the growth rate of democracy. As in the unconditional model, the random part represents a variation in the intercepts, the slopes, and the residual. With the variance in democratic level and the rate of democratic growth among regions added to this model, the above two-level model became a three-level growth model to which more covariates were added (see Table 1 on the ASR appendix online supplement at http://www.asanet.org/journals/asr/2004/toc043. html).

To allow the intercept and the slope to vary across countries and across regions, a structure of the variance-covariance was selected using the goodness-of-fit statistics, and the UN (unstructured) structure was indicated as best fitting the data (Singer and Willett 2003). Comparison of the results of the UN model with the simple model, which did not impose additional structure on the error covariance matrix (beyond the heteroscedastic structure of the intercept and slopes as outcome models), indicated that, once the covariance of the intercepts and slopes had been introduced, no additional autoregressive error structure needed to be added. Nonetheless, one more test was performed, with results leading to the same conclusion.

Since this methodology has not been used in previous research on democracy, I derived slopes that best fit the observed data and, using the depicted time spans, assessed the validity of the unconditional growth models (the three-level for the world and the two-level for each region) by evaluating the estimated rate and level of democratic growth in the world and in each world's region against observed data. As is demonstrated in Figure 2, the scores—estimated with the derived models—of the level of democracy and the rate of democratic growth closely match the observed values.

**RESULTS**

**Analysis of the Observed Data**

It is generally assumed that the temporal evolution of democracy has followed a continuous, upward trend across the past two centuries (Dahl 1982; Karatnycky 1997; Starr 1991). Indeed, according to the observed data, over the past two centuries, the absolute number of democracies increased, and the highest number of democracies was observed at the end of the 1990s; the overall mean level of democracy also increased, although it underwent periodic moderate declines and increases (see Figure 2).

Across the past two centuries, the steadily increasing but fluctuating growth in worldwide democratization varied as a function of time (century) and the historical events within the world's regions. In the nineteenth century, the change in the mean level of democracy in the world corresponded to the character of political error structure, once the covariate has been taken into account, and to compare different structures for the error covariance matrix. In this study, following Singer (1998), the extra complexity was added to the assessment of the covariate estimate for the autoregressive parameter, and fit statistics pointed toward the conclusion that no additional complexity of the autoregressive error structure needed to be added to the final model.

---

12 The UN model was selected out of the tested CS, CSH, HF, ARH, AR, and UN models, using goodness-of-fit statistics from Akaike's Information Criterion (AIC); Akaike's Information Criterion corrected for sample size (AICC); Bayesian Information Criterion (BIC); and a subsequent Likelihood ratio test (−2 RLL). The UN structure indicates that the model does not place any structure on the variance for intercepts and variance for slopes, nor is any structure imposed on the covariance between these two.

13 One of the strengths of PROC MIXED is that it allows adding complexity to test for autoregressive effects.
systems of newly established countries in each region. In Europe, most of the newly established states were democratic, and thus, a slow steady upward trend in the mean level of democracy in this region was observed. In the Americas and Africa, on the other hand, an initial upward trend was soon replaced by a downward trend as the establishment of the first few sovereign and strongly democratic states was followed by the creation of mainly non-democratic and low-level democratic countries. In the Latin American subregion of the Americas, most of the newly established countries—such as, Mexico, Honduras, Bolivia, and Uruguay—had democracy scores of only 1 during the first few decades of their existence. The birth of these countries thus lowered the overall mean of democracy level in the region. Only at the end of the 1900s, as Latin American democracies matured, was a slow increase in the regional level of democracy observed.

In Africa in the beginning of the 1800s there was only one independent country: Liberia, which had a democracy level of 7. With the establishment of new countries in the mid-1800s that were low-level democracies (e.g., Ethiopia, established in 1855, had a democracy score of 5; South Africa, established in 1856, had a score of 3), the average democracy level in the region declined. In addition, Liberian democracy declined to a score of 1 by the end of the century. In the Middle East and Asia, on the other hand, there were no democracies throughout the nineteenth century, except a few low-scoring democracies (e.g., Japan) that emerged in Asia in the last years of the 1800s.

By contrast, an examination of the mean level of democracy in the world in the twentieth century demonstrates that historical events influence the changes in the world's democracy level (see Figure 2). For example, the rapid decline in the world's democracy level coincided with the birth of European fascism in the 1930s, and the collapse of fragile postcolonial democracies in Africa during the 1960s. Its increase in the 1920s reflected democratic experiments in Europe at the end of World War I, whereas its peak in the 1990s corresponded to the economic crisis within the Soviet bloc, the subsequent collapse of communism, and the spread of democratic transitions across the Soviet bloc (Offe 1991; Stark and Bruszt 1998) and many of African countries (Kissinger 2001).

To account for the dependence of the growth of the mean level of democracy in the world on regionally varying trends, the predictor models of democratic growth followed two analytic steps. First, a general assessment of the relative power of predictors to the level and the rate of democratic growth in the world was conducted, and second, variation in regional patterns in the power of predictors was analyzed.

PREDICTOR MODELS OF THE WORLD’S DEMOCRATIZATION

In the first analytic step, the study assessed worldwide democratic growth using the three-level growth model described above. Initially, was created an unconditional model (Model 1), that did not include a predictor variable and served as a baseline for comparing models that were more complex. To each consecutive model were added sets of predictors of (a) development, (b) diffusion, and (c) historical events.

As indicated in Model 2, the GNP/c, world system position, and regional non-agricultural labor force were robust predictors of democratic growth (see Table 1), which, in general, supports the standard view of the significant impact of countries’ level of development on their democratic growth. Several findings, however, extended results of prior studies.

