

# Modernization, Cultural Change and Democracy

## The Human Development Sequence

RONALD INGLEHART  
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This book demonstrates that people's basic values and beliefs are changing, in ways that affect their political, sexual, economic, and religious behavior. These changes are roughly predictable: to a large extent, they can be explained by the revised version of modernization theory presented here. Drawing on a massive body of evidence from societies containing 85 percent of the world's population, the authors demonstrate that modernization is a process of human development, in which economic development gives rise to cultural changes that make individual autonomy, gender equality, and democracy increasingly likely. The authors present a model of social change that predicts how value systems are likely to evolve in coming decades. They demonstrate that mass values play a crucial role in the emergence and flourishing of democratic institutions.

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## PART I

# THE FORCES SHAPING VALUE CHANGE

## A Revised Theory of Modernization

### The Controversy over Modernization Theory

People in different societies see the world differently and have strikingly different values. In some countries, 95 percent of the people say that God is very important in their lives; in others, as few as 3 percent say so. In some societies, 90 percent of the people believe that if jobs are scarce, men have more right to a job than women; in others, only 8 percent think so. These cross-national differences are robust and enduring. But as this book demonstrates, these and many other important values are gradually changing in developed countries throughout the world.

These changes are roughly predictable, for they are closely linked with socioeconomic development. They are occurring in virtually all modern societies, and they have important consequences. Changing values are reshaping religious beliefs, job motivations, fertility rates, gender roles, and sexual norms and are bringing growing mass demands for democratic institutions and more responsive elite behavior. As we will demonstrate, socioeconomic development brings roughly predictable cultural changes – and beyond a certain point, these changes make democracy increasingly likely to emerge where it does not yet exist, and to become stronger and more direct where it already exists.

Modernization theory is based on the idea of human progress (Carneiro, 2003). Historically, this idea is relatively new. As long as humans did not exert significant control over their natural environment, and agrarian economies were trapped in a steady-state equilibrium where almost no perceptible change took place from one generation to the next, the idea of human progress seemed unrealistic (Jones, 1985; McNeill, 1990). The situation began to change only with the occurrence of sustained economic growth (North, 1981; W. Bernstein, 2004).

Economic growth began to outpace population growth in a sustained way when the Commercial Revolution gave rise to preindustrial capitalism in the urban areas of late medieval Western Europe (Hall, 1989; Lal, 1998; Landes, 1998). As this happened, the philosophies of humanism and enlightenment

emerged. The idea that technological innovations based on systematic research would enable humans to overcome the limitations nature imposes on them gained credibility, contesting the established view that human freedom and fulfillment can come only in the afterlife. Science began to provide a source of insight that competed with divine revelation, challenging the intellectual monopoly of the church, which fiercely defended feudal society as an unchangeable eternal order (Landes, 1998). The idea of human progress was born and with it modernization theory began to emerge.

Modernization theory originated in the Enlightenment era, with the belief that technological progress will give humanity increasing control over nature. Antoine de Condorcet (1979 [1795]) was among the first to explicitly link economic development and cultural change, arguing that technological progress and economic development will inevitably bring changes in people's moral values. The idea of human progress had a massive impact on social philosophers, but from its origins to the present, it has been opposed by notions of social decay that saw humanity heading toward a dark age. Edmund Burke (1999 [1790]) formulated such an antimodern view in his *Reflections on the Revolution in France*. In a similar vein, Thomas R. Malthus (1970 [1798]) developed a scientific theory of demographic disasters that is echoed in contemporary theories of growth limits and ecological risks (Meadows et al., 1972; U. Beck, 1992).

The most influential version of modernization theory was propounded by Karl Marx (1973 [1858]). The Marxist version provided a penetrating critique of the harsh exploitation that characterized early industrial society and proposed a utopian solution that allegedly would bring peace and an end to exploitation. Many of Marx's predictions were flagrantly wrong. Today, virtually no one believes that a proletarian revolution is about to take place that will abolish private property and bring an end to history. But the insight that technological changes and socioeconomic development have predictable cultural and political consequences remains valid. When Marx and Engels published *The Communist Manifesto* in 1848, industrialization was limited to a handful of countries, and the working class was small, powerless, and ruthlessly exploited. Marx and Engels argued that industrialization was the wave of the future and that industrial workers would become increasingly numerous and seize power. Although Marx failed to foresee the rise of the service class and the knowledge society, which aborted the numerical preponderance of workers he predicted, industrial workers have become a major political force in most societies, and today most of the world's population lives in countries that are either industrialized or industrializing (Rowen, 1996; Barro, 1997; Estes, 1998; Hughes, 1999).

Adam Smith (1976 [1776]) and Karl Marx (1973 [1858]) propagated competing versions of modernization, with Smith promoting capitalism and Marx advocating communism. But apart from their sharply contradictory views about the best pathway into modernity, both thinkers saw technological innovation and its socioeconomic consequences as the basis of human progress, with



pervasive implications for culture and political institutions. Marx was most explicit on this point, arguing that socioeconomic development determines subsequent cultural changes in people's value orientations: a society's prevailing value orientations and moral standards form the "ideological superstructure" that reflects a society's "socioeconomic basis," and ideology necessarily changes as the socioeconomic basis changes. Consequently, the abolition of private property will bring the end of history – a classless society in which people no longer define their identity along the divisive lines of class distinctions but see themselves and others throughout the world as equals. This egalitarian classless society will make humanistic values dominant.

Competing versions of modernization theory enjoyed a new resurgence after World War II when the capitalist and communist superpowers espoused opposing ideologies as guidelines concerning the best route to modernity. Although they competed fiercely, both ideologies were committed to economic growth, social progress, and modernization, and they both brought broader mass participation in politics (Moore, 1966). Furthermore, because both sides believed that the developing nations of the Third World would seek modernization through either the communist path or the capitalist path, the two superpowers struggled to win them over. But industrialization and economic growth turned out to be far more difficult than anticipated (Randall and Theobald, 1998). Rather than modernizing, most of the new nations remained poor and ruled by corrupt regimes. Although these regimes gave lip service to capitalist, communist, or "nonaligned" visions of modernization, in reality most of them were run by rent-seeking elites who created "rogue states" to enrich themselves, doing little to modernize their countries (Rueschemeyer, Stephens, and Stephens, 1992).

In the postwar United States, a version of modernization theory emerged that viewed underdevelopment as a direct consequence of a country's internal characteristics, especially its traditional economies, traditional psychological and cultural traits, and traditional institutions (Lerner, 1958; Almond and Coleman, 1960; Pye and Verba, 1963; Almond and Powell, 1966; Weiner, 1966; Binder et al., 1971; Inkeles and Smith, 1974). From this perspective, traditional values not only were mutable but could – and should – be replaced by modern values, enabling these societies to follow the (virtually inevitable) path of capitalist development. The causal agents in this developmental process were seen as the rich, developed nations that stimulate the modernization of "backward" nations through economic, cultural, and military assistance.

These arguments were criticized as blaming the victim, because modernization theorists assumed that underdeveloped societies needed to adopt "modern" values and institutions to become developed societies (e.g., Bradshaw and Wallace, 1996). Modernization theory was not only criticized; it was pronounced dead (Wallerstein, 1976). Neo-Marxist and world-systems theorists argued that rich countries exploit poor countries, locking them in positions of powerlessness and structural dependence (e.g., Frank, 1966; Wallerstein, 1974; Chiot, 1977, 1994; Chase-Dunn, 1989). Underdevelopment, Frank claimed,

is *developed*. This school of thought conveys the message to poor countries that poverty has nothing to do with internal problems: it is the fault of global capitalism. In the 1970s and 1980s, modernization theory seemed discredited (O'Donnell, 1973), and dependency theory came into vogue (Cardoso and Faletto, 1979). Adherents of dependency theory claimed that the Third World nations could only escape from global exploitation if they withdrew from the world market and adopted import-substitution policies.

In recent years, it became apparent that import-substitution strategies have been less successful. Rather than being the most successful, countries that were least involved in global capitalism actually showed the *least* economic growth (Firebaugh, 1992, 1996). Export-oriented strategies were more effective in bringing sustained economic growth and even, eventually, democracy (Barro, 1997; Randall and Theobald, 1998). The pendulum swung back: dependency theory fell out of favor, while the Western capitalist version of modernization regained credibility (Pye, 1990). The rapid development of East Asia and the subsequent democratization of Taiwan and South Korea seemed to confirm its basic claims: producing low-cost goods for the world market initiates economic growth; reinvesting the returns into human capital qualifies the work force to produce high-tech goods, whose export brings even higher returns and enlarges the educated urban middle classes; and once the middle class becomes large enough, its pressure for liberal democracy can no longer be resisted (L. Diamond, 1993a; Lipset, Seong, and Torres, 1993). World-systems theory came under heavy criticism. Evans (1995) argues that the structure of the global division of labor offers opportunities, enabling developing nations to transform themselves and change their positions in the global economy. The involvement of multinational corporations in underdeveloped nations does not seem to be as harmful as world-systems theorists claim. In fact, foreign investment seems to stimulate growth (Firebaugh, 1992) and to improve national welfare, benefiting the masses and not just the elites (Firebaugh and Beck, 1994). Hein (1992), Dollar (1992), and Firebaugh (1996) have demonstrated that nations that traded most and had the most investment from capitalist countries showed *higher*, not lower, subsequent rates of economic growth than other countries.

But it is clear that any simplistic version of modernization theory has serious shortcomings. Modernization theory needs to be revised for a number of reasons. One of the most obvious is the fact that, although the classic modernization theorists in both West and East thought that religion and ethnic traditions would die out, they have proved to be surprisingly resilient throughout the world. Indeed, with the close of the Cold War, Huntington (1996) has argued that future political conflicts will be based primarily on enduring cultural cleavages, largely reflecting a society's religious tradition.

### The Persistence of Traditional Cultures

Huntington (1996), Putnam (1993), and Fukuyama (1995) argue that cultural traditions are remarkably enduring and shape the political and economic

behavior of their societies today.<sup>1</sup> But modernization theorists from Marx and Weber to Bell and Toffler have argued that the rise of industrial society is linked with coherent cultural shifts away from traditional value systems.<sup>2</sup> Surprising as it may seem, *both* claims are true, as this book will demonstrate.

In recent years, research and theory on socioeconomic development have given rise to two contending schools of thought. One side emphasizes the *convergence* of values as a result of modernization – the overwhelming force that drives cultural change. This school predicts the decline of traditional values and their replacement with modern ones (e.g., Meyer, Boli, Thomas, and Ramirez, 1997; Stevenson, 1997). Another school of thought emphasizes the *persistence* of traditional values despite economic and political changes and assumes that values are relatively independent of economic conditions (e.g., DiMaggio, 1994). Consequently, it predicts that convergence around some set of “modern” values is unlikely; traditional values will continue to exert an independent influence on the cultural changes caused by socioeconomic development.

The central claim of modernization theory is that socioeconomic development is linked with coherent and, to some extent, predictable changes in culture as well as political life (Deutsch, 1963; Pye and Verba, 1963; Stinchcomb, 1965; Huntington, 1968). As we shall see, evidence from around the world indicates that socioeconomic development *does* tend to propel various societies in a roughly predictable direction. Socioeconomic development starts from technological innovations that increase labor productivity; it then brings occupational specialization, rising educational levels, and rising income levels; it diversifies human interaction, shifting the emphasis from authority relations toward bargaining relations; in the long run this brings cultural changes, such as changing gender roles, changing attitudes toward authority, changing sexual norms, declining fertility rates, broader political participation, and more critical and less easily led publics.

But cultural change is path dependent. The fact that a society was historically Protestant or Orthodox or Islamic or Confucian manifests itself in coherent cultural zones with distinctive value systems that persist even when one controls for the effects of socioeconomic development. These cultural zones are robust. Although the value systems of different countries are moving in the same direction under the impact of powerful modernizing forces, their value systems have not been converging, as simplistic notions of cultural globalization suggest (Meyer et al., 1997; Stevenson, 1997).

This may seem paradoxical, but it is not. If the world’s societies were all moving in the same direction at the same rate of speed, the distances between

<sup>1</sup> For the autonomous influences of culture, see, among others, Gibson, Duch, and Tedin, 1992; Putnam 1993; DiMaggio, 1994; Gibson and Duch, 1994; Miller, Hesli, and Reisinger, 1994; Gibson, 1997; Fleron and Ahl, 1998; Dalton, 1999, 2000; Crothers and Lockhard, 2000; Fukuyama, 2000; Inglehart and Baker, 2000; Lipset and Lenz, 2000.

<sup>2</sup> For the impact of economic development on culture, see, among others, Abramson, 1989; Inglehart, 1990, 1997; L. Diamond, 1993c; Putnam, 1993; Dalton, 1994; Reisinger, Miller, Hesli, and Maher, 1994; Gasiorowski and Power, 1998; Rohrschneider, 1999; Inglehart and Baker, 2000.

them would remain as great as ever, and they would never converge. The reality is not that simple, of course, but this illustrates an important principle: postindustrial societies *are* changing rapidly and are moving in a common direction, but the cultural differences between them were empirically as great in 2001 as they were in 1981.<sup>3</sup> Although socioeconomic development tends to produce systematic changes in what people believe and want out of life, the influence of cultural traditions does not disappear. Belief systems have a remarkable durability and resilience. While values can and do change, they continue to reflect a society's historical heritage. Cultural change is path-dependent.

Nevertheless, it seems clear that socioeconomic development brings predictable long-term changes. One indication of this is the fact that the worldviews and behavior of the people living in developed societies differ immensely from those of peoples in developing ones. Another indication is the fact that the value systems of developed societies are changing in a consistent and roughly predictable direction. These changes do not reflect a homogenizing trend – they cannot be attributed, for example, to the impact of a global communications network that is said to be transmitting a common set of new values throughout the world. If this were the case, the same value changes would occur in all societies that are exposed to global communications. But this is not what has been happening, as we will demonstrate. For these value changes are *not* taking place in societies that have been experiencing sharply declining standards of living, such as the Soviet successor states, even though these societies are integrated into the global communications network. These changes occur only when the people of a given society have experienced high levels of economic prosperity for long periods of time. Socioeconomic development brings predictable cultural and political changes, and economic collapse tends to bring changes in the opposite direction.

These changes are probabilistic. They are not deterministic laws, like the Scientific Socialism that Karl Marx propounded. Moreover, cultural change is not linear, continuously moving in one direction as economic development takes place, until one reaches the end of history. Instead, industrialization brings a shift from traditional to secular-rational values; with the rise of postindustrial society, however, cultural change starts to move in another direction. The shift from traditional to secular-rational values becomes slower and stagnates, while another change becomes more powerful – the shift from survival to self-expression values, through which people place increasing emphasis on human choice, autonomy, and creativity. This change was moving slowly during the transition from preindustrial to industrial societies, but it becomes the dominant trend when industrial society gives way to postindustrial society. Modernization theorists foresaw value changes linked with the process of socioeconomic development, but they focused on the rise of secular-rational values, not anticipating a later wave of change – the rise of self-expression values. The classic modernization theorists, quite understandably, did not foresee the emancipative

<sup>3</sup> Empirical evidence supporting this claim is presented in Chapter 2.

impulse that emerges in the later stages of modernization. This impulse is incompatible with the technocratic authoritarianism that many modernization theorists (and such writers as George Orwell) thought would be the outcome of political modernization. In contrast with these expectations, self-expression values make democracy the most likely outcome of political development.

Moore (1966) correctly pointed out that the industrial phase of modernization does not necessarily lead to democracy but follows different paths that allow for authoritarian, fascist, and communist versions of mobilizing the masses into politics. But in the postindustrial phase of modernization, rising self-expression values provide a social force that questions authority and operates in favor of genuinely mass responsive democracy, not only electoral democracy, as we will demonstrate.

Progress is not inevitable. The value changes linked with the various stages of modernization are reversible. Socioeconomic development brings massive and roughly predictable cultural changes, but if economic collapse occurs, cultural changes will tend to move in the opposite direction. Nevertheless, development has been the dominant trend of recent centuries: most countries are considerably more prosperous today than they were two hundred years ago. A powerful logic links high levels of socioeconomic development; cultural changes that emphasize human autonomy, creativity, and self-expression; and democratization. Through this process, democracy itself evolves to become increasingly responsive. With rising self-expression values, even long-established democracies become more responsive to mass preferences, and politics becomes less and less a game restricted to elites who pay attention to the masses in elections only.

Different societies follow different trajectories even when subject to the same forces of modernization, because specific factors, such as the cultural heritage of a given society, also shape how this society develops. Weber (1958 [1904]) argued that traditional religious values have an enduring influence, and scholars from various disciplines have observed that distinctive cultural traits endure over long periods of time and continue to shape a society's political and economic performance. For example, Putnam (1993) shows that the regions of Italy where democratic institutions function most successfully today are those in which civil society was relatively well developed in the nineteenth century and even earlier. According to Fukuyama (1995), societies with a cultural heritage of "low-trust" are at a competitive disadvantage in global markets because they are less able to develop large and complex social institutions. Hamilton (1994) argues that, although capitalism has become an almost universal way of life, civilizational factors continue to structure the organization of economies and societies. "What we witness with the development of a global economy is not increasing uniformity, in the form of a universalization of Western culture, but rather the continuation of civilizational diversity through the active reinvention and reincorporation of non-Western civilizational patterns" (Hamilton, 1994: 184). Thus, there are striking cross-cultural variations in the organization of capitalist production and associated managerial ideologies (DiMaggio, 1994; Guillén, 1994).

The impression that we are moving toward a uniform “McWorld” is largely an illusion. As Watson and his colleagues (1998) demonstrate, the seemingly identical McDonald’s restaurants that have spread throughout the world actually have different social meanings and fulfill different social functions in different cultural zones. Although the physical settings look alike, eating in a McDonald’s restaurant in Japan is a different social experience from eating in one in the United States or China. The globalization of communications is obvious. But precisely because its manifestations are so evident, their effects tend to be overestimated. One can tell at a glance that young people around the world are wearing jeans, communicating on the internet, and drinking Coca-Cola. The persistence of underlying value differences is much less obvious but equally important.

The fact that a society was historically shaped by a Protestant or Confucian or Islamic cultural heritage leaves an enduring impact, setting that society on a trajectory that continues to influence subsequent development – even if the direct influence of religious institutions is modest today. Thus, although few people attend church in Protestant Europe today, the societies that were historically shaped by Protestantism continue to manifest a distinctive set of values and beliefs. The same is true of historically Roman Catholic societies and historically Islamic or Orthodox or Confucian societies. The secularization thesis is only half true. In the industrialization phase, the role of religion does become less important, and even in postindustrial societies the ability of established religious authorities to dictate to the masses is rapidly crumbling away. But spiritual concerns, broadly defined, are not disappearing – they are becoming more widespread. Thus, while support for the old hierarchical churches is eroding in postindustrial societies, spiritual life is being transformed into forms that are increasingly compatible with individual self-expression.

### **The Causal Primacy of Socioeconomic Development**

The urge to survive is common to all creatures, and normally survival is precarious. This reflects a basic ecological principle: the population of any organism tends to rise to meet the available food supply; it is then held constant by starvation, disease, or predators. Throughout most of history, the survival of all organisms, including humanity, was precarious (Birch and Cobb, 1981).

Humans developed cultures that helped soften the competition for survival. Virtually all traditional societies had cultural norms that repressed aspirations for social mobility. They justified acceptance of the existing social order by the poor. Moreover, cultural norms limiting reproduction softened the ruthless competition for survival brought by overpopulation.

Apart from disasters and wars, no other phenomenon affects people’s daily lives more massively and brings changes that are more immediately felt than socioeconomic development (Nolan and Lenski, 1999; Carneiro, 2003). Socioeconomic development changes a society’s basis of material subsistence and its social fabric (Sen, 1999). It directly affects people’s sense of existential security,

determining whether physical survival is uncertain or can be taken for granted. Economic threats concern people's most basic needs and are immediately felt. Its relevance to survival itself places socioeconomic development at the root of key causal chains in the development of societies (Jones, 1985).

Thus, the values and beliefs found in developed societies differ strikingly from those found in developing societies. Some of the most profoundly important cross-cultural differences involve religion, and the importance people attach to religion varies immensely. In agrarian societies, religion tends to be central to people's lives; in industrial societies, it tends to become a relatively peripheral concern. Another major dimension of cross-cultural variation involves gender roles, self-expression, and quality-of-life concerns, and here too the variation is enormous. In some low-income societies, fully 99 percent of the people say that men make better political leaders than women; in rich postindustrial societies, only a small minority agrees with this proposition.

Value orientations set standards for desirable and undesirable goals. This goal-setting function makes value orientations a powerful motivational regulator of human behavior (Rokeach, 1960, 1968, 1973). Cultural anthropologists (Durham, 1991; Barkow, Cosmides, and Tooby, 1992) argue that the function of different value orientations lies in their "cultural fitness": values change is an evolutionary process in which those values that are best suited to cope with life under given existential conditions have a selective advantage over values that are less suited to these conditions. This selection reflects an evolutionary principle, making those values most likely to survive and spread that are most effective in coping with given conditions. This evolutionary principle has two implications. First, prevailing value orientations reflect prevailing existential conditions. Second, if existential conditions change, value orientations are likely to change correspondingly – but only after a significant time lag that is needed to react to the impact of existential changes and to experiment with new life strategies that fit the new conditions better.

Moreover, new life strategies are more likely to be adopted by the young than by the old, who find it more difficult to abandon deeply inculcated habits and worldviews. But once a new life-style has emerged, succeeding generations have a choice between different role models and will adopt those that best fit their existential experiences.

Socioeconomic development is crucial because it impacts powerfully on people's existential conditions and their chances of survival. This is particularly true in societies of scarcity. Survival is such a basic human goal that when it is uncertain, one's entire life strategy is shaped by the struggle to survive. Whether people grow up in a society with an annual per capita income of \$300 or \$30,000 has more direct impact on their daily lives than whether they grow up in a country that has free elections or not. Throughout history, survival has been precarious and human choice has been restricted for most people. In recent decades, the publics of postindustrial societies have experienced unprecedented levels of existential security: real income levels are many times higher than they ever were before World War II, and welfare states have emerged that



provide comprehensive safety nets for most people. Life expectancies have risen to unprecedented levels: in 1900, even in the United States – then the world’s richest country – life expectancy was only forty-nine; a century later, it was seventy-eight. Today, most people in rich countries have grown up taking it for granted that they will not starve. These developments have changed people’s lives fundamentally. Contemporary events such as the crisis of the welfare state, volatile stock markets, and the risk of unemployment are important but not life-threatening.

Socioeconomic development diminishes objective constraints on human autonomy, creativity, and choice in three ways. First, reduction of poverty diminishes material constraints on human choice and nourishes a sense of existential security. Second, socioeconomic development tends to increase people’s levels of formal education and to give them greater access to information through the mass media (Lerner, 1958; Inkeles and Smith, 1974; Inkeles, 1983). In the same vein, the requirements of the emerging knowledge society mobilize people’s cognitive abilities (Bell, 1973; Inglehart, 1990). Thus, the second major effect of socioeconomic development is that it diminishes cognitive and informational constraints on human choice, fueling a sense of intellectual independence.

The third important consequence of socioeconomic development is the fact that it increases occupational specialization and social complexity, diversifying human interactions. Growing diversity of human interactions liberates people: it frees them from ascriptive communal ties and closed social circles, bringing them to interact with others on a bargaining basis. These tendencies were recognized by early sociologists who identified a shift from “mechanical solidarity” to “organic solidarity” (Durkheim, 1988 [1893]) and from “community” to “association” (Tönnies, 1955 [1887]). In the same vein, Simmel (1984 [1908]) emphasized the individualizing and liberating effect when people begin to develop ties that bridge social circles (see also Granovetter, 1973). Diversification of human interaction frees people from prefixed social roles and social ties, making them autonomous in defining their social roles themselves and in shaping their social ties to other people. As U. Beck (2002) puts it, there is a shift from “communities of necessity” to “elective affinities” to others. Socialization and socializing become a matter of choice: people are free to connect and disconnect with whomever they want; and rigidly fixed roles for such categories as gender and class are eroding, giving people more room to express themselves as individuals. In short, the third effect of socioeconomic development is to diminish social constraints on human choice, nurturing a sense of social autonomy.

By reducing economic insecurity, by cognitive mobilization, and by diversifying human exchanges, socioeconomic development diminishes objective constraints on human choice. People become materially more secure, intellectually more autonomous, and socially more independent. Thus, people experience a greater sense of human autonomy. Table 1.1 summarizes this emancipative effect of socioeconomic development.



TABLE I.1. *The Emancipative Effects of Socioeconomic Development*

Socioeconomic Development		
↓	↓	↓
Economic growth and the welfare state increase people's economic resources.	Rising levels of education, expanding mass communication, and increasingly knowledge-intensive work widen people's intellectual resources.	Growing social complexity and diversification of human interactions broaden people's social resources.
↓	↓	↓
People become materially more secure.	People become cognitively more autonomous.	People become socially more independent.
↓	↓	↓
	Diminishing constraints on human choice	
	↓	
	Growing emphasis on human autonomy	

## Two Dimensions of Cultural Change

The impact of socioeconomic development on cultural change operates in two phases. Industrialization gives rise to one major process of cultural change: bringing bureaucratization and secularization. The rise of postindustrial society leads to a second major process of cultural change: instead of rationalization, centralization, and bureaucratization, the new trend is toward increasing emphasis on individual autonomy and self-expression values. Both cultural changes reshape people's authority orientations, but they do it in different ways. The industrial stage of modernization brings the *secularization* of authority, whereas the postindustrial stage brings *emancipation* from authority.

Industrializing societies focused on maximizing material output, at any cost, as the best way of maximizing human well-being. This strategy has been dramatically successful in alleviating starvation and raising life expectancies, but it produces diminishing returns in postindustrial societies. Postindustrial modernization brings a fundamental shift in economic strategies, from maximizing material standards of living to maximizing well-being through life-style changes. The "quality of experience" replaces the quantity of commodities as the prime criterion for making a good living (Florida, 2002). The rise of self-expression values has changed the political agenda of postindustrial societies, challenging the emphasis on economic growth at any price by an increasing concern for environmental protection. It has also brought a shift from political cleavages based on social class conflict toward cleavages based on cultural issues and quality-of-life concerns.

Thus, socioeconomic development produces not one but two major dimensions of cross-cultural variation, one linked with industrialization and the other linked with the rise of postindustrial society. Both dimensions reflect changes in

people's authority orientations. Rising secular-rational values bring a secularization of authority, which shifts from being legitimized by traditional religious beliefs to being legitimized by secular-rational ones. But these secular beliefs are no less dogmatic than religious ones. Secular beliefs and doctrines do not necessarily challenge unlimited political authority; they usually legitimize it, as did fascist and communist ideologies. By contrast, rising self-expression values bring an emancipation *from* authority: people increasingly tend to reject external authority that encroaches on individual rights. Authority becomes internalized within people themselves.

### **Industrialization and Rising Secular-Rational Values**

Sustained economic growth starts with industrialization as productivity begins to outpace population growth (Landes, 1998; W. Bernstein, 2004). In agrarian societies, humanity was at the mercy of inscrutable and uncontrollable natural forces. Because their causes were dimly understood, people tended to attribute events to anthropomorphic gods. The vast majority of the population made its living from agriculture and depended on things that came from heaven, like the sun and rain. One prayed for good weather, for relief from disease, or from plagues of insects.

In industrial society, production moved indoors into a man-made environment. One did not wait for the sun to rise and the seasons to change; when it got dark, one turned on the lights, and when it got cold, one turned on the heating. One did not pray for good crops because production came from machines that were built by human ingenuity. With the discovery of germs and antibiotics, even disease ceased to be seen as a divine visitation; it became a problem within technological control. As technology gave people increasing control over their environment, God became less central.