First, support was found for Przeworski et al.’s (2000) argument that sustainable, high-level democracies have a higher GNP/c, but also depicted was the fact that a marked decline in economic growth predicts an increase in the temporal rate of democratic growth, not a decline as Przeworski et al. (1996) argued. This could be because economic instability creates a breeding ground for the onset of democratic transitions (as depicted by studies on democratic movements, e.g., Boswell and Peters 1989; Rueschmeyer, Stephens, and Stephens 1992) or because it adds political strength to pro-democratic constituencies that demand a greater democratization of countries. Future studies should be conducted to explore this issue. Support was also found for Wallerstein’s (2002) argument that peripheral countries that are poor

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15 Similarly, Jagger and Gurr (1995) argue that high-level democracies with a score of 7 or more on a scale of 0–10 are sustainable democracies.
Table 1. Predictors of Democratic Growth in the World, 1860-1999

<table>
<thead>
<tr>
<th>Model 1: Unconditional Model</th>
<th>Model 3: Diffusion</th>
<th>Model 4: Historical Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unconditional</td>
<td>Development</td>
<td></td>
</tr>
<tr>
<td>Fixed Effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept (Democracy level)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year^2 (curvilinear slope)</td>
<td></td>
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<tr>
<td>Country-Year Predictors</td>
<td></td>
<td></td>
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<tr>
<td>GNP per capita</td>
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<tr>
<td>GNP per capita * Year / 1000</td>
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<tr>
<td>Literacy* Year</td>
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<tr>
<td>Literacy* Year^2</td>
<td></td>
<td></td>
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<tr>
<td>Urbanization* Year</td>
<td></td>
<td></td>
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<tr>
<td>Urbanization* Year^2</td>
<td></td>
<td></td>
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<tr>
<td>Regional Non-agricultural Labor* Year / 100</td>
<td></td>
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<tr>
<td>Regional Non-agricultural Labor* Year^2</td>
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<td></td>
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<td>Regional Non-agricultural Labor* Year^2</td>
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<tr>
<td>Model 1: Unconditional Model</td>
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<tr>
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<td>GNP per capita * Year / 1000</td>
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<td>Literacy* Year^2</td>
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<tr>
<td>Urbanization* Year</td>
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<td>Urbanization* Year^2</td>
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<td>Model 1: Unconditional Model</td>
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<td>Intercept (Democracy level)</td>
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<td>Literacy* Year^2</td>
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<tr>
<td>Urbanization* Year</td>
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<td>Urbanization* Year^2</td>
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<td>Regional Non-agricultural Labor* Year^2</td>
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<td>Regional Non-agricultural Labor* Year^2</td>
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<tr>
<th>Table 1. (Continued)</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
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<td>Unconditional</td>
<td>Development</td>
<td>Diffusion</td>
<td>Historical Event</td>
</tr>
<tr>
<td>(Colonial Network*Year)/100</td>
<td>.01 (4)</td>
<td>(.005** (0.001)</td>
<td>.00004 (0.001)</td>
<td>-01 (3)</td>
</tr>
<tr>
<td>(Colonial Network*Year²)/100</td>
<td>Media</td>
<td>-07* (0.02)</td>
<td>-07* (0.02)</td>
<td>-07* (0.02)</td>
</tr>
<tr>
<td>(Media*Year)/100</td>
<td>-7** (0.09)</td>
<td>-7** (0.1)</td>
<td>-01** (0.002)</td>
<td>-01** (0.002)</td>
</tr>
<tr>
<td>(Media*Year²)/100</td>
<td>Model 4. Historical Events Predictor</td>
<td>Historical Events</td>
<td>-06* (0.03)</td>
<td>-06* (0.03)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Historical Events*Year)/100</td>
<td>-6** (0.09)</td>
<td>-6** (0.09)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Historical Events*Year²)/100</td>
<td>.02* (0.003)</td>
<td>.02* (0.003)</td>
</tr>
<tr>
<td>Random Part</td>
<td>Estimates Of Variances</td>
<td>Variance between Regions' Intercepts</td>
<td>4.9* (2.1)</td>
<td>2.4* (1.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Variance between Regions' Slopes</td>
<td>.0005* (0.0002)</td>
<td>.0005 (0.0003)</td>
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<tr>
<td></td>
<td></td>
<td>Variance between Countries Intercepts</td>
<td>11.2* (1.3)</td>
<td>10.3** (1.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Var. between Countries Slopes</td>
<td>.004** (0.0004)</td>
<td>.004** (0.0005)</td>
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<tr>
<td></td>
<td></td>
<td>Covariance between Countries Intercepts &amp; Slopes</td>
<td>-.08** (0.02)</td>
<td>-.11** (0.02)</td>
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<tr>
<td></td>
<td></td>
<td>Residual</td>
<td>3.9** (0.05)</td>
<td>3.8** (0.05)</td>
</tr>
</tbody>
</table>

Notes: Values in parentheses depict standard errors. For the predictor of urbanization and the regional predictor non-agricultural labor force the linear slope (year) was assessed as best fitting observed data.

* Number of observations across countries over time (N₁) = 12189; number of countries (N₂) = 161; number of regions (N₃) =17. As described in footnote 7, regions are depicted as subregions of regions. The fit statistics of -2RLL, AIC, AICC, BIC of 52693.3, 52705.3, 52705.3, 52704.0 in Model 1, as compared to 52243.9, 52255.9, 52255.9, 52254.6 in Model 2 and 48409.8, 48419.8, 48419.8, 48244.0 in Model 4 (df = 1200), indicate a better fit of each consecutive model to the data.

* p < .05, ** p < .0001
and disadvantaged in trade composition are generally low-level democracies, but being a peripheral country can be a "benefit"—the rate of those countries' democratization accelerates faster than in other countries. 16

Second, contrary to many former analyses, literacy did not correlate significantly with democracy level, indicating that high literacy can be found in democratic as well as totalitarian regimes. This finding might explain why democratic transitions were not initiated in the highly educated societies of the former Soviet regimes until economic crisis sparked pro-democratic movements (Wejnert 1988, 2000c; Sedaitis and Butterfield 1991), and why recently in many African countries, an increase in education level together with an increase in democracy level is depicted (World Bank 1999).