The shift from preindustrial to industrial society brought profound changes in people's daily experiences and prevailing worldviews (Bell, 1973; Spier, 1996; Inglehart, 1997). Preindustrial life, Bell (1976: 147) argues, was a "game against nature" in which "one's sense of the world is conditioned by the vicissitudes of the elements – the seasons, the storms, the fertility of the soil, the amount of water, the depth of the mine seams, the droughts and the floods." Industrialization brought less dependence on nature, which had been seen as ruled by inscrutable forces or anthropomorphic spirits. Life now became a "game against fabricated nature" (Bell, 1973: 147), a technical, mechanical, rationalized, bureaucratic world directed toward creating and dominating the environment. As technological control of the environment increased, the role ascribed to religion and God dwindled. Praying to God for a good harvest was no longer necessary when one could depend on fertilizer and insecticides. Materialistic ideologies arose, offering secular interpretations of history and secular utopias to be attained by human engineering operating through rationally organized bureaucratic organizations. But these ideologies were as dogmatic as religion, reflecting the rigidly disciplined and standardized way in which industrial societies

organize the work force and life in general (Whyte, 1956; Florida, 2002). Accordingly, the rise of secular-rational values does not bring a decline of authority: it only shifts the basis of authority from traditional religious sources to secular-rational sources. Rational science and its belief in technological progress becomes the new source of authority in a highly mechanical world.

One reason for the decline of traditional religious beliefs in industrial societies is that an increasing sense of technological control over nature diminishes the need for reliance on supernatural powers. In the uncertain world of subsistence societies, the belief that an infallible higher power will ensure that things ultimately turn out well filled a major psychological need. One of the key functions of religion was to provide a sense of certainty in an insecure environment. Physical as well as economic insecurity intensifies this need: the old saying that “there are no atheists in foxholes” reflects the fact that wartime dangers increase the need for faith in a higher power. But as industrial production outpaces population growth and as scientific progress prolongs life expectancy, there is a dwindling need for the reassurance that religion traditionally provided.

In the preindustrial world, humans have little control over nature. They seek to compensate for their lack of physical control by appealing to the metaphysical powers that seem to control the world: worship is seen as a way to influence one's fate, and it is easier to accept one's helplessness if one knows the outcome is in the hands of an omnipotent being whose benevolence can be won by following rigid and predictable rules of conduct. These are important functions of religion in a world where humans have little or no control over their environment. Industrialization vastly increases humans' direct physical control over the environment in which they live and work. This process undermines the traditional function of religion to provide reassurance in an uncertain world.

But industrialization does not increase people's sense of individual autonomy because of the disciplined and regimented way in which industrial societies are organized. In industrial societies, people – and especially factory workers – are embedded in uniform social classes with rigid social controls and conformity pressures. Life in industrial society is as standardized as its uniform mass products. The disciplined organization of uniform masses in industrial societies, which marches armies of workers from their barracks to the assembly line and back, creates a need for rigid codes of conduct. Although it tends to replace religious dogmas with secular ones, industrialization does not emancipate people from authority. The industrial standardization of life discourages self-expression values.

### **Postindustrialization and Rising Self-Expression Values**

The emergence of postindustrial society brings another wave of cultural change, moving in a different direction. In the United States, Canada, Western Europe, and a growing share of East Asia, the majority of the labor force no longer works in factories. Instead of living in a mechanical environment, ever more people now spend their productive hours dealing with people, symbols, and

information. Human efforts are no longer so much focused on producing material objects as on communicating with other people and processing information; the crucial products are innovation, knowledge, and ideas. Human creativity becomes the most important production factor (Florida, 2002). In the nineteenth-century United States, 80 percent of the work force was still engaged in agriculture; today, only 2 percent is. By the early twentieth century, industrial production dominated American society; today, the United States has become a knowledge society that spends far more on computers alone than on all industrial equipment combined. One of the most crucial aspects of this shift in economic activities is the fact that people experience far more individual autonomy in doing their jobs than industrial workers did. Routine tasks increasingly are taken over by computers and robots. Instead of being cogs in a huge machine, workers in the knowledge sector exercise individual judgment and choice. Even in the periphery of menial services, people have more flexibility in performing their tasks than did assembly-line workers in the industrial age.

The postindustrial age diminishes objective constraints on human choice in three major ways. First, postindustrial societies attain unprecedentedly high levels of prosperity and have welfare states that make food, clothing, shelter, housing, education, and health service available to almost everyone. Even in the United States, with a relatively limited welfare state, more than one-quarter of the national product is redistributed through the state for public welfare. Despite recent retrenchment of welfare benefits, never before in history have the masses experienced levels of existential security comparable with those that have emerged in postindustrial societies. Physical survival, a minimum living standard, and an average life expectancy of nearly eighty years can be taken for granted by most people living in these societies. This unprecedentedly high degree of existential security enables people to focus increasingly on goals beyond immediate survival.

Second, although mass literacy became widespread with industrialization, postindustrialization launches a massive process of cognitive mobilization. Modern service activities increasingly involve cognitive skills. Researchers, engineers, teachers, writers, lawyers, accountants, counselors, and analysts all belong to the “creative class” (Florida, 2002), whose members work with knowledge, perform analytical tasks, and use information technology. They have a high degree of autonomy in doing their work, even if they work within organizational hierarchies. Moreover, the need for cognitive skills increases the demand for higher education, and educational levels have risen dramatically in all postindustrial societies. Education makes people intellectually more independent because they no longer depend on other people’s interpretations of the world. Increasingly, one’s formal education and job experience help develop the potential for autonomous decision making (Bell, 1973, 1976). The prevalence of rigid manual routines in the typical factory required (and allowed) very little autonomous judgment. Service and knowledge workers deal with people and concepts, operating in a world where innovation and the freedom

to exercise individual judgment are essential. Creativity, imagination, and intellectual independence become central. In addition, the evolution of mass media and modern information technology gives people easy access to knowledge, increasing their informational autonomy. Thus, rising levels of education, increasing cognitive and informational requirements in economic activities, and increasing proliferation of knowledge via mass media make people intellectually more independent, diminishing cognitive constraints on human choice.

Third, postindustrial society has a socially liberating effect. For service-based economies reverse the disciplined, standardized ways in which industrial societies organize people's daily activities. In the industrial age, the mass-production system subjected the labor force to rigid centralized control, and workers were embedded in closely knit groups with strong conformity pressures. By contrast, postindustrialization destandardizes economic activities and social life. The flexible organization of service-based economies and the autonomy they give workers radiate into all domains of life: human interaction is increasingly freed from the bonding ties of closely knit groups, enabling people to make and break social ties readily. The welfare state supports this individualization trend (U. Beck, 2002). Formerly, children's survival largely depended on whether their parents provided for them, and children took care of their parents when they reached old age. Although the role of the family is still important, the life-or-death nature of this relationship has been eroded by the welfare state. Maintaining family relations is nowadays a matter of choice, not of necessity. One-parent families and childless old people are far more viable under contemporary conditions than they once were. What Durkheim (1988 [1893]), Tönnies (1955 [1887]), and Simmel (1984 [1908]) once anticipated is becoming more and more a reality: social ties shift from "communities of necessity" to "elective affinities" (U. Beck, 2002). This makes people personally more independent, diminishing social constraints on human choice.

Postindustrialization brings even more favorable existential conditions than industrialization, making people economically more secure, intellectually more autonomous, and socially more independent than ever. This emancipative process gives people a fundamental sense of human autonomy, leading them to give a higher priority to freedom of choice and making them less inclined to accept authority and dogmatic truths. The shift from traditional to secular-rational values linked with industrialization brings a secularization of authority. But the shift from survival to self-expression values linked with postindustrialization brings emancipation *from* authority.

Industrialization gives humans increasing control of their environment, diminishing their deference to supernatural power and encouraging the rise of secular-rational values. But industrialization does not nourish a sense of human autonomy or lead people to question absolute authority, which persists in secular ideologies. By contrast, postindustrialization gives people a sense of human autonomy that leads them to question authority, dogmatism, and hierarchies, whether religious or secular. And because survival comes to be taken for granted, people become increasingly critical of the risks of technology and

TABLE 1.2. *Differences between the Impact of the Industrial and Postindustrial Phases of Modernization on Human Values*

Industrialization		Postindustrialization	
↓ Intensifying exploitation of natural resources	↓ Regimented organization of human activities	↓ Continuing exploitation of nature increases ecological risks	↓ Individualized organization of human activities
↓ Sense of technological control over natural forces	↓ Weak sense of individual autonomy in society	↓ Revival of spiritual concerns about the protection of Creation	↓ Sense of individual autonomy in society
↓ Massively growing emphasis on secular-rational values	↓ Slowly growing emphasis on self-expression values	↓ Slowly growing emphasis on secular-rational values	↓ Massively growing emphasis on self-expression values

appreciative of nature. Spiritual concerns about humanity’s place in the universe regain prominence. This does not bring a return to dogmatic religiosity, but it does bring the emergence of new forms of spirituality and nonmaterial concerns.

Table 1.2 contrasts the ways in which the industrial phase and the postindustrial phase of modernization bring cultural changes. Economic growth and growing material prosperity are common to both phases of modernization, which tends to increase people’s sense of existential security. Existential security is conducive to both secular-rational values and self-expression values. Accordingly, both sets of values tend to rise throughout both phases of modernization. But apart from their common tendency to increase existential security, the two phases of modernization differ in how far they promote individual autonomy, which makes them promote the two sets of values to varying degrees.

In the industrial phase, a growing sense of human control over nature is linked with a mechanical worldview, making the need for religion to appease supernatural powers seem superfluous. The mechanical worldview strengthens the tendency to secular-rational values that emerges from growing existential security. But industrial societies continue to organize human activities in a hierarchical and regimented fashion: economic constraints begin to recede, but social constraints continue to exist. Thus, the emerging sense of existential security does not fully translate into a broader sense of human autonomy during industrialization. Strong constraints on people’s sense of autonomy slow down the rise of self-expression values. Hence, industrialization brings a pronounced shift toward secular-rational values but only a modest shift toward self-expression values.

In the postindustrial phase, economic scarcity continues to recede, strengthening people's sense of existential security even more. In addition, the de-standardization of economic activities and social life that occurs in the post-industrial age diminishes social constraints in unprecedented ways. In this phase, people's sense of existential security *does* translate into a broader sense of human autonomy. As this happens, the secular dogmas that arose in the industrial age erode with the spread of self-expression values. Thus, at the same time as postindustrial society accelerates the emergence of self-expression values, it slows down the trend toward secular-rational values.

### **Individualized Forms of Spirituality**

With the rise of the knowledge society, the mechanical world of the factory shapes the daily lives of fewer and fewer people. One's life experience deals more with people and ideas than with material things. The computer becomes the dominant tool, and computers verge on magic, creating an almost limitless number of virtual realities. In the knowledge society, productivity depends less on material constraints than on ideas and imagination. This creates a climate of intellectual creativity and stimulation in which spiritual concerns again become more central. Although the authority of the established churches continues to decline, during the past twenty years the publics of postindustrial societies have become increasingly likely to spend time thinking about the meaning and purpose of life. Whether one views these concerns as religious depends on one's definition of religion, but it is clear that the materialistic secularism of industrial society is fading. There is a shift from institutionally fixed forms of dogmatic religion to individually flexible forms of spiritual religion. Even one's religious ideas become a matter of choice, creativity, and self-expression.

A sense of insecurity has never been the only factor motivating religion. The desire to understand where we come from and where we are going and why we are here is inherent in humanity, and philosophers and theologians have been concerned with these questions throughout history. But throughout most of history existential insecurity dominated the lives of most people, and the great theological questions were of central concern to only a small minority. The vast majority of the population needed reassurance and a sense of predictability in a world where humans had little control over their environment – and this was the dominant factor underlying the grip of traditional religion on mass publics.

Although the traditional churches (like most bureaucratic organizations from labor unions to political parties) continue to lose members in postindustrial societies, we find no evidence that spiritual concerns, broadly understood, are losing ground. Quite the contrary, comparing the results of the 1981 Values Surveys with the results from 1989–91, 1995–97, and 1999–2001, we find that people in postindustrial societies are spending more time thinking about the meaning and purpose of life than they used to. Religion does not vanish. What we observe is a transformation of religion's function, from institutionalized forms of dogmatic religiosity that provide absolute codes of conduct in an insecure



world to individualized spiritual concerns that serve the need for meaning and purpose in societies where virtually no one starves to death.

Religious thought seems to have become superfluous as industrial society demonstrates seemingly unlimited human control over nature and secular ideologies promise a scientifically certain route to utopia. But the publics of postindustrial societies manifest a growing awareness of the risks and limitations of science and technology, and initially religious questions about the relationship of human civilization and natural life again become central. This is most obvious in the debates about the ethical dimensions of genetic engineering, biotechnology, and other new technologies (Gaskell and Bauer, 2001).

Growing individual autonomy undermines the need for dogmatic guidelines and rigid authority, whether religious or secular. Spiritual concerns regain salience. This revival is linked with an increased awareness of the risks of civilization (Giddens, 1990, 1991; U. Beck, 1992). A growing number of people have the time, the information, and the education to understand that modernization has given humanity so much power over its environment that it can destroy life on this planet. This insight propagates respect for life and the limitations of human ingenuity. This has led to the blossoming of new forms of spirituality, many of which focus on a new balance between humans and nature. Postindustrialization makes modernity increasingly “self-reflexive,” as Giddens puts it (1991). Postindustrialization replaces the lost ground of institutionalized dogmatic religiosity with individualized spiritual concerns. Whether or not we define this as religion, its function has changed – from providing absolute rules of conduct to providing a sense of the meaning of life.

### **Humanistic Risks and Egocentric Threats**

Uncertainty is part of the human condition, and risks persist in postindustrial society, as U. Beck (1992) has convincingly pointed out, and the risk perceptions on which the ecological movement focuses represent a new form of concerns. But the risk perceptions of postindustrial society are fundamentally different from the survival concerns of the preindustrial and industrial phases of development. In these earlier phases, hunger and economic scarcity present an immediate threat to individual survival that is a direct firsthand experience. It does not require specialized knowledge or intellectual insight to perceive them: hunger is immediately felt.