Third, it was denoted that limited regional industrialization, measured by a low level of non-agricultural labor force, inhibits democratic growth in countries located within that region. Thus, it does make a difference where a country is located, and characteristics of regions should be accounted for in research on democratization. For example, in 1993, Mexico, located in less-developed Central America, had a GNP/c of $4230, whereas in 1976, Portugal, located in well-developed, industrialized Europe, had a GNP/c of $2020. Using the GNP/c alone (as many studies thus far have done) we would predict that Mexico had a greater chance of becoming a high-level democracy than Portugal. In reality, Portugal was highly democratized in 1976, whereas Mexico had a low-rated level of democracy in 1993. Regional location must interact with the impact of GNP/c. 17 I believe that economically affluent regions provide economic opportunities, incentives, and protective strategies to help fragile democratic regimes sustain their systems at times of economic crisis. Such strategies are particularly important when we consider that economic crisis is one of the leading causes of a breakdown of democratic regimes (Przeworski et al. 1996).

Model 3 includes predictors of diffusion to account for the growth of the democratic level in the world. First, overall, as shown in Table 1, a country's exposure to democratic principles facilitated by diffusion processes (e.g., modeling of democratic countries, learning how democracy works, or spreading information about democratic principles) is a critical predictor of the growth of democracy worldwide. In fact, once the diffusion predictors were added to the model, the significance of development predictors faded. Especially with added spatial proximity and countries' membership in political and economic networks, other predictors almost do not matter.

Spatial proximity of democratic countries in a subregion has a strong positive effect on the mean level of democracy of countries located there: a 1 percent increase in the number of democracies in a subregion raises the level of democracy of an average country in that subregion by .7 (on scale 0–10). 18 This finding supports as well as extends the argument of O'Loughlin et al. (1998), showing that not only neighboring with a democratic country increases the democracy level of a country, but also that merely being located in a subregion containing at least one democracy is an equally important predictor. Subregional structural similarity of countries generated by such factors as a similar culture or economic structure, trade relations or religious ties, strongly affects democratic growth. An example of the significance of structural similarity can be found in the democratization of the former Soviet bloc in the early 1990s, when Poland initiated the wave of transitions to democracy followed by not one of its neighbors but structurally similar Hungary. At the same time, East Germany, which shared a border with Poland, democratized after

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16 The world system position is a country-level indicator and does not change yearly, as do other included indicators. Its value is fixed at the 1950 level, which creates a limitation on the findings (see text).

17 Importantly, the regional development measure in part illustrates a context or structural equivalence of regions adding to an effect of diffusion, hence, this measure understates the impact of regional development.

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18 Considering that in most subregions there are no more that 10 countries, each new democracy increases the number of democratic countries by approximately 10 percent. Thus, with each new democracy established in a subregion, the democracy level increases by 0.7 points on a scale of 0–10 in each subregion.
Hungary, Czechoslovakia, and Yugoslavia. Following the logic of this argument and the results of this study, it would be correct to assume that democratized Iraq will enhance the democratization processes in other Muslim countries throughout the Middle East in addition to its positive effect on neighboring Iran.

The increase in membership of democratic countries in economic and political networks increases the level of democracy of an average country in these networks. These findings could be best illustrated with examples of observed data. For instance, since 1963, Chad was a member of two economic and political networks with low levels of democracy. In 1995 when the mean level of democracy in its networks increased from a score of 2.98 in 1994 to a score of 6.1 in 1995, Chad’s democracy level increased from 0 to the score of 3. Kuwait also demonstrated the same pattern. It had been a member of low-democratized networks since the 1960s. Starting in 1993, however, the networks’ level of democratization gradually increased to a score of 5.31 by 1995, the year that Kuwait became a democracy, with a score of 4.

Second, until the last half of the twentieth century, the media (as measured by a sum of newspapers, TV sets, and radios per 1000 people) mainly depicted the impact of societal exposure to newspaper information (prior to the 1930s and 1950s, respectively, radio and TV were not broadly available). For 1860–1999, throughout the world, the effect of media was negative, indicating that societal exposure to press information is not a powerful determinant of democratization. This does not mean, however, that the positive role of media in the promotion of democracy was incorrectly depicted by prior studies. Support for prior findings (e.g., Gunter and Mughan 2000) provided separate analysis conducted for years 1950–1999, when the indicator of media accounted for the effect of modern media technology, especially TV and radio. The results demonstrate that media were strong positive predictors of democratic growth of an average country in the world.19

Third, in contrast to prior analyses showing a positive effect of colonial dependency on
countries’ democratization (e.g., Crenshaw 1995), results indicate that, while colonial dependency leads to a higher rate of democratization, postcolonies in general have lower levels of democratic growth. The results indicate that hegemonic imposition of a democratic system on newly independent colonial dependencies did not lead to a sustainable democracy (negative effect on the level of democracy). Nonetheless, the imposed postcolonial democratization provided experience with a democratic system that helped to boost redemocratization and democratization processes in the future (as indicated by the increase of the rate of democratic growth). Separate analyses conducted for each colonial network showed that postcolonies of democratic empires had higher and increasing levels of democratic growth, while colonial dependencies of non-democratic empires had negative democratic growth. For instance, the democratic growth of colonial dependencies of autocratic Spain, Portugal, and Soviet Russia were negatively affected by colonial history, whereas dependencies of democratic Britain were positively affected, and those of France showed no significant effect. Unlike other empirical powers, France had limited interest in imposing or preparing political institutions in newly independent colonies.20

In Model 4, Effects of Historical Events, observed data indicate that patterns of worldwide democratization correspond with world-scale historical events. Accordingly, the occurrence of some events leads to the collapse of democratic regimes and in turn lowers the average level of democratic growth in the world (e.g., the birth of fascism), but other events (e.g., the oil crisis in the 1970s) escalate democratic growth. To control for the impact of historical events on democratic growth in the world and to determine whether historical events promulgate or prevent democratic growth, the

19 Importantly, media partially relate to countries’ development and hence the claim of media effect on diffusion is somewhat overstated. However, performed tests on the effect of media measured as an availability of media technology (i.e., the existence of newspapers, radios, and TVs measured as dummy variables), indicate that media technology had no significant effect on democratic growth.

20 Membership in the colonial network of democratic Britain increased a country’s democratic growth by 2.9 on the democracy scale. At the same time, membership in a French colonial network had a negative albeit insignificant effect. These results are available upon request from the author.
variable historical event was added to the final model (see Model 4, Table 1).

As findings indicate across nearly the past two centuries, historical events lowered the level of democratic growth in an average country in the world but stimulated an increase in the rate of democratic growth. These seemingly puzzling results become clear when one refers to the observed data. For instance, during the world wars, many democracies collapsed, but subsequent spurts in democratic transitions occurred as an aftermath of post-WWI and WWII peace treaties. At the end of World War I, eleven new countries—one third of the total number of countries in Europe at that time—were established as democratic states, in part due to the political pressures that the Western democracies placed on participants of the peace treaties. The WWII occupation of a number of European, Asian, North African, and Middle Eastern countries by the totalitarian regimes of Germany, Italy, and their allies, inhibited democratic development and, as shown in Figure 2, led to a rapid decline in the level of democracy in Europe. This was followed, however, by a rapid increase in the level of democracy when liberated/newly establish countries and former totalitarian regimes (such as Germany and Italy) adopted democratic systems, often on request by participants in peace treaties. Consequently, the fluctuation of the democracy level in Europe was reflected in the downward and later upward trends of democratic growth in the world (see Figure 2).

Indeed, at the end of world-scale wars, the international community undertakes initiatives to build peace. Because it is believed that democracies do not start wars with other democracies (e.g., Dahl 1998; Karanthycky 1997), it imposes or encourages the establishment of democratic regimes. Although global wars or economic crises cause destruction to democratic systems, paradoxically, as my findings supported by the observed data indicate, such negative historical events also have an overall lasting, positive effect on worldwide democratic growth (Model 4, Table 1).

The estimates of variances (see bottom of Table 1) demonstrate the markedly stronger predictive power of variables of diffusion (regardless of the effect of historical events) than of variables of countries’ development. The predictive power of diffusion vs. development model was calculated by subtracting the estimate of variances of the development model from variances of the unconditional model and dividing this by the value of the variance of the development model. Then, controlling for the development variables, the estimate of variances of the diffusion model was subtracted from variances of the unconditional model and divided by the value of the diffusion variances (Bryk and Raudenbush 1992:65). For example, the percentage of the residual (unexplained variance in democratic growth within each country) explained by the variables of diffusion relative to development was calculated by subtracting the residual of the unconditional model of 3.9 from the residual of the development model of 3.8, divided by the value of the first variance and multiplied by 100 [(3.9 – 3.8)/3.9] x 100 = 2.5%]. Next, controlling for development variables, the residual of the unconditional model was subtracted from the residual of the diffusion model, then divided by the value of the first variance and multiplied by 100 [(3.9 – 2.8)/3.9] x 100 = 28.2%]. Relative to the development model, the model of diffusion explained one and a half as much variance in democracy level among regions (albeit, not significantly); 34 percent more variance in democracy level among countries; and 25 percent of variance in the rate of democratic growth among countries vs. zero explained by development indicators; and approximately ten times more of the residual (see Table 2 on the ASR appendix online supplement).

REGIONAL DIFFERENCES IN DEMOCRATIC GROWTH

To estimate any cross-regional differences in the impact of particular predictors, following world analysis, consecutive models 1 through 3 were constructed for each region. Considering the goal of this research, the most important were models that included development and diffusion variables while controlling for the effect of historical events (Model 3). As presented in Table 2, the

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21 This percentage, however, is not the same as the traditional $R^2$ statistic because it assesses only the fraction of explainable variation that is explained. If the amount of variation among countries or regions in the world were small (which, in the case of democratization, it is not), very little variance may actually represent the explained variance (Singer 1998:333; Snijders and Bosker 1994).
Table 2. Model 4: Development and Diffusion Predictors of Democratic Growth across World's Regions, 1800–1999