The risks of postindustrial society, by contrast, are abstract. They are not based on firsthand experience but require cognitive insights. Even full-time specialists disagree about how rapidly global warming is occurring and what its consequences will be. The risks of new technologies, such as genetic engineering, are long-term risks to humanity, not immediate risks to the individual. These risks are not immediately felt but have to be understood, which requires high levels of information and a grasp of complex argumentation. Thus, the related risk perceptions are socially constructed. This makes it possible for much of the population to ignore these risks or view them as hypothetical. No immediate



threat forces people to take into consideration the risks of global warming or genetic cloning in their daily activities. But precisely this relief from immediate threats also enables people to focus on problems that are not of an immediate concern to themselves. High levels of existential security and autonomy allow people to widen their horizons, allowing for a higher degree of risk awareness. This risk awareness is the product of cognitive insights among people who – as individuals – are relatively safe and free to devote energy to concerns that do not immediately threaten them. As individual safety and autonomy reduce egocentrism, they increase homocentrism (Maslow, 1988 [1954]).

The best-documented aspect of this process is the shift from materialist to postmaterialist priorities – a shift from giving top priority to economic and physical security, to self-expression and the quality of life. This shift from materialist to postmaterialist values has been measured annually from 1970 to the present, in surveys carried out in a number of Western societies (evidence of this shift is presented in Chapter 4). Postmaterialists are economically more secure than materialists, but much more sensitive to environmental risks. Individual security increases empathy, making people more aware of long-term risks. The rise of self-expression values fuels *humanistic* risk perceptions. These risk perceptions are fundamentally different from the *egocentric* threat perceptions that underlie survival values.

### Value Change as a Cultural Process

People have always needed to eat, and they always will. Rising emphasis on self-expression values does not put an end to material desires. But prevailing economic orientations are gradually being reshaped. People who work in the knowledge sector continue to seek high salaries, but they place equal or greater emphasis on doing stimulating work and being able to follow their own time schedules (Florida, 2002). Consumption is becoming progressively less determined by the need for sustenance and the practical use of the goods consumed. People still eat, but a growing component of food's value is determined by its nonmaterial aspects. People pay a premium to eat exotic cuisines that provide an interesting experience or that symbolize a distinctive life-style. The publics of postindustrial societies place growing emphasis on “political consumerism,” such as boycotting goods whose production violates ecological or ethical standards. Consumption is less and less a matter of sustenance and more and more a question of life-style – and choice.

People's worldviews and value orientations reflect their basic life experiences. Value orientations are functional: they provide guidelines that allow people to master life under given existential conditions (Durham, 1991; Mark, 2002). Cultural norms tend to be internalized at an early age and reinforced by nonrational sanctions. The power of these sanctions does not lie in their rationality; it lies in their emotionality, so that violations of norms cause feelings of guilt and shame, which is a much more reliable regulator of human behavior than sheer legal sanctions (Lal, 1998).

People's aversion to divorce does not simply reflect rational cost calculations. Instead, traditional value systems tend to make divorce so deeply anchored in people's emotions that it becomes a question of good and evil. Norms that can constrain people's behavior, even when it is in their rational interest to do something else, are norms that are taught as absolute rules and inculcated so that their consciences torture them if they are violated. Such societal norms have considerable momentum. The mere fact that the function of a given cultural pattern has weakened or disappeared does not mean that the norm itself disappears.

But if the original reason behind a given norm vanishes, it does open the way for that norm to weaken gradually. People begin to experiment with new ideas and norms, creating new life-styles. New generations then face a confrontation between old and new norms and life-styles, which offer them alternative role models among which they can choose. Insofar as the new worldview fits the new generations' firsthand formative experiences, they tend to adopt it. Thus, new values, life-styles, and role models can replace older ones in a gradual process of generational replacement.

Norms linked to the maintenance of the two-parent heterosexual family clearly are weakening for a variety of reasons, ranging from the rise of the welfare state to the drastic decline of infant mortality rates, meaning that a couple no longer needs to produce four or five children in order to replace the population. In these realms, one would expect experimentation to take place; gradually, new forms of behavior would emerge that deviate from traditional norms, and the groups most likely to accept these new forms of behavior are the young more than the old, the relatively secure more than the insecure, the educated more than the uneducated, and those having diverse human interactions more than those embedded in closely tied networks.

### **Value Change in History**

Modernization is not linear, and cultural change does not move in a straight line from industrialization to the End of History. It changes direction in response to major changes in existential conditions. Thus, early industrialization did not bring a pronounced shift toward self-expression values. Indeed, it seems likely that the emphasis on individual autonomy underlying self-expression values was more widespread in some preindustrial societies than in industrial society. Industrialization is linked with increasing emphasis on economic accumulation and economic growth – and the mass-production assembly line requires conformity and discipline, rather than individual creativity and self-expression. The standardized nature of work in the Fordist industrial era required routine and strict discipline, in the factory or in private and public bureaucracies (Whyte, 1956). Moreover, the prime virtue by which the labor movement gained power was solidarity, based on group conformity. Preindustrial free-farmer and free-trading societies allowed for more individual autonomy than industrial societies, and the concept of human rights was born in the preindustrial English, American, and French Revolutions led by merchants and free farmers.

Unlike industrial workers, free farmers and merchants in preindustrial capitalist economies experienced a considerable degree of free choice in their daily activities, which is crucial for the emergence of self-expression values.

This was not the first time in history that cultural change has changed direction. Emphasis on survival versus self-expression values may have shifted even earlier. Ember and Ember (1996) argue, for example, that the subsistence pattern of hunting, herding, and fishing societies was much less routinized and allowed for more individual initiative than was found in agrarian empires whose “labor-repressive regimes” reduced human autonomy to its minimum (Wittfogel, 1957; J. Diamond, 1997). Accordingly, both McNeill (1990) and Nolan and Lenski (1999) speculate that hunting and gathering societies emphasize emancipative values more heavily than agrarian empires, which emphasize collective discipline, group conformity, and divine authority as necessities for survival. The political implications are obvious; it is noteworthy that hunting and gathering societies tend to be relatively liberal, egalitarian, and democratic, whereas despotic government has been the hallmark of agrarian empires (McNeill, 1990; J. Diamond, 1997; Ember, Ember, and Russett, 1997; Nolan and Lenski, 1999).

Interestingly, not all agrarian societies evolved into labor-repressive despotic empires. This pattern was typical of the “hydraulic states” (Wittfogel, 1957) in the civilization belt from Egypt to ancient China, in which collective irrigation work necessary to tame large rivers required centralized authority and a concentration of power. By contrast, rainfall agriculture, which became particularly productive in Western Europe in the late medieval age, evolved into a system of family farms with property rights and broadly based market access, giving people more autonomy in their daily activities (Jones, 1985; Hall, 1989; Landes, 1998).<sup>4</sup> Not accidentally, the philosophy of humanism, the idea of human rights, and early modern versions of limited democracy<sup>5</sup> emerged in these

<sup>4</sup> As Jones (1985) and Lal (1998) argue, rainfall agriculture tends to result in a labor-to-land ratio that is more conducive to human development than river delta agriculture. River delta agriculture in the Fertile Crescent and in China had higher soil productivity than that found in Northwestern Europe, but Northwestern European rainfall agriculture reached higher labor productivity. High labor productivity means that labor is valuable, which increases the economic value of the individual. And as the economic value of the individual developed in the late medieval Commercial Revolution, the ethical value of the individual rose – with the philosophy of humanism. Although rainfall agriculture was more conducive to human development, river delta agriculture was more conducive to empire building – and large, powerful agrarian empires were generally able to overcome smaller societies based on rainfall agriculture (McNeill, 1990). Rare exceptions existed in classical Greece and late medieval Western Europe – precisely the settings that gave rise to an emancipative ethos and limited versions of democracy based on civil and political liberties.

<sup>5</sup> By democracy we mean government that is bound by a social contract (often manifested in a constitution) that protects the citizens’ individual autonomy by granting them civil rights and gives citizens a say in politics by granting political rights. By “limited” democracy, we mean that the citizenry that is entitled with civil and political rights is limited by property requirements or other additional qualifications. What is meant by democracy has evolved over time. An obvious example is female suffrage. By today’s standards, Athens under Pericles would not be counted as a democracy because it excluded a majority of the adult population (women, slaves, and

areas (Moore, 1966; Huntington, 1968; Dahl, 1973; Jones, 1985; Downing, 1992).

Traditional societies socialize people into closely knit groups held together by bonding ties that drive people to cooperate for the sake of group survival. These norms limited in-group violence, forced people into discipline and hierarchy, and repressed aspirations for social mobility. One way of discouraging internal violence was by encouraging the poor to accept one's God-given place in society (thereby earning salvation in the next world). But other norms emphasized sharing and charity by the well-off, stigmatizing individual accumulation as greed.

In the fourteenth and fifteenth centuries, new technology such as watermills increased the agricultural surplus and initiated a Commercial Revolution in Western Europe (Lal, 1998). The rise of an increasingly commercialized agriculture and the dense trading network that began to interweave Western Europe gave rise to rural and urban middle classes that began to develop property rights, and production began to outpace population growth (Tilly, 1997). The rise of preindustrial capitalism in the fourteenth and fifteenth centuries made societies receptive to Protestantism, especially the Calvinist version; because it encouraged accumulating and reinvesting capital into productive purposes, Calvinism was conducive to the flourishing of commercial societies (Landes, 1998). Thus, the traditional stigma against economic accumulation dwindled, and a mercantile worldview began to manifest itself. Even if economic scarcity did not vanish, farmers and traders in Western Europe experienced more individual autonomy in their daily activities than the peasants and merchants in the labor-repressive regimes of Eastern Europe and the Oriental civilizations from the Middle East to China.

The emancipative civic ethos that established limited versions of democracy through the liberal revolutions in preindustrial commercial societies did not continue in linear fashion through industrialization, which tended to bring universal suffrage for the working class but not necessarily democracy (Rueschemeyer et al., 1992). For universal suffrage often culminated in fascist and communist regimes. Industrial democracy was most likely to emerge in societies that had established limited versions of democracy in preindustrial times (Huntington, 1968; Dahl, 1973).

This situation changed with the rise of postindustrial society. Postindustrial societies bring much higher levels of existential security and individual

foreigners) from full citizenship. However, the idea that the authority of government is bound by the civil and political rights of a citizenry that includes at least a considerable part of the public, usually freeholders and free traders, was already present. This marks a fundamental difference from all other forms of government. Historically, limited versions of democracy occurred in the "protodemocracies" of the Sumerian city-states; the republics of northern India in the sixth century BC; classical Athens; the Roman Republic; and Iceland, Switzerland, northern Italy, the Lowlands, England, and Scandinavia in the medieval age (McNeill, 1990; Downing, 1992; Midlarski, 1997; Lal, 1998; Finer, 1999).

autonomy, which are conducive to the spread of self-expression values. Accordingly, in postindustrial societies, democracy becomes increasingly likely to prevail over communist, fascist, and other authoritarian regimes.

### **Cognition and Experience as Sources of Value Change**

Classic modernization theory needs to be modified in another respect: we need to correct its one-sided emphasis on cognitive factors in shaping cultural change. Weber attributed the rise of a secular, rational worldview to the spread of scientific knowledge. Scientific discoveries had made traditional religious explanations obsolete; as awareness of scientific interpretations spread, religion was inexorably giving way to rationality. God was dead, and science had killed him – or, at least, it was doing so. Similarly, such modernization theorists as Lerner (1958), Inkeles and Smith (1974), and Inkeles (1983) argued that education drives the modernization process: within any given country, the most educated tend to have modern worldviews, and as educational levels rise, traditional religious worldviews inevitably give way to secular-rational ones.

This emphasis on cognitive forces captures an important part of the story but only part. Experiential factors, such as whether people feel that survival is secure or insecure, are at least equally important in shaping people's worldviews. Higher levels of formal education tend to be linked with the presence of secular-rational values and self-expression values. But higher education is not just an indicator of the extent to which one has absorbed scientific knowledge, rationality, and humanistic ideals. It is, at least equally, an indicator of the extent to which one has experienced relatively secure conditions during one's formative years, when formal education takes place. Throughout the world, children from economically secure families are most likely to obtain higher education.

A high level of education is an indicator that an individual grew up with a sufficiently high level of existential security to take survival for granted – and therefore gives top priority to autonomy, individual choice, and self-expression. In virtually every society that has been surveyed, people with a university education place stronger emphasis on self-expression than the public in general. This reflects the fact that the highly educated tend to be recruited from the more privileged strata and have grown up under relatively favorable existential conditions, experiencing more security and autonomy than other citizens of their society. But not only a person's own security and autonomy make a modern worldview more likely. A society's general social climate also helps shape people's sense of security and autonomy. Thus, although there is a universal tendency for higher education to encourage people to place more emphasis on self-expression values, there is much more difference in the degree of emphasis on self-expression values *between* the highly educated people of different nations than between the highly educated and the general public within the same nations (see Figure 9.1).

Thus, we can distinguish between education as an indicator of the extent to which people have experienced a sense of security and education as an

indicator of the extent to which people have become familiar with scientific thought and humanistic ideals. Because the highly educated in all countries are relatively familiar with scientific thought and humanistic ideals, cross-national value differences among the highly educated do not reflect differential exposure to scientific thought, so much as they reflect differences in a society's prevailing sense of existential security and human autonomy.

The cognitive component of education is, for all practical purposes, irreversible, whereas one's sense of security and autonomy is not. The feeling that the world is secure or insecure is an early-established and relatively stable aspect of one's outlook. But these feelings can be eroded by short-term period effects and, even more so, by catastrophic events such as the collapse of one's entire society and economy. Such catastrophic events are rare, but an entire group of societies experienced them during the period covered by the Values Surveys. In 1989–91 communism collapsed throughout Central and Eastern Europe. In the Soviet successor states, this event brought drastic decreases in standards of living, stagnant or falling life expectancies, and the traumatic experience of the collapse of the social and political systems and also the belief systems under which these people had lived for many decades. Scientific *knowledge* did not disappear – it continued to grow – and educational levels remained as high as ever in these societies. But the prevailing sense of existential security and individual control over one's life fell sharply. If the emergence of modern values were solely determined by cognitive forces, then self-expression values would have continued to spread. But insofar as these values are shaped by feelings of security or insecurity and a sense of autonomy or heteronomy, we would expect to witness stagnation or a regression toward traditional values and survival values in the ex-Soviet societies. As we will see, this is exactly what happened.