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<tbody>
<tr>
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<td>N = 3,066</td>
<td>N = 3,693</td>
<td>N = 1,648</td>
<td>N = 1,124</td>
<td>N = 1,602</td>
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<td>Fixed Effects</td>
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</tr>
<tr>
<td>Intercept</td>
<td>-.4 (3.0)</td>
<td>.6 (1.3)</td>
<td>-8.03* (3.93)</td>
<td>3.78 (1.98)</td>
<td>7.2* (3.2)</td>
</tr>
<tr>
<td>Slope: Year</td>
<td>-.03 (.06)</td>
<td>-.01 (.02)</td>
<td>.8** (.2)</td>
<td>.06* (.03)</td>
<td>-.007 (.1)</td>
</tr>
<tr>
<td>Slope: Year²</td>
<td>-.002** (.0002)</td>
<td>-.0008** (.0002)</td>
<td>-.014** (.002)</td>
<td>-.002* (.0005)</td>
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<td>GNP per capita</td>
<td>.03* (.01)</td>
<td>.06* (.02)</td>
<td>-.16 (.09)</td>
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<td>-.01 (.02)</td>
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<tr>
<td>(GNP per capita *Year)/10</td>
<td>.01* (.004)</td>
<td>-.01** (.003)</td>
<td>.2* (.09)</td>
<td>-.003 (.01)</td>
<td>-.02* (.009)</td>
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<tr>
<td>(GNP per capita *Year²)/10</td>
<td>-.00004 (.00007)</td>
<td>-.0004* (.0007)</td>
<td>-.009** (.002)</td>
<td>.0002** (.003)</td>
<td>.0004 (.002)</td>
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<td>Literacy</td>
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<td>-1 (.2)</td>
<td>18.0** (.2.2)</td>
<td>-1.8* (.6)</td>
<td>3.2** (.3)</td>
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<td>Literacy*Year</td>
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<td>.02** (.006)</td>
<td>-.9** (.14)</td>
<td>.1* (.03)</td>
<td>-.2** (.02)</td>
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<td>Literacy*Year²</td>
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<td>.0007** (.0001)</td>
<td>.01** (.002)</td>
<td>-.001* (.0005)</td>
<td>.002** (.0005)</td>
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<tr>
<td>Urbanization</td>
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<td>.05* (.02)</td>
<td>.05 (.05)</td>
<td>-.05* (.02)</td>
<td>-.02 (.03)</td>
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<tr>
<td>(Urbanization Year)/100</td>
<td>-.02 (.07)</td>
<td>.028 (.003)</td>
<td>-.6* (.2)</td>
<td>.02 (.03)</td>
<td>.008 (.08)</td>
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<tr>
<td>(Urbanization*Year²)/100</td>
<td>.002** (.0001)</td>
<td>.0004* (.001)</td>
<td>.02** (.003)</td>
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<td>.0006 (.0006)</td>
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<td>World's Position</td>
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<td>-.99 (.6)</td>
<td>1.5 (1.1)</td>
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<td>-2.7* (1.1)</td>
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<td>(World's Pos*Year)/10</td>
<td>-.02 (.1)</td>
<td>.005 (.1)</td>
<td>-1.9** (.5)</td>
<td>-.2* (.08)</td>
<td>.03 (.3)</td>
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<tr>
<td>(World's Pos*Year²)/10</td>
<td>.006** (.0005)</td>
<td>.003** (.0005)</td>
<td>.03** (.006)</td>
<td>.003* (.001)</td>
<td>.003 (.003)</td>
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<td>7.02** (.5)</td>
<td>6.2* (1.74)</td>
<td>4.6** (.5)</td>
<td>7.3** (.5)</td>
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<td>.04 (.1)</td>
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<td>.0007* (.0002)</td>
<td>-.0002 (.002)</td>
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<td>27.8** (.1.2)</td>
<td>15.4** (.15)</td>
<td>12.5 (25.5)</td>
<td>48.5** (2.5)</td>
<td>26.4* (11.2)</td>
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<td>-.4* (.1)</td>
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<td>3.6** (.8)</td>
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<td>.19 (.6)</td>
<td>.3 (.7)</td>
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<td>-.08 (.05)</td>
<td>-.4 (.3)</td>
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<td>-.5* (.2)</td>
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<tr>
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<td>.002** (.0003)</td>
<td>.0048 (.004)</td>
<td>.01* (.004)</td>
<td>.006* (.003)</td>
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<td>.0008 (.0006)</td>
<td>.002* (.0007)</td>
<td>−.002 (.003)</td>
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<td>.001* (.0007)</td>
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<td>Variance Between Countries Intercepts</td>
<td>5.8* (1.8)</td>
<td>5.4** (1.4)</td>
<td>11.7** (2.8)</td>
<td>3.6* (1.3)</td>
<td>7.4* (2.2)</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td>.002* (.0008)</td>
<td>.002* (.0004)</td>
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<td>.0004* (.0002)</td>
<td>.007* (.002)</td>
</tr>
<tr>
<td>Covariance Between Intercepts &amp; Slopes</td>
<td>−.09* (.03)</td>
<td>−.004 (.02)</td>
<td>−.3* (.07)</td>
<td>−.01 (.01)</td>
<td>−.2* (.06)</td>
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<td>4.1** (.09)</td>
<td>2.2** (.08)</td>
<td>.8** (.03)</td>
<td>1.45** (.05)</td>
</tr>
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Note: Values in parentheses depict standard errors. The temporal rate (slope) of democratic growth is assessed as a year squared.

* p < .05, ** p < .0001.
cross-regional comparison of Model 3 indicates that first, the effects of particular predictors vary by regions, and second, across all regions the diffusion variables are stronger predictors of democratic growth than development variables.

It is evident that the diffusion predictors of spatial proximity of democratic countries and membership in networks containing democratic members predict the growth of democracy across all regions. The only exception was the non-significant effect of networks in Africa, mainly because, until recently, there were not many economic or political networks with democratic members operating in this region. Also, considering that across all regions, on average, countries are low-level democracies (with the exception of Europe), the results indicate that spatial proximity and networks facilitate the growth of democracy prior to an obtained high, and hence, sustainable level of democratization.

Moreover, in most regions exposure to media positively affected democratic growth with two exceptions: in Africa the positive effect of media exposure was the strongest among regions; while in the Middle East the effect was negative. In regions where network connectedness with democratic members is weak, as in Africa, media became one of the main promoters of democratic principles yielding its strongest effect. In the Middle East, on the other hand, where the effect of network connectedness with democratic members was weak and political regimes censor information about democratic principles while promoting anti-democratic ideology (Finn 2003; Piscatori 1991; Rasler 1996) the effect of media was significantly negative. Accordingly, Lipset’s (1994) and Gunther and Mughan’s (2000) arguments that modern communication facilitates the spread of democracy should be modified to reflect the fact that media variables are robust predictors of democratic growth only if countries’ domestic conditions allow for the promotion of democratic principles. Such conditions, for example, existed in communist Poland, which underwent the transition to democracy sooner than other communist states in part due to its active underground and alternative press and to the greater free exposure of the Polish public to Radio Free Europe and Voice of America (Wejnert 1988). In contrast, strong censorship of the media in Albania prevented the infiltration of democratic ideology to Albanian society, contributing to the delayed replacement of the communist regime by a democratic one (Wejnert, 2002c).

The effect of development, on the other hand, including the effect of the GNP/c, the strongest predictor of countries’ economic development, in part seems to depend on the economic affluence of a region. In less developed Africa, the Middle East, and Asia, the correlation of GNP/c with level of democracy was not significant. In contrast, the significant positive effect of GNP/c was demonstrated in economically developed Europe and the Americas. The regional results further validate the findings (presented earlier) of the world analysis, which showed interdependence of the effect of a country’s GNP/c and regional economic affluence. In addition, the results validate Przeworski and Limongi’s (1997) and Przeworski et al.’s (2000) argument that stable democracies, which are mainly found in Europe and North America, have high GNP/c. Moreover, the results provide support for another of Przeworski et al.’s (1996) arguments that economic instability leads to the collapse of democratic regimes. Since the economies of poorer regions are less stable, a withdrawal from democracy followed by a redemocratization is frequently experienced by countries in such regions, resulting in a net insignificant correlation between the two variables.