Although the past decade has been a period of slow economic growth, the rich democracies have not experienced anything like the catastrophic changes felt in the ex-Soviet world. Moreover, the relative stagnation since 1990 has been offset by the momentum of intergenerational population replacement, which continues to push the rich democracies toward increasingly modern values. Cultural modernization has continued there, as one would expect. The cognitive interpretation implies that cultural modernization is an irreversible process as knowledge continues to increase. Our interpretation implies that it is reversible, and under the conditions that have prevailed since 1989, we would expect it to be reversing itself in recent years in most ex-Soviet societies. The empirical evidence indicates that it has. A society's prevailing sense of existential security is more important than cognitive factors.

In conclusion, cultural change is determined not simply by cognition and rational choice but by people's exposure to different existential conditions (Mark, 2002). Yet cultural change is not illogical. Quite the contrary, there is an evolutionary logic behind it, driving people to adopt those values that fit given existential conditions.

### Cultural Change and Its Institutional Manifestations

Major changes in cultural values at the individual level are reflected in changes at the societal level, but there is rarely a one-to-one relationship between underlying cultural change and its societal-level manifestations. For example, starting in the mid-1960s, birthrates declined throughout postindustrial societies. By 1990 fertility rates were below the population replacement level in almost all postindustrial societies. Cultural change played a significant role in this shift (see Inglehart and Norris, 2003).

From 1960 to 1990 divorce rates rose sharply in almost all postindustrial societies except one: the Republic of Ireland, where divorce remained illegal until 1995. In Italy and Spain, divorce had become legal in the 1970s, and legalization was followed by a surge of divorces. One might attribute this sudden increase in divorce rates to the legal changes that preceded them. This interpretation is true but superficial, focusing only on the immediate cause. If one probes deeper, the first question that arises is, *Why* did divorce suddenly become legal in these countries? Divorce had been illegal for centuries because it violated deeply held religious norms. This remained true in the Republic of Ireland, where a majority of the public voted against legalizing divorce as recently as 1987. But, as our data indicate, these norms have gradually been weakening over time. Public support for legalizing divorce became increasingly widespread and articulate in Italy and Spain, until the laws themselves were changed in the 1970s. By 1995 even the Irish finally accepted divorce in a national referendum. One consequence was a sudden surge of divorces immediately after the laws were changed. Although the behavioral change was sudden and lumpy, it reflected a long process of incremental value change.

The rise of the pro-environmentalist Green Party in West Germany provides another illustration of the disparity between the incremental pace of cultural change and the abrupt emergence of its institutional manifestation. In 1983 the Greens suddenly achieved prominence when they won enough votes to enter the West German parliament for the first time, bringing a fundamental change in German politics. But this abrupt breakthrough reflected a gradual intergenerational rise of mass support for environmentalist policies. Institutional barriers, such as the fact that a party must win at least 5 percent of the vote to gain seats in the German parliament, made the party's breakthrough to prominence sudden and dramatic. But its rise reflected long-term processes of incremental change. If one focuses only on the immediate causes, a society's electoral rules seem to be the decisive factor: the Greens had little visibility until they surmounted the 5 percent threshold; and in societies without proportional representation, such as the United States and Great Britain, ecology parties may never play an important role. But even in these countries, a rising concern for environmental protection has transformed the agendas of existing parties. In most societies, the Green activists are mainly postmaterialists, and it seems unlikely that Green parties or environmentalist movements would have emerged without the



intergenerational cultural changes that gave rise to a postindustrial worldview that reflects an increased awareness of ecological risks. Starting from obscurity in the early 1980s, the Green parties have come a long way. At this writing, environmentalist parties were part of the governing coalitions in Germany and seven other European countries.

Similarly, in 2001 the Netherlands experienced a sudden surge in same-sex marriages, starting from a zero base. The immediate cause of this shift was the fact that the Dutch parliament had just legalized same-sex marriages – which had been not merely illegal but virtually unthinkable for centuries. The root cause of this societal-level change was the fact that a gradual shift had taken place in the Dutch public's attitudes toward homosexuality. In this case, the societal change is so recent that the four waves of the Values Surveys provide detailed information about the cultural changes that preceded the societal-level change. It is by no means coincidental that the Netherlands was the first country in the world to legalize same-sex marriages: the Values Surveys demonstrate that the Dutch public has consistently been more tolerant of homosexuality than any other public in the world. But even in the Netherlands, prevailing attitudes were still unfavorable to homosexuality until recently. In the 1981 Values Survey, 22 percent of the Dutch public said that homosexuality was never justifiable, selecting point 1 on a 10-point scale on which "1" meant that homosexuality was never justifiable, and point 10 indicated that homosexuality was always justifiable. At that time, 40 percent of the Dutch selected points 1 through 5, indicating relative disapproval. Disapproval of homosexuality was still widespread in the Netherlands in 1981, although the Dutch were more favorable than any other public. In most countries, disapproval of homosexuality was expressed by overwhelming majorities, ranging from 75 to 99 percent of the public.

These attitudes have changed markedly since 1981 throughout postindustrial societies, as part of a broad intergenerational value shift toward more tolerant values. Throughout postindustrial societies, the younger birth cohorts are much more tolerant of homosexuality than are their elders. In the Netherlands, for example, in 1981 fully 52 percent of those older than sixty-five years felt that homosexuality can never be justified, placing themselves at point 1 on the scale. Among those who were eighteen to twenty-four years old, only 11 percent took this position. By 1999 only 7 percent of the Dutch public was still at point 1, registering absolute disapproval, and only 22 percent at points 1 through 5. Disapproval had fallen to less than half its 1981 level. A year later, in 2000, the Dutch parliament legalized same-sex marriages. In 2002 the German constitutional court legalized same-sex marriages, followed by Canada in 2003 and Spain in 2004. Not surprisingly, the Dutch public had the most favorable attitudes toward homosexuality of any country in the world, and the Germans, Spanish, and Canadians also ranked among the most favorable, as Table 1.3 shows. In only nine countries did less than half of the public disapprove of homosexuality, and all four of these countries fell into that group.



TABLE 1.3. *Disapproval of Homosexuality in the Ten Most Permissive Societies (percentage at points 1 to 5 on a 10-point scale)*

Country	Disapproval (%)
Netherlands	22
Sweden	26
Iceland	32
Denmark	41
Switzerland	43
Germany <sup>a</sup>	45
Spain	47
Canada	49
Luxembourg	49
Czech Republic	51
Norway	52

*Note:* These are the only societies (among 77) in which less than 53 percent of the population disapproved of homosexuality in the latest available survey, as indicated by selecting points 1–5. In the United States in 2000, 60 percent disapproved of homosexuality – but it ranked among the 18 most tolerant societies. In 24 societies, fully 95 percent or more of the public disapproved.

<sup>a</sup> German data are based on the combined results from the surveys in the eastern and western regions of Germany in 1997 and 1999.

### Cumulative Changes and Sudden Breakthroughs

It is commonly assumed that only change measures can explain social change. This assumption seems convincing until one examines it more closely. In many cases, especially those involving cross-level linkages such as the impact of cultural change on its institutional manifestation, a society's absolute *level* on a given variable is a much stronger predictor of institutional change than recent changes on that variable. To illustrate, let us assume that in 2000, 78 percent of the Dutch public was at least moderately tolerant of homosexuality (somewhere to the right of point "5," the midpoint of the scale). At the same time, only 8 percent of the Nigerian public was equally tolerant. But the amount of change observed in Nigeria from 1995 to 2000 was actually greater than that in the Netherlands: in 1995, only 4 percent of the Nigerian public was on the right half of the scale, a figure that doubled in 2000, rising to 8 percent. During the same period, tolerance of homosexuality in the Netherlands only rose slightly, from 76 to 78 percent.

These figures are hypothetical but close to reality, and they illustrate an important point: both in absolute and relative terms, the amount of attitudinal change observed in Nigeria from 1995 to 2000 was larger than in the Netherlands; but the Netherlands was much likelier to manifest institutional change. Unlike Nigeria, the Netherlands had passed the threshold at which a majority of the public was tolerant of homosexuality. Accordingly, institutional change occurred in the Netherlands, in the form of legislation legalizing

same-sex marriages. This change is very unlikely to take place in Nigeria in the foreseeable future. The crucial difference lies in the fact that the Dutch public has a much higher *level* of tolerance than the Nigerian public: the absolute “stock” of tolerance is far more important than the short-term fluctuations or “flows” of tolerance.

The Dutch public’s relatively high level of tolerance represents a stock that had been built up gradually, through a process of intergenerational value change that took place during the past fifty to sixty years. If one attempted to use standard time series methods to analyze this relationship, one would conclude that the attitudinal changes that took place in the Dutch public from 1940 to 1995 had no impact whatever on same-sex marriages and that the short-term attitudinal changes from 1995 to 2000 were *negatively* correlated with subsequent changes in the rate of same-sex marriages. The relatively high level of tolerance observed among the Dutch public in recent surveys is robust, shows large intergenerational differences, and has been growing gradually – and this relatively high level provides a far better predictor of institutional breakthroughs than do short-term fluctuations, which are relatively small and can fluctuate in either direction, so they may even have the wrong sign when change occurs.

A similar pattern applies to the relationship between cultural change and democratization. As we will demonstrate, there was a gradual intergenerational shift toward growing emphasis on autonomy and self-expression among the publics of Poland, Hungary, Czechoslovakia, East Germany, and other Central European countries during the decades before 1989. But another crucial factor occurred in 1988, when Gorbachev announced that Soviet troops would no longer be used to prop up unpopular communist regimes in Eastern Europe. Within a year communist regimes began collapsing throughout the region. Mass demands for liberalization had built up gradually over many years in these countries; but this cumulating factor could not manifest itself in an institutional breakthrough until the blocking factor – in this case, the Red Army – was removed. When cultural change leads to institutional change, the overcoming of thresholds or blocking factors is the rule, rather than the exception.

There is rarely a one-to-one correspondence between changes at the individual level and the system level. Accordingly, a society’s *level* of economic development is a much better predictor of democratization than its economic growth rate. In fact, economic growth rates at any given point in time are misleading as a predictor of democracy – and they may even have the wrong sign (Doorenspleet, 2004). They tend to be highest in low-income countries such as China that are in the early phase of industrialization but have not yet reached a level of development where democracy becomes likely. If high growth continues, we expect that China will eventually make the transition to democracy – *not* because it has high growth rates at that time but because it has reached a high *level* of development.

We reject both economic and cultural determinism. It is clear that given elites, leaders, institutions, and situation-specific factors play crucial roles. The

immediate cause of institutional change can virtually always be found at the elite level, almost by definition, because the people who negotiate political changes are *defined* as elites (even if they did not fall into that category a year earlier). But underlying cultural changes also play a major role in the emergence of important institutional changes, from changing legislation concerning gays and lesbians to the massive shift toward democracy that took place from 1985 to 1995.

If one believed that cultural changes alone determined institutional change, one would assume that there must have been a sudden surge of support for democracy among East European publics in 1989, and a massive surge of approval for homosexuality in the Netherlands in 1999. This was not true in either case: instead, a slow but steady intergenerational value change took place during the decades preceding both of these institutional breakthroughs. The precise timing of when the institutional breakthrough occurred was determined by elite-level factors. But gradual underlying value changes were the root cause of the fact that East Germany suddenly democratized in 1989–90, and that same-sex marriage finally became legal in the Netherlands in 2000.

Intergenerational cultural changes have been gradually transforming the value systems of people in many countries, bringing a shift from survival values to self-expression values. As this book demonstrates, the extent to which a given public placed high priority on self-expression values when a window of opportunity opened in 1988 (when Gorbachev announced that the Soviet army would no longer prop up communist regimes in Central and Eastern Europe) was crucial in determining how far toward democracy their society would subsequently move – and how well democratic institutions flourished once they were adopted.

### **Consequences of Cultural Change**

The shift from industrial to postindustrial values is eroding many of the key institutions of industrial society. In the political realm, the rise of postindustrial values brings declining respect for authority and growing emphasis on participation and self-expression. These trends are conducive to democratization in authoritarian societies and to a more elite-challenging, issue-oriented, and direct form of democracy in already-democratic societies. In any case, rising self-expression values push for more genuine democracy. Self-expression values are inherently emancipative and people-centered, giving rise to a new type of humanistic society that promotes human freedom and autonomy on numerous fronts.

Respect for authority is eroding, and the long-term trend toward increased mass participation has taken on a new character. In large-scale agrarian societies, political participation was limited to a narrow minority. In industrializing societies, the masses were mobilized by disciplined, elite-led political parties. This was a major advance for democratization, and it resulted in unprecedented numbers of people taking part in politics by voting; however, mass

participation continued to be guided by elites, in keeping with the Iron Law of Oligarchy (Michels, 1962 [1912]).

In postindustrial society the emphasis is shifting from voting to more spontaneous, issue-specific, and elite-challenging forms of civic action. New forms of political self-expression extend the boundary of politics from the narrow domain of elite-led electoral campaigns into increasingly autonomous forms of public self-expression. The traditional representative form of elite-centered democracy transforms into a people-centered form of democracy (Cain, Dalton, and Scarrow, 2003). Contrary to often-repeated claims that social capital and mass participation are eroding, the publics of postindustrial societies are intervening in politics more actively today than ever before; however, they are changing the ways in which they participate.

Elite-led forms of participation are dwindling. Mass loyalties to long-established hierarchical political parties are weakening. No longer content to be disciplined troops, the public has become increasingly autonomous and elite-challenging. Consequently, though voter turnout is stagnant or declining (Dalton and Wattenberg, 2000), people are participating in politics in more active and issue-specific ways (Dalton, 2001; Norris, 2002). In many countries, demonstrations against American military intervention in Iraq in 2002–3 were the largest in history. Increasingly, people are using the public sphere as a stage for expressing commitments to alternative life-styles (Cain et al., 2003). As the leaders of political machines are losing their ability to mobilize voter turnout, the publics of postindustrial societies are engaging in new, largely self-organizing and self-expressive forms of participation (Welzel, Inglehart, and Deutsch, 2004). People engage in these activities even if they think it is unlikely to change official decisions. Political self-expression becomes a value in itself and not just a way to attain specific goals.

### **Antimodern Reactions to Modernity**

Rapid changes linked with postindustrialization stimulate defensive reactions among marginalized parts of the population. Postindustrialization brings increasing individual freedom and growing opportunities for self-actualization for large parts of society, but substantial minorities – particularly the less educated and the unemployed – still feel existential threats. In terms of relative deprivation, they may be even worse off than poor people in poor societies. Education is the most important form of capital in the knowledge society, which puts the less educated in a worse position than they had in the industrial age.

In the industrial age, disciplined mass organizations were a tremendous asset to the lower classes because they enabled them to translate their sheer numbers into political power. They could exert pressure to redistribute wealth from the rich to the poor, bringing an increasing degree of income equality (Esping-Andersen, 1990). The individualizing tendency of postindustrial societies has partly reversed this trend. The working class has declined in numbers and lost the cohesion that gave it political power; labor unions are weakening. In

addition, the working classes in postindustrial societies are under increasing economic pressure from globalization and immigration; the high-cost labor force of rich countries is now competing with that of low-income countries. The equalizing trend in income distribution has been reversed since the 1980s (Goesling, 2001). This nourishes threat perceptions and defensive reactions, providing a social base for new dogmas, including right-wing populism and new forms of religious fundamentalism. Contrary to widespread belief, religious fundamentalists have not become more numerous in Western societies, but they *have* become more active and more salient (Norris and Inglehart, 2004). Formerly a relatively quiescent segment of the public, in recent years they have come to believe (accurately) that some of their most basic norms are rapidly eroding, which has galvanized those with traditional religious beliefs into heightened political activism, opposing such things as abortion and same-sex marriage. Consequently, the postindustrial phase of modernization is not conflict-free. On the whole, postindustrialization brings individualization, more autonomy, and more freedom of choice, but it also brings new conflicts. It stimulates anti-modernist reactions among marginalized parts of the population, feeding the ranks of right-wing parties (U. Beck, 2002).

### **Existential Security, Individual Autonomy, and the Knowledge Society**

Socioeconomic development brings rising levels of existential security, which is its most basic contribution to human development. This process relieves people from material constraints on their life choices. This contributes to rising self-expression values because it allows people to move beyond sheer survival and focus on other goals. But providing existential security is not the only way through which socioeconomic development is conducive to self-expression values. The growing experience of autonomy linked with the rise of the knowledge society, and its social complexities, cross-cutting networks and diverse human interactions, is also important.

Some oil-exporting countries, such as Bahrain and the United Arab Emirates, are rich and have maximized their population's existential security through extensive transfer programs. As Barro (1997), M. Ross (2001), and others have demonstrated, however, these societies have not evolved the occupational diversification, social complexity, and knowledge-intensity that characterize the creative economies of postindustrial societies. The availability of vast natural resources made it unnecessary to make major investments in human capital, or to establish a knowledge society. Instead, they established rent-seeking economies based on the revenues of state monopolies in oil exports. Rentier economies can become very rich, but they do not show the massive individualization trend that occurs in postindustrial economies. Although their populations enjoy high levels of existential security, the publics of rich oil-exporting countries do not show an emphasis on self-expression values comparable with that found in postindustrial societies. Existential security gives rise to self-expression values if it is coupled with individualization and the experience of autonomy. This experience

arises from the destandardization and diversification of economic activities, social roles, and human interactions typical of postindustrial economies. The experience of existential security evolves into a broader sense of human autonomy in postindustrial economies far more than in rentier economies or in industrial economies.<sup>6</sup>

## Conclusion

This book presents a massive body of evidence supporting the central insight of modernization theory: socioeconomic development brings systematic changes in political, social, and cultural life. But it is clear that earlier versions of modernization theory need revision. We propose the following modifications:

1. Although socioeconomic development tends to transform societies in a predictable direction, the process is not deterministic. Many other factors besides socioeconomic development are involved, so our predictions are probabilistic: other things being equal, socioeconomic development tends to make people more secular, tolerant, and trusting and to place more emphasis on self-expression, participation, and the quality of life. But socioeconomic factors are not the only significant influences.

2. Religion and other aspects of a society's traditional cultural heritage are not dying out and will not disappear with modernization. Contrary to Marxist expectations, a society's historical cultural heritage continues to shape the values and behavior of its people. Although the publics of industrializing societies are becoming richer and more educated, we are not moving toward a uniform global culture: cultural convergence is not taking place. A society's cultural heritage is remarkably enduring.

3. Cultural modernization is not irreversible. It results from socioeconomic development and protracted economic collapse can reverse it, as was happening during the 1990s in most of the Soviet successor states.

4. The process of cultural change is not linear. The prevailing direction of change has shifted repeatedly in history. Industrialization gives rise to one major process of cultural change, bringing bureaucratization and secularization. But the rise of postindustrial societies leads to *another* major process of cultural change that moves in a different direction: instead of rationalization, centralization, and bureaucratization, the new trend is toward increasing emphasis on individual autonomy and self-expression values. Thus, economic development produces not one but two major dimensions of cross-cultural variation, one linked with industrialization and the other linked with the rise of postindustrial society.

<sup>6</sup> Landes (1998) discusses a historical example of this contrast in comparing the Spanish and Dutch colonial empires. The Spanish empire established a rent-seeking economy based on the exploitation of Latin American silver mines. The Dutch empire was based on an innovative commercial economy. Accordingly, the sense of individual autonomy, liberty, and freedom of expression was far more pronounced in Dutch society than it was in Spanish society in colonial times.

5. An ethnocentric early version of modernization interpreted the process as Westernization. It is not. Historically, the process of industrialization began in the West, but during the past few decades East Asia has led the world in many aspects of modernization. Similarly, these changes do not constitute Americanization. The United States is not leading the world in cultural change; it is a deviant case, exhibiting much more traditional and religious values than other rich societies. The United States is not the model for the cultural changes that are taking place, and industrializing societies in general are *not* becoming like the United States, as a popular version of modernization theory assumed.

6. Most important, emerging self-expression values transform modernization into a process of human development, giving rise to a new type of humanistic society that promotes human emancipation on many fronts, from equal rights for homosexuals, handicapped people, and women to the rights of people in general. This process reflects a humanistic transformation of modernization.

Throughout history, cultural change has repeatedly changed course. In postindustrial societies in recent decades, rising emphasis on self-expression values has become the key cultural manifestation of modernization. Human choice and emancipation have become the leading themes in all domains of life from politics to child care to gender relations to work motivations to religious orientations and civic engagement. Self-expression values and rising emphasis on freedom of choice emerge as increasingly favorable existential conditions allow the universal desire for autonomy to take priority. Rising emphasis on human choice has immensely important consequences, generating pressures for female empowerment, more responsive elites, effective civil and political liberties, and democratic institutions.

In the postindustrial stage, socioeconomic development, rising self-expression, and effective democracy work together, providing the means, values, and rights that make people increasingly able, willing, and entitled to shape their lives according to their autonomous choices – relatively free from external constraints. This process constitutes “human” development because it emphasizes the most distinctively human ability: the ability to make decisions and actions based on autonomous choices. The process of human development leads to the emergence of increasingly strong societal demands for democracy. Culture alone does not determine the outcome: these changes are probabilistic. World events, wars, depressions, institutional changes, elite decisions, and even specific leaders can influence what happens; but cultural change is a major factor in the emergence and survival of democracy, and one that has generally been underestimated.

## Exploring the Unknown

### *Predicting Mass Responses*

In the [previous chapter](#), we claimed that cultural change is predictable, insofar as it is shaped by the factors in our cultural modernization model. But cultural change is also affected by other factors such as war, nation-specific events, and a society's political parties and leaders, so any predictions based on modernization theory alone will not be precisely accurate. Nevertheless, in this chapter we predict the locations on the two main cultural dimensions of all countries that are reasonably likely to be included in the next wave of the Values Surveys, in 2005–6. Using a simple predictive model based on our revised version of modernization theory, we first “predict” and test the positions that 80 societies should have on our two major dimensions of cross-cultural variation in the most recent wave of surveys (carried out in 1999–2001). We then use this same model to predict the basic values that we expect to find among the publics of more than 120 countries that are likely to be surveyed in the next wave of surveys, in 2005–6. More than 40 of these countries have not been included in previous waves of the Values Surveys, and some of them have never been explored in *any* survey of which we are aware.

Prediction is an important challenge for social scientists. Social science rarely makes genuine blind predictions and then tests its theories against them. It generally advances hypotheses and tests them against data already on hand. Hypotheses that are not supported can be dropped or reformulated in light of the actual data; and independent variables can be added or transformed in order to better fit the hypotheses. Although social scientists rarely publish predictions of findings expected from data not yet available, the exceptions have been important. Economic forecasts have played a valuable role in formulating counter-cyclical policy. And predictive political economy models of U.S. presidential elections have an impressive track record; although their forecasts are imperfect, the fact that their predictions were published in advance has stimulated public scrutiny of how these models work, and how they can be improved.

Our predictions will not be exactly correct; in some cases, they will not even be in the right ball park. For our predictions are based on a small number of variables and do not attempt to include numerous factors (some of them



specific to given nations) that help shape mass attitudes. In order to provide a theoretically coherent explanation of the dynamics of value change, we will use a parsimonious model rather than a more complex one that might statistically explain more variance. A model that explains 75 percent of the variance with five variables is more efficient than one that explains 80 percent with ten variables. We aim at an efficient model that explains as much variance as possible with as few variables as possible; when the explanation is as complex as reality, one no longer has a theory. Our predictions will be imperfect, but we are confident that in most cases they will come much closer to the actual results than would random guesses. Our confidence is based on the fact that analysis of data from the sixty-four societies surveyed in previous waves of the Values Surveys indicates that cross-cultural differences in basic values have a surprisingly consistent relationship with socioeconomic development. Although they vary a great deal cross-nationally, the values and beliefs of mass publics vary in a roughly predictable way that reflects the revised version of modernization theory outlined in Chapter 1.

This theory postulates that (1) socioeconomic development tends to bring predictable changes in mass values. But it is not a simple linear process: industrialization brings one set of changes, while the rise of postindustrial society brings another set. Moreover, (2) cultural change is path dependent: a society's historical heritage has an enduring influence on its value system, so that societies shaped by Protestantism, Islam, or other historical forces show distinctive values today that differentiate them from societies with other cultural heritages.

Our first step is to test this model against data from the sixty-four societies surveyed in the 1999–2001 wave of the Values Surveys, predicting each society's position on two major dimensions of cross-cultural variation, the traditional/secular-rational values dimension and the survival/self-expression values dimension. Our predictive model is based on the regression analyses of Tables 2.6 and 2.7 and uses two modernization factors: (1) a country's per capita GDP and (2) the percentage of the work force employed in the industrial sector or service sector; and two factors that reflect a society's historical heritage: (3) the number of years of communist rule that it experienced, if any, and (4) the cultural zone shift factor discussed in Chapter 2. This cultural zone constant is derived from the results of the first three waves of these surveys (carried out in 1981–97) and reflects the extent to which a country with a given cultural heritage deviates from the scores predicted by the other components of the model.

We use each country's per capita GDP five years before the survey in 2000 to predict that country's scores on the two cultural dimensions. We do this in order to put the variables in the appropriate causal sequence: causes precede their effects, and our theory hypothesizes that socioeconomic development shapes a society's values. All of the other variables used to predict values – including the data from which the cultural zone constants are derived – are also based on data measured at a time before the values they predict.

As we will see, this parsimonious model predicts, with remarkable accuracy, the values actually observed in surveys of the sixty-four countries that were

carried out in 1999–2001. These are not only new surveys of previously studied countries; they also include twelve countries that had not been surveyed previously: they are genuine out-of-sample predictions.

We then go on to predict the positions on these two dimensions that we would expect to find in 2005 for 120 societies, many of which we have never surveyed before. We expect that many of these countries will be included in the 2005–6 wave of the Values Surveys, but even if they are not, these predictions can be tested by anyone who wishes to survey a given country. These predictions were posted on the World Values Survey website in September 2004. We will test these predictions when the relevant data become available; we publish them in advance in order to stimulate prediction in social science. We also invite anyone who is interested to use the formulas published here to test our model.

Our revised version of modernization theory has four components of predictability: a society's socioeconomic development predicts where it will fall on the cross-cultural map and the direction in which it is predicted to move. Societies with a high per capita GDP should rank high on both the traditional/secular-rational dimension and the survival/self-expression dimension, falling toward the upper right-hand corner of the map; societies with a low per capita GDP should rank low on both dimensions, falling toward the lower left-hand corner. Moreover, rich societies should gradually *shift* toward the positive pole of both dimensions, moving toward the upper right. Low-income societies will start near the opposite end of the diagonal and will not necessarily show any movement. Moreover, our revised version of modernization theory predicts that variation in the size of the industrial work force is linked with variation in the traditional/secular-rational dimension, with a relatively large industrial work force tending to bring a society closer to secular-rational values than its per capita GDP alone would predict. Similarly, our theory predicts that having a relatively large percentage of the work force in the service sector tends to shift societies to the right on our map, bringing them closer to self-expression values than their per capita GDP alone would predict.

But this revised theory of modernization does not depend solely on the forces of socioeconomic development; it also takes into account the impact of a society's historical heritage, which does not predict the amount of change that will occur, but does help predict a society's relative position on the cross-cultural map. As we have pointed out, a society's religious tradition helps shape a society's culture, and past colonial ties also play an important role. The Spanish, Portuguese, British, and Soviet empires have left a lasting imprint on a society's culture. For example, the English-speaking societies tend to have more traditional value systems than one would expect of societies at their level of economic development. Moreover, the experience of having lived under communist rule tends to make people emphasize both secular values and survival values more heavily than their economic level alone would predict. Socioeconomic development is a powerful predictor of a society's value system, but it needs to be supplemented by taking the society's historical heritage into account.

When generational differences are present, they provide another indication of whether a society is experiencing cultural change and the direction in which

it is moving. The effects of intergenerational population replacement operate slowly but steadily, and over periods of several decades they can have large cumulative effects, which can be used to predict long-term changes. But during relatively brief periods, such as the five-year span dealt with here, its effects are relatively modest and building them into our model would make it more complicated. For the sake of parsimony, we will use a simple predictive model based on two modernization factors and two historical heritage factors.