Another indicator of development, literacy, predicted an increase in the growth of democracy in all regions but not in Europe or the Middle East. In the Middle East, a higher level of literacy correlated with a decrease in democratic growth, while in Europe the effect was not significant. It seems that democratic growth oscillates between positive and negative as a function of education spreading both democratic and anti-democratic messages. In the Middle East and Eastern Europe, state-controlled education institutions promoted the antidemocratic ideology of religious and communist extremists and, being unbalanced by other sources, inhibited democratic development.

Table 3 summarizes the predicted changes in the level of democratic growth across regions. As demonstrated, the relative importance of development and diffusion predictors varies across regions. Moreover, there appear to be two main patterns of effects. One for the more affluent regions, which experienced socioeconomic development earlier, and another one for
the less affluent regions that developed later. Although some exceptions occurred with specific indicators, overall, the observed differences serve to define Pattern I, containing stable democracies of well-developed Europe and recently the Americas (overweighted by North American economies), and Pattern II, encompassing transitory democracies and autocracies in less developed Africa, to some extent in Asia and the Middle East. In Pattern I, countries’ GNP/c dominates as a predictor of democratization being supported by diffusion effects. In contrast, in Pattern II, diffusion processes appear to play a more dominant role in increasing democratic growth or generating democratic transition. Only in those regions, the effects of networks and spatial proximity are especially important since the impact of development indicators is weakened by the insignificant effect of GNP/c. Considering only the indicators of development, GNP/c is the most significant predictor in developed regions, whereas the effect of literacy dominates in Pattern II regions. Simply put, in less developed regions, countries are more vulnerable to external influences of diffusion; in contrast to well-developed regions where countries have high GNP/c’s and are more resistant to external influences.

The estimates of variances (see bottom of Table 2) show that diffusion indicators are stronger predictors of democratic growth across all regions (see Tables 2 and 3 on the ASR appendix online supplement).

**CONCLUSION**

At the broadest conceptual level, this study serves as an integration of two major theoretical approaches to democratization, one focusing on endogenous characteristics of countries as agents of democratization, the other on exogenous or external structural modulation of countries by variation in the macro environment, such as by diffusion effects. It provides integrative analyses of the micro-social processes of a country with the macro processes embedded in an external societal context. In this sense, the study extends current attempts to rediscover a micro-macro connectedness in social phenomena that had been a focal concern of many historical thinkers in sociology (e.g., Weber, Simmel, Marx, and Durkheim) and that is visible in the contemporary work of Giddens, Collins, Coleman, Habermas, and Alexander.

This study also provides significant scholarly and policy-relevant results extending our understanding of democratic processes in four ways:

First, since most prior studies derived their predictors exclusively from socioeconomic characteristics of countries, the relative predictive power of socioeconomic indicators is difficult to judge from their results. In this study, development predictors were compared with diffusion predictors. Significantly, this study supports prior findings of Bollen (1983), Crenshaw (1992), Lipset (1960, 1981), Dahl (1998), and Przeworski et al. (2000) that developed countries are more predisposed to democratization when measuring the effect of development alone. In both the world and regional analyses, however, the importance of development faded with the inclusion of diffusion variables due to the diffusion factors’ markedly stronger predictive power for democratic growth than for the factors of development. In particular, the diffusion predictors of spatial proximity and networks were robust predictors of democratic growth in both the world and across all regions.
In contrast, no socioeconomic indicator was a significant predictor across all regions. In light of these findings, the common strategy of American and other Western policymakers attempting to promote democratic development by providing economic aid to totalitarian regimes should not inevitably lead to democratic transitions. Indeed, in most countries—notably Iraq—it did not yield democratization. The belief that a developed, modern, and educated society of a totalitarian country will abolish nondemocratic regimes via, for example, pro-democratic movements, does not hold for many nondemocratic countries since development is found in sustainable totalitarian as well as democratic regimes (Przeworski and Limongi 1997).

Second, regional differences in findings attest to the idea that global models should be treated as the first approximation to understanding democratic growth. Therefore, cross-world analyses may actually lead to distorted views on the course and patterns of democratic growth if they do not account for regional differences.

Third, the hierarchical growth models employed for the first time in this study proved to be quite informative. The obtained statistical fit parameters demonstrated that multilevel regression models fit data on longitudinal democratic growth better than the simple regression models used in the analytic approaches of most previous studies on democratization.

Finally, the results suggest at least three strong policy implications concerning the growth of democracy. First, since diffusion effects are the strongest predictors of democratic growth, policy attention should be devoted to spatial closeness and network connectedness of democratic with nondemocratic countries as facilitators of countries' democratization. Second, modern media communication also requires the attention of policymakers, being an important transmitter of democratic ideology and a mechanism of the formation of democratic movements. Third, as part of a focus on media, special attention should be devoted to broad cultural diplomacy to balance anti-democratic education in countries governed by radical totalitarian regimes or influenced by radical organizations. Thus, the challenges for forming democratic governments in Afghanistan and in Iraq, and for U.S. and other Western foreign policy aimed at supporting these new regimes, are substantial.

Barbara Wejnert is an Associate Professor of Sociology and Women's Studies at the University of Buffalo, and a Visiting Professor in the Department of Sociology at Cornell University. She is a political sociologist involved in cross-national, comparative studies on globalization and democracy, and the theory of diffusion. Most recently, she has been studying the effects of democratization on the well-being of vulnerable groups, especially on women in rural communities in democratizing countries of Eastern Europe, Central Asia, and Africa. Her two recently published books are devoted to the processes and societal outcomes of democratization.