Socioeconomic development and cultural tradition share a good deal of overlapping variance. The countries of Protestant Europe and the English-speaking zone are much wealthier and have a much larger postindustrial work force than those of South Asia or sub-Saharan Africa, and it is difficult to partition the overlapping variance between culture and socioeconomic development. Thus, in the regression analyses presented in Chapter 2, socioeconomic factors (GDP per capita and the percentage of the work force employed in the industrial sector) by themselves explain 45 percent of the variance in where given societies fall on the traditional/secular-rational values dimension. This result is substantial; however, our culture zone shift factor, by itself, explains 59 percent of the variance on this dimension. The combined effects of socioeconomic factors and historical heritage factors explain fully 80 percent of the variance in a society's position on this dimension, so the heritage factors by themselves explain only an additional 35 percent of the variance, beyond what could be attributed to socioeconomic factors. But the reverse is also true: the socioeconomic variables explain only an additional 21 percent beyond what could be attributed to these societies' historical traditions. Thus, cultural heritage could be interpreted as explaining anything from 35 to 59 percent of the variation in locations on the traditional/secular-rational values dimension. If one simply split the difference, one would attribute 47 percent of the variance to cultural heritage. Similarly, the socioeconomic variables could be interpreted as explaining anything from 21 to 45 percent of the variation, and splitting the difference would attribute 33 percent of the variance to socioeconomic factors.

Similarly, the historical heritage variables alone explain 52 percent of the variance on the survival/self-expression dimension, but socioeconomic factors alone explain 61 percent of the variance on this dimension, and the combined effects of economics and culture explain 84 percent of the total variance. In this case, an economic determinist might argue that a society's cultural heritage adds only 23 percent to the variance in survival/self-expression values that is explained by socioeconomic development alone, whereas a cultural determinist might argue that socioeconomic development adds only 32 percent of the variance that is explained by cultural heritage alone. Depending on one's epistemological preferences, the explanatory power attributed to socioeconomic development could vary from 32 to 61 percent and that attributed to cultural heritage could range from 23 to 52 percent. Splitting the difference, one would attribute about 47 percent of the variance to socioeconomic development and about 38 percent to cultural heritage.

Splitting the difference is, obviously, a very crude way to decide the question, but it probably comes closer to the truth than either extreme economic or cultural determinism. Until we have a considerably longer time series of survey data, we won't be able to reach a precise answer. For now, it is clear that both cultural and socioeconomic factors explain substantial parts of the variance in where a society falls on the global map of cross-cultural variation. Our model takes both sets of factors into account.

Previous waves of the Values Surveys overrepresented societies with relatively high levels of socioeconomic development: it was much more difficult to recruit colleagues and to raise funding in poor countries than in rich ones. Consequently, most of the twelve previously unsurveyed societies for which we will advance predictions here are economically less developed – some rank among the poorest countries in the world. Moreover, previous waves of these surveys included few historically Islamic societies, and we gave high priority to covering them more adequately in the 1999–2001 wave. Consequently, six of our twelve previously unsurveyed cases are predominantly Islamic and three more are in sub-Saharan Africa (three of the new Islamic cases are located in North Africa, making a total of six new African cases). Although both regions are distinctive cultural zones, we had a relatively narrow empirical basis for projecting their values. The twelve new cases for which we will make predictions are not only new, out-of-sample cases; they also differ systematically from the database on which our predictive model is based.

Nevertheless, we will proceed to predict positions on the two basic cultural dimensions for the sixty-four countries surveyed in 1999–2001, giving special attention to the twelve countries not previously surveyed.

## Developing Predictive Formulas

As Chapter 2 demonstrates, using a combination of modernization and tradition variables, one can develop models that explain very high proportions of the variance in each society's factor scores on the two key value dimensions. We will do so here, first analyzing the predictors of scores on the traditional/secular-rational values dimension, and then turning to the survival/self-expression values dimension.

Table 2.6 presents five models explaining the cross-national variation in traditional/secular-rational values, using various combinations of modernization and tradition variables. Although GDP per capita is often a good predictor of social phenomena, in this case it does not do very well by itself, explaining only 14 percent of the cross-national variance. But two modernization variables combined, GDP per capita and the proportion of the labor force in the industrial sector, explain a good deal of the cross-national variation in scores on the traditional/secular-rational values dimension, producing an adjusted R-squared of 0.45, explaining 45 percent of the cross-national variation.

Nevertheless, we must introduce a historical heritage factor to explain most of the variation in traditional versus secular-rational values. Being an

ex-communist society reflects two things: the cultural impact of having experienced several decades of communism under Soviet control; and these countries' socioeconomic condition in recent years, following the collapse of communism. Adding to the equation a variable that measures the number of years a society experienced under communist rule raises the explained variance to 63 percent.

Our cultural zone deviation factor reflects the impact of a given cultural-historic heritage on the traditional/secular-rational factor, controlling for the effects of the socioeconomic variables and the ex-communist variable. Adding that factor to Model 4 makes it possible to explain fully 80 percent of the cross-national variance. The formula at the foot of Table 2.6 is derived from this analysis; one can use this formula to predict a society's position on the traditional/secular-rational values dimension. As Table 2.4 demonstrates, dozens of attitudes measured in the Values Surveys are closely correlated with a society's score on this dimension. Knowing a society's per capita GDP, the percentage of industrial workers in the labor force, and its historical heritage enables one to predict with considerable accuracy how a given public will respond to a wide range of survey questions involving religion, authority, national pride, and other topics.

Because causes precede effects, all of the independent variables used here were measured at time points before 1999–2001, when the values of the respective publics were measured. In keeping with our assumption that socioeconomic factors help shape a society's values, we find that a country's real per capita GDP in 1995 predicts its values in the 1999–2001 wave of surveys more accurately than does a measure of per capita GDP in 2000, at the time of the surveys. This outcome means that we can use the 2000 measure of per capita GDP to predict scores on the two value dimensions in 2005 – which is convenient, because we did not yet have the 2005 measures of GDP per capita when this was written.

There is an obvious ambiguity in interpreting the findings in Table 2.6. The various cultural zones have very different levels of socioeconomic development, but this procedure attributes the explanatory power shared by socioeconomic development and cultural zones to the socioeconomic variables, which may underestimate the importance of cultural zone membership. We therefore specified a fifth model, using only the cultural zone memberships, to compute an average value on the factor relative to the overall mean (a shift factor from the raw mean, rather than from the value predicted with the socioeconomic variables). Interestingly, this cultural zone factor alone explains 59 percent of the variance – more than the two socioeconomic factors in Model 2 combined. This could be interpreted to mean that cultural factors are even more important than socioeconomic ones in explaining factor scores on the traditional/secular-rational factor, but this conclusion would be risky. The socioeconomic differences between the various cultural zones probably account for a substantial portion of the variance they seem to explain, as is obvious when one controls for socioeconomic factors. It is difficult to partition the variances between socioeconomic

and cultural factors conclusively, but it seems clear that both sets of factors are important, and our predictions take both sets of factors into account.

Table 2.7 analyzed the socioeconomic and cultural factors that explain factor scores on the survival/self-expression dimension. In this case, a society's GDP per capita explains so much of the variance by itself (fully 60 percent) that the addition of a second socioeconomic variable (the percent of labor in the service sector) raises the total variance explained only slightly in Model 2. But there is a significant increase in variance explained in Model 3 when the ex-communist dummy variable is added. These three factors explain 74 percent of the variance.

The addition of cultural zone factors further enhances the explanatory power of Model 4, bringing the total explained variance to a remarkable 84 percent. Again we also computed the variance explained by cultural zone membership alone and found it accounts for a substantial 52 percent; however, the socioeconomic factors are even stronger predictors of scores on the survival/self-expression dimension.

A society's cultural zone membership seems especially important in shaping traditional/secular-rational values, which are deeply rooted in long-established historical factors – above all, a society's religious heritage. But modernization variables seem to play the dominant role in shaping survival/self-expression values, which are less strongly rooted in a society's traditional cultural heritage. Hence, self-expression values rather than secular-rational values reflect the most essential cultural manifestation of modernization. This finding underlines the importance of self-expression values as the central element in a human development sequence leading from socioeconomic development to democracy, as we will demonstrate.

The formula in the footnote of Table 2.7, derived from this analysis, makes it possible to predict a society's position on the survival/self-expression values dimension from a handful of socioeconomic and cultural indicators.

Table A-1 in the Internet Appendix<sup>1</sup> shows how successfully the two equations we have derived from the regression analyses in Tables 2.6 and 2.7 predict a society's position on these two dimensions for all countries surveyed in 1999–2001. Table A-1 shows the factor score we predicted for each country, the score actually observed in the 1999–2001 survey, and the difference between the predicted and observed scores. The differences between the predicted scores and the observed scores range from 0.00 to 1.15, but overall the predicted values come close to the observed values. Across these sixty-four societies, the mean difference between the predicted score and the observed score on traditional/secular-rational values is only .36. The mean difference between the predicted score and the observed score on the survival/secular-rational values dimension is almost identical: .37.

Table A-2 in the Internet Appendix shows the mean error of our predictions for each society, ranking them from our most accurate predictions (South Africa

<sup>1</sup> The Internet Appendix can be found at <http://www.worldvaluessurvey.org/publications/humandevlopment.html>.

and West Germany) to our least accurate predictions (Puerto Rico and Sweden). Although our predictions show a wide range of accuracy, they have impressive accuracy by most standards of comparison. The mean error in prediction is .36, on a cultural map that extends from below  $-2.00$  to above  $+2.00$  on each dimension. Our average prediction falls within a radius of .36 of the value actually observed for that society, forming a circle that occupies about 2 percent of the map's area. These predictions are vastly better than random. And, surprisingly, our predictions are just as accurate for the twelve societies that we had never before surveyed (shown in boldface on Table A-2) as for the other societies that had been surveyed at least once before. Our model does just as good a job in predicting the values of publics that have never before been surveyed as it does in predicting the values in 1999–2001 of publics from which we have a prior reading.

How do these predictions, based on a revised version of modernization theory, compare with random predictions? Table 3.1 presents two sets of predictions for each of the twelve countries that had never before been surveyed. The first two columns on this table show the results of a genuinely random prediction: not knowing anything about the actual distributions, one predicts that the respondents will fall at the midpoint of the scale on each of the variables used to construct this map (e.g., the scale used to measure the acceptability of abortion ranges from 1 to 10, so we would predict a mean score of 5.5 for each society). Using this procedure for all ten variables in the factor analysis generates a score of 1.48 on the vertical axis (far above the actual empirical mean) and a score of  $-0.09$  on the horizontal axis (very close to the empirical mean). These random predictions are relatively far from the results actually observed: only seven of the sixty-four societies fall within one standard deviation of this predicted location; and the twelve societies in Table 3.1 deviate from their predicted scores as indicated. The mean of the two errors is 1.43. As Table 3.2 indicates, our theory-based model produces a mean prediction error of only .34 – less than one-fourth as large as the average error resulting from random predictions.

The second prediction is one that a well-informed social scientist might make: it predicts that each society will have the mean factor score on each dimension. We know that in a normal distribution about two-thirds of the sample will fall within one standard deviation of this point, so this is an excellent bet. This approach produces a mean prediction error of .99 across these twelve societies (reflecting that factor scores are standardized to have a standard deviation of 1.0). Although much less accurate than the .36 mean prediction error that our model produces for the same twelve societies, it is a considerable improvement over the random prediction in the first columns of Table 3.1. But this prediction is *not* random or a priori: one does not know the mean factor score until one has surveyed all the societies and analyzed their distributions. This approach simply selects a point that can only be known after all of the data have been collected and analyzed. Nevertheless, our model generates genuine out-of-sample, a priori predictions (including societies never before surveyed) that are far more accurate than this ex post facto “prediction.”



TABLE 3.1. *Alternative Predictions for 12 Societies Not Previously Surveyed*

Country	Prediction Based on Midpoint of Each Scale		Prediction as Mean Factor Score	
	Traditional/Secular- Rational Values	Survival/Self- Expression Values	Traditional/Secular- Rational Values	Survival/Self- Expression Values
Luxembourg	.46	.30	.37	1.18
Greece	.82	-.86	.73	.62
Zimbabwe	1.37	2.81	1.46	1.33
Tanzania	1.77	1.62	1.86	.14
Vietnam	.61	1.21	.70	.27
Indonesia	.96	1.89	1.05	.41
Uganda	1.31	1.96	1.40	.48
Egypt	1.48	1.88	1.57	.40
Morocco	1.53	2.61	1.62	1.13
Iran	1.10	1.81	1.19	.33
Jordan	1.48	2.49	1.57	1.01
Algeria	1.56	2.20	1.65	.72
Mean	1.20	1.66	1.26	.67
Mean (both)	1.43		.99	

Note: Values are the difference between the predicted factor score and the observed score.



TABLE 3.2. *Theory-Based Predictions of Locations of 12 Societies Not Previously Surveyed*

Country	Accuracy of Predictions Based on Revised Version of Modernization Theory	
	Traditional/Secular-Rational Values	Survival/Self-Expression Values
Luxembourg	.40	.00
Greece	.28	.54
Zimbabwe	.04	.93
Tanzania	.50	.45
Vietnam	.03	.10
Indonesia	.02	1.14
Uganda	.19	.25
Egypt	.42	.14
Morocco	.64	.48
Iran	.15	.14
Jordan	.25	.65
Algeria	.17	.22
Mean	.26	.42
Mean (both)	.34	

*Note:* Values are the difference between the predicted factor score and the observed score.

Random versus Systematic Predictions

We have just examined some genuine out-of-sample predictions. Using a model based on analysis of the data from the first three waves of surveys, we predicted the positions of all sixty-four societies that were surveyed in the fourth wave, in 1999–2001. Our model includes a cultural zone deviation factor that is a constant for each cultural zone: it does not use a specific nation’s position in the earlier waves to predict its position in the fourth wave. Consequently, it is a general model that not only predicts the position of countries that have already been surveyed but also predicts the positions of twelve countries that were not previously covered in the Values Surveys (for some of these countries, such as Iran, Zimbabwe, Tanzania, and Vietnam, virtually *no* previous representative national survey data were available from any source: we helped design the first national sampling frame used in some of these countries).