APPENDIX

DATABASE

In the constructed database merged variables were derived from existing datasets of (i) Polity III: Regime Type and Political Authority 1800–1994 (Jaggar & Gurr 1995); (ii) Political Freedom Indicators (Freedom House 2000); (iii) Cross-National Time Series, 1815–1973 (Banks 1993); (iv) World Development Indicators 1960–1998 (World Bank 1999). In addition missing variables were coded from the Statesman's Yearbook (2000); the World Handbook of Political and Social Indicators (Taylor & Jodicke 1983); Encyclopedia of the United Nations and International Relations (Osmanczyk 1982), the journal Freedom Review published by Freedom House and Bollen’s (1993, 1998) Liberal Democracy Indicators 1950–1990. The database assesses 187 (20 historical and 167 contemporary, sovereign countries from 1800–1999, however, nineteen countries for which substantial data on indicators of socioeconomic development and/or of diffusion are missing were dropped from analyses, yielding 168 countries in this study). Following Gurr, Jaggar & Moore (1990) sovereign country was defined as an independent member of the international system that had a population greater than 500,000.

Because the Polity III data extends only to 1994, raw data assessing the level of democratization for 1995–1999 were obtained from Freedom House. The Freedom House indicator of democracy is highly correlated with Jagger and Gurr's (1995a) indicator of democracy (r = 0.92), but different scales were used by Freedom House to assess the level of democracy (Karatnycky 1995). To render the Freedom House scale scores compatible with Jagger and
Gurr's scale, the 13-point democracy scale used by Freedom House was modified to the 11-point scale used in Polity III. To assess the comparability of the rescaled Freedom House indicator with the Jagger and Gurr's indicator, the Freedom House indicator was derived for Polity III data for all 161 countries for the years 1990–1994, and was then correlated with the Jagger and Gurr's index for those same years. The correlation was $r = 0.97$ ($p < 0.01$). Moreover, since the Polity IV dataset was recently published, and the database used in this study was created before the Polity IV was available, the comparability of the extended scale was assessed by correlating it with Polity IV data and a correlation score of above 0.9 was obtained.

Each component of the scale is weighted 0–3 or 0–4 based on the presence of 2–7 variables per component, and the total democratization score is the sum of the 5 component weights. Each component is weighted 0–3 or 0–4 based on the presence of 2–7 variables per component, and a total democratization score is the sum of the 5 component weights. Gurr, Jagger and Moore (1990) empirically designated a score of 7 or more as representing coherent, stable democracies, and scores ranging from 1 but no more than 6 as incoherent or transitional democracies. In the created database for each sovereign country are annually recorded 126 indicators that represent: a) level of democratic growth, b) socioeconomic characteristics, and c) diffusion processes.

**Measurement**

**Development Variables**

*GNP per capita* is assessed at market prices, where gross national product at market prices is the market value of the product, before deduction of provisions for the consumption of fixed capital, attributable to the factors of production supplied by normal residents of the given country. It is identical to the sum of consumption expenditure and gross domestic capital formation, private and public, and the net exports of goods and services plus the net factor incomes received from abroad (Banks 1993, World Bank 1999).

*Urbanization* is measured as the percent of a population living in cities of 10,000 or more to the total population in a country (Banks 1976, 1993). Banks measure is extended for year 1994–1999 using a comparable indicator from the World Bank (1999). To test the comparability, correlation of the variable from Banks and the World Bank was performed with an obtained correlation score ranging from 0.9 to 0.94 on overlapping years.

*World system position* of countries is assessed based on Snyder & Kick's (1979) data supplemented by Bollen & Appold's (1993) modification of the measurement. Accordingly, the following countries were recorded as the core countries: Australia, Austria, Belgium, Canada, Denmark, France, Germany (West Germany), Greece, Italy, Japan, Luxembourg, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States, Yugoslavia;

*Semiperipheries* were recorded: Argentina, Burma, Cuba, Cyprus, East Germany, Finland, Hungary, India, Iran, Ireland, Israel, Jordan, Kenya, Korea & South Korea, Kuwait, Lebanon, Malaysia, Pakistan, Peru, Philippines, Portugal, Russia, Singapore, South Africa, Spain, Sri Lanka, Taiwan, Turkey, United Arab Emirates, Uruguay, Venezuela;

Historical states of the XIX century that existed too short a time to determine their world positions were excluded from the study (e.g., Baden, Saxony or Papal States).

**DIFFUSION VARIABLES**

**SPATIAL PROXIMITY**

Using the World Trade Organization (WTO) data, countries were recorded as members of the following sub-regions: the Americas: North America (Canada, Mexico, United States), South America (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, French Guyana, Paraguay, Peru, Uruguay, Venezuela) Central America (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama), the Caribbean (Trinidad & Tobago, Haiti, Dominican Republic, Jamaica, Cuba);

Europe: Western Europe (Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxemburg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom), Central and Eastern Europe (Albania, Armenia*, Azerbaijan*, Belarus*, Bosnia-Herzegovina*, Bulgaria, Czech Republic, Croatia*, Estonia*, Georgia*, Hungary, Latvia*, Lithuania*, Macedonia*, Moldova*, Poland, Romania, Russia, Slovakia*, Slovenia*, Ukraine*, Yugoslavia/Serbia);

Africa: Central Africa (Angola, Cameroon, Central African Republic, Chad, Congo, Zaire, Gabon, Zambia), East Africa (Burundi, Comoros, Ethiopia, Kenya, Mauritius, Madagascar, Malawi, Mozambique, Rwanda, Somalia, Tanzania, Uganda), South Africa (Botswana, Lesotho, Namibia, South Africa, Swaziland, Zimbabwe), West Africa (Benin, Burkina Faso, Ivory Coast, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo);

Middle East: Middle East (Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Saudi Arabia, Sudan, Syria, United Arab Emirates, Yemen—before 1990 split into Yemen Arab Republic, Yemen People’s Republic), North Africa (Algeria, Libya, Morocco, Tunisia);

Asia: East Asia (China, Japan, North Korea, South Korea, Mongolia), South East Asia (Myanmar, Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Taiwan**, Vietnam—before 1976 unification split into South and North Vietnam), Indian Subcontinent (Bangladesh, Bhutan, India, Nepal, Pakistan, Sri Lanka), Central Asia (Afghanistan, Turkmenistan*, Tajikistan*, Kyrgyzstan*, Uzbekistan*, Kazakhstan*).

**Notes:** *exist as an independent country since 1990–1993, **Taiwan is recognized as sovereign country not a part of China.

**Countries membership in economic and/or political networks:**

Using data from Osmanczyk (1982) and the Statesman Yearbook (2000) countries’ membership in a network was recorded (the duration of membership is shown in a bracket) as follow:

Union of Central African States: Chad, Congo, Zaire and Central African Republic (since 1968);

American Union: Great Columbia, Republics of Central America, Peru, Mexico (all members 1826–1830);

Union Africaine et Malgache de Cooperation Economique: Burundi, Chad, Gabon, Benin, Burkina Faso, Cameroon, Congo, Niger, Central African Republic, Rwanda, Somali, Togo, Ivory Coast and Zaire (since 1961);


Nordic Council: Denmark, Iceland, Norway and Sweden (since 1953), Finland (since 1955);

Council of Europe: Belgium, Denmark, Greece, France, Netherlands, Ireland, Luxemburg, Norway, Sweden, Great Britain and Turkey (since 1949), West Germany (since 1950), Austria (since 1956), Cyprus, Switzerland (since 1963), Malta (since 1955), Spain, Portugal (since 1980);

Council of Asian Industrial Development: Afghanistan, Australia, Myanmar, Sri Lanka, China, Philippines, India, Indonesia, Japan, Cambodia, South Korea, Laos, Malaysia, Mongolia, Nepal, New Zealand, Pakistan, Singapore, Thailand and Vietnam (since 1966);

Council of Arab Economic Unity: Egypt, Jordan, Kuwait and Syria (since 1957), Iraq, Yemen (since 1963), Sudan (since 1968), Somalia (since 1970);
Arab League: Saudi Arabia, Egypt, Iraq, Yemen, Lebanon, Syria and Jordan (since 1945), Libya (since 1953), Sudan (since 1955), Morocco, Tunisia (since 1958), Algeria (since 1962), Kuwait (since 1964), Yemen People's Republic (since 1967–1990), Bahrain, Oman (since 1971), United Arab Emirates (since 1972), Mauritius (since 1973), Somalia (since 1974);

Organization of Central American States: Guatemala, Honduras, Costa Rica, Nicaragua and El Salvador (all since 1951), Panama (since 1962);

Organization of African Unity: Algeria, Angola, Benin, Botswana, Burundi, Central African Republic, Chad, Egypt, Gabon, Ghana, Upper Volta, Guinea, Congo, Cameroon, Kenya, Comoros, Congo, Lebanon, Lesotho, Libya, Liberia, Madagascar, Mozambique, Niger, Nigeria, Mali, Rwanda, Swaziland, Senegal, Sierra Leone, Sudan, Somalia, Tanzania, Togo, Uganda, Ivory Coast, Zaire, Zambia, Namibia and Zimbabwe (since 1963);

Union, Liga Confederacion Permanente: Peru, Mexico, Colombia, Republics of Latin America: Panama, Nicaragua, Dominican Republic and Costa Rica (1826–1848);

International Union of American Republics: Peru, Mexico, Colombia, Republics of Latin America: Panama, Nicaragua, Dominican Republic and Costa Rica (1890–1918);

Organization of American States: Argentina, Bolivia, Brazil, Chile, Dominican Republic, Ecuador, Guatemala, Haiti, Honduras, Colombia, Costa Rica, Nicaragua, Panama, Paraguay, Peru, El Salvador, Uruguay: the United States and Venezuela (since 1948), Cuba (1948–1962), Trinidad& Tobago, Jamaica (since 1967);

Warsaw Pact: Bulgaria, Czechoslovakia, East Germany, Poland, Rumania, Hungary and the Soviet Union (1955–1990), Albania (1964–1990);

North Atlantic Treaty Organization (NATO): United States, France, Great Britain, Belgium, Denmark, Netherlands, Island, Canada, Luxembourg, Portugal, Norway and Italy (since 1949), Greece, Turkey (since 1952), Germany (since 1955); Poland, Czech Republic, Hungary (since 1998);

Association of South East Asian Nations: Philippines, Indonesia, Malaysia, Singapore and Thailand (since 1967).

Countries membership in colonial networks:
Following the Statesman Yearbook (2000) British colonies were recorded as: Canada, Trinidad & Tobago, Jamaica, Zambiac, Kenya, Tanzania, Uganda, Botswana, Lesotho, South Africa, Swaziland, Zimbabwe, Ghana, Nigeria, Sierra Leone, Burma, Malaysia, Singapore, Bangladesh, India, Pakistan and Sri Lanka; as French colonies: Guyana, Haiti, Cameroon, Central African Republic, Chad, Congo, Gabon, Comoros, Madagascar, Malawi, Somalia, Benin, Guinea, Burkina Faso, Ivory Cost, Mali, Mauritania, Niger, Senegal, Togo, Sudan, Algeria, Cambodia, Laos and Vietnam; as Spanish & Portuguese colonies (due to similar religion and culture and relatively smaller number of colonies than the French or British empire, colonies of the two countries were recorded in the same category): Mexico, Argentina, Bolivia, Brazil, Chile, Colombia, Paraguay, Peru, Uruguay, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Dominican Republic, Cuba, Angola, Mozambique, Guinea-Bissau, Indonesia, Philippines; and as Soviet alliance were recorded: Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Czech Republic, Croatia, East Germany, Estonia, Georgia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Poland, Rumania, Slovakia, Ukraine, Yuglosavia/ Serba, Turkmenistan, Tajikistan, Kyrgyzstan, Uzbekistan, Kazakhstan. However, due to missing data on many indicators the following countries were excluded from the analyses: Tajikistan, Macedonia and Kazakhstan.

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