Despite the substantial shifts that are observed from one wave to the next, our model predicts the position of most countries in 1999–2001 rather accurately, as Figure 3.1 demonstrates. We do not attempt to show the predicted and observed locations of all sixty-four societies on this map (that information is provided by Table A-1 in the Internet Appendix). Figure 3.1 simply illustrates some representative examples. For instance, the location predicted for Finland in the fourth wave of surveys and the location actually observed appear in the upper

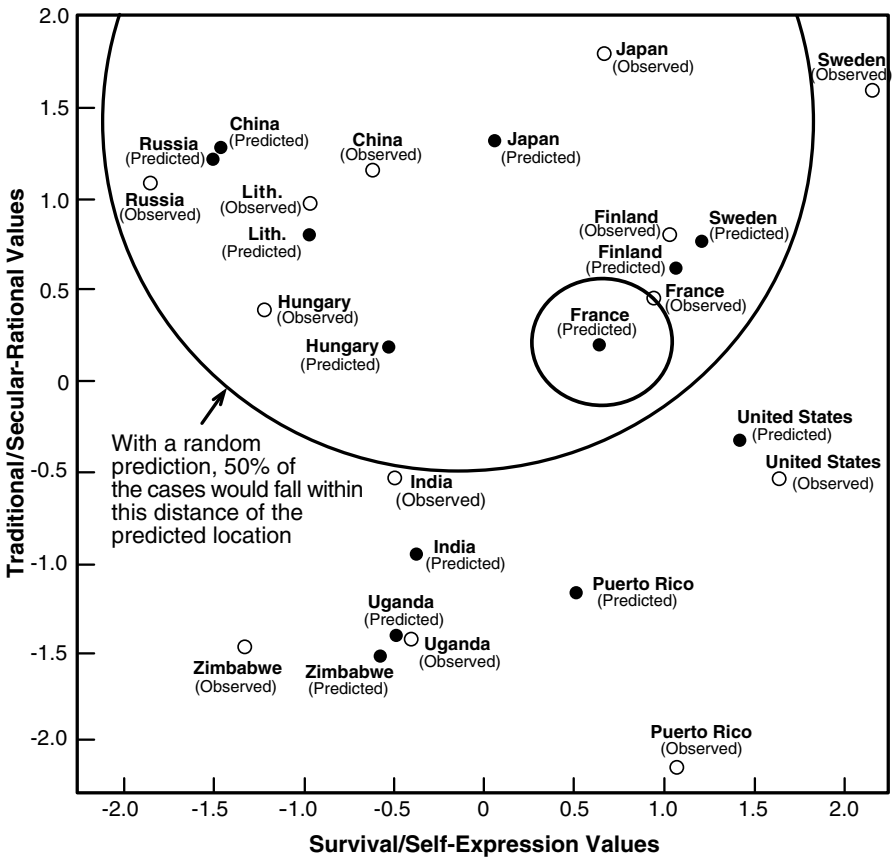


FIGURE 3.1. Predicted and observed positions on global cultural map. France's prediction is of average accuracy; the circle around France's prediction position illustrates our average prediction error. Sweden and Puerto Rico are the two *least* accurate among sixty-five predictions. Finland, Lithuania, and Uganda are among the six most accurate predictions.

right-hand quadrant, just above the circle (the predicted location is shown as a black dot, and the observed location is shown as a white dot). These two dots are very close to each other, for this is one of our most accurate predictions. Our two *most* accurate predictions (for West Germany and South Africa) are not shown, because in both cases the observed location is almost identical with the predicted location: the two dots would be indistinguishable. This figure does show our two least accurate predictions, those for Sweden and Puerto Rico. Even these two cases fall roughly in the right ball park, near the upper and lower right-hand corners of the map, respectively, but they are our worst predictions. Figure 3.1 also illustrates two more of our best predictions, showing the predicted and observed locations for Lithuania (abbreviated as Lith.) and Uganda. In each case, the predicted value is very close to the observed location.

The predicted and observed locations for France illustrate the average accuracy of our predictions: the small circle around France's predicted location on Figure 3.1 shows our model's mean range of error. The large circle in the upper half of Figure 3.1 shows the result of a random prediction, based on the procedure shown in the first half of Table 3.1 (predicting that the respondents will fall at the midpoint of each scale). Only seven of the sixty-four societies fall within one standard deviation of this predicted location. To include half of the societies would require a circle with a radius of 2.1 standard deviations. This figure provides a graphic comparison between the mean error in our model's predictions and the much greater range of error found with random predictions: the larger circle covers an area that is sixteen times as large as that of the smaller circle. The predictions generated by our model based on the data from the first three waves are not perfect, but they generally fall pretty close to the location actually observed in the fourth wave. If we had included the fourth-wave data in computing our model, we would probably be able to generate even more accurate "predictions" of these positions, but they then would not be genuine out-of-sample predictions.

### **Predicting the Responses of 120 Publics in 2005–2006**

In the natural sciences, it is generally accepted that one can fit a model to any collection of observations, but the conclusive test of a theory is its ability to predict previously unobserved phenomena. This test is much more difficult to meet in the social sciences than in the natural sciences, because social science deals with much more complex phenomena, which are shaped by interactions between multiple levels of analysis. An interaction between two particles can be analyzed solely at the physical level; human choices involve physical, chemical, biological, psychological, economic, social, geographic, historical, and cultural factors. Nevertheless, certain regularities that have predictive value can be observed in human behavior. Predictions of future behavior will necessarily be probabilistic and only roughly accurate, but they can provide useful guidance to choices and policies.

Consequently, let us predict what the people of various societies will tell us they believe and value when the next wave of the Values Surveys is carried out in 2005–6. Our model could generate predictions for all 192 countries that are members of the United Nations, but we will limit ourselves to predicting the values of the publics of about 120 countries that, by our most optimistic assessment, might possibly be included in the 2005–6 surveys. These countries contain about 95 percent of the world's population.

We will use the data from all four waves of the Values Surveys, carried out from 1981 to 2001, in making these predictions. Consequently, we will update the cultural zone deviation factors and predictive formulas used so far in this chapter, which are based on data from the first three waves of surveys. Table A-3 in the Internet Appendix shows the revised version of the cultural zone deviation factors and the predictive formulas. Neither the factors nor the formulas differ much from the earlier versions, but we believe they should generate

slightly more accurate predictions of the results from the surveys that will be carried out in 2005–6 and analyzed soon afterward.

Using the data from all available surveys, we estimated the scores on each dimension in 2005 for all societies for which previous data were available. We then used these scores as the dependent variables in regression analyses that enabled us to derive the coefficients for the new equations, to predict the scores for countries not previously surveyed. Table A-4 in the Internet Appendix shows where our model predicts that each of 122 societies will fall on the traditional/secular-rational values dimension and on the survival/self-expression dimension in 2005–6. Basic values tend to be stable, so we expect that the positions of previously surveyed countries will be reasonably close to the positions they had in 2000, apart from a tendency for rich societies to move higher on both dimensions during the five-year period from 2000 to 2005. Measurement error will also produce a certain amount of apparent movement. To maximize accuracy, the positions in 2005 of previously surveyed countries are predicted from previous data for that country, rather than from the cultural zone factor for all societies in their zone. The predicted positions of the societies that have not previously been surveyed are based on the assumption that their values will be shaped by the same factors, linked with modernization and cultural persistence that influence the values of the other societies and are reflected in our model. We will encounter some surprises: almost certainly, the publics of some societies will deviate markedly from these predictions, just as the U.S. public has more religious and traditional values than our model predicts, for reasons that are not captured in the model. This model contains only a few factors, but a society's values reflect its entire historical experience. Nevertheless, we are reasonably confident that on the whole the surveys carried out in 2005 will yield results that are reasonably close to the predictions in Table A-4 in the Internet Appendix.

Figure 3.2 shows the predicted locations of some of these societies on the cultural map. Placing all of the more than 120 societies on this map would make it unreadable (though the reader can plot the location of any additional societies that may be of interest, using the data in Table A-4 in the Internet Appendix). Figure 3.2 gives special attention to showing the predicted location of fifteen societies that have never been surveyed before, in context with a number of previously surveyed societies. Because most rich countries have already been covered in previous surveys, most of the newly surveyed countries fall on the lower half of the map, with Guatemala, Ecuador, and Paraguay falling into a cluster near other Latin American countries, and Kenya, Ethiopia, and Angola falling near the traditional pole and to the left of the midpoint of the survival/self-expression dimension. Yemen is also expected to fall in this region, but our model predicts that Kuwait, because of its high economic level, will show more-secular values than most Islamic societies. In contrast with most of the newly surveyed societies, Hong Kong is predicted to fall in the upper region – near other high-income societies such as Japan, Germany, and Slovenia. Cyprus is also a relatively high-income society, and we expect it to fall near the center, not far from Spain and Croatia. Although Cuba is a Latin American

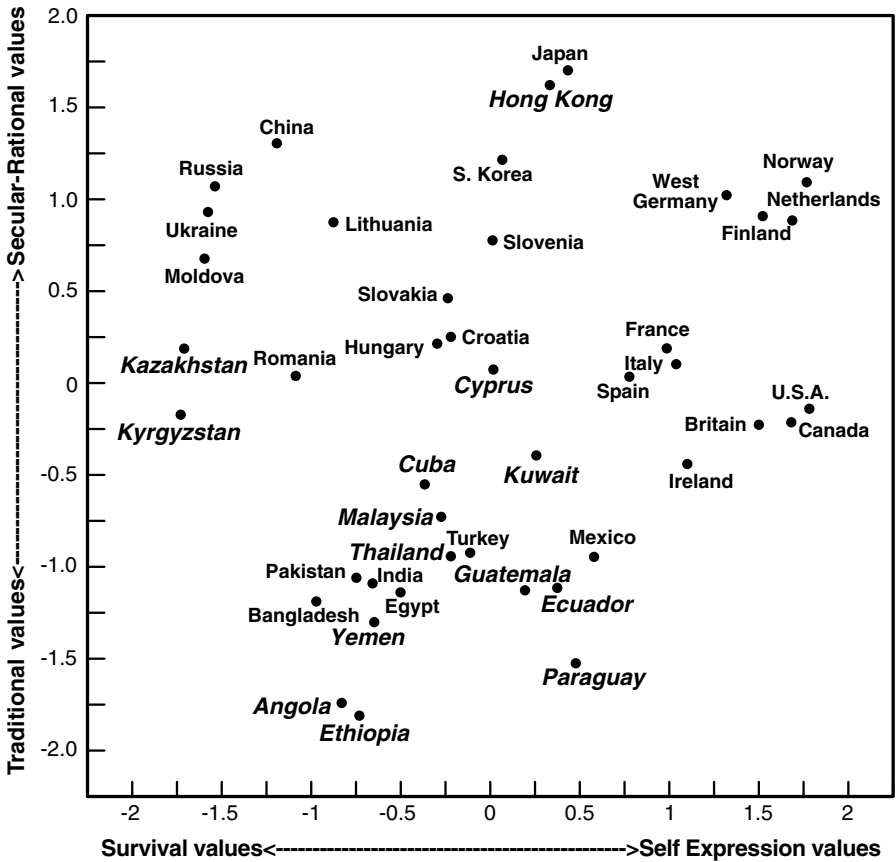


FIGURE 3.2. Predicted locations on cultural map of societies that may be surveyed in 2005–6. The predicted locations of fourteen societies that have not been surveyed previously are shown in italics.

society, it is the only one that has experienced communist rule, so our model predicts that it will be an outlier, having more secular values than most Latin American countries. Similarly, Kazakhstan and Kyrgyzstan are Islamic societies that have experienced many decades of communist rule, and our model predicts that they will be outliers from the main body of Islamic societies, showing substantially more secular-rational values than mainstream Islamic societies. Their low income levels also imply that they will tend to emphasize survival values even more than most ex-communist countries.

### Predicting Responses to Specific Questions in 2005–2006

Each of the two dimensions on which our cultural map is based taps scores of important beliefs and values. Thus, if one knows a society's location on this

map, one can predict its public's response to many additional questions. To illustrate this point, Table A-5 in the Internet Appendix predicts responses of 120 publics to two specific issues: the percentage of respondents in each society who will say that "religion is very important in my life"; and the percentage of respondents who will agree with the statement that "When jobs are scarce, men have more right to a job than women."

Neither of these two variables was used to construct either the traditional/secular-rational dimension or the survival/self-expression values dimensions. We present these predictions to illustrate the fact that our model makes it possible to predict the responses to many additional variables besides the ten that are used to construct these dimensions. This is possible because each dimension is strongly correlated with a wide range of additional variables, as Tables 2.2 and 2.3 demonstrated. Attitudes toward gender equality have been changing rapidly during the two decades covered by the previous Values Surveys, so in predicting attitudes toward gender equality we are not only predicting the responses of societies that have not been surveyed previously, we are also attempting to hit a moving target.

These are genuine predictions. None of these surveys had been carried out when this was written, and many of these societies have not been included in any previous wave of the Values Surveys (some of them have never been included in any previous survey).<sup>2</sup> As this chapter was being written, it was impossible to say how accurate these predictions would be. We can safely assume that they will only be approximately accurate, and in some cases they will be far from the mark, because our model uses only four variables among the scores of conceivably relevant factors. The fact that the United States deviates from its expected location on the traditional/secular-rational dimension (though not on the survival/self-expression dimension) reflects a significant feature of American culture that is not included in our model.

Even if our model made perfect predictions, we would still have to cope with the fact that the normal range of sampling error in measuring these items is about 5 to 6 points, so even with a perfect model, our predictions would only come within this range of the observed values. In short, a mean prediction error of 5 or 6 points is about as close to perfection as one can attain. At the other end of the scale, random predictions would produce mean errors of 30 to 33 points.

In experiments similar to those used in predicting each country's position on the two-dimensional cultural map in 2000, we predicted the responses to these two variables, using our model based on a revised version of modernization theory. The mean error in predicting the percentage saying that "religion is very important in my life" was 10.5 points; the mean error in predicting the percentage who agreed that "men have more right to a job than women" was 10.3 points. This result is imperfect but much more accurate than the results

<sup>2</sup> As this manuscript was being written, data were obtained from Saudi Arabia and Kyrgyzstan but not yet analyzed.

from random prediction. We also made a set of random predictions (using a random-number generator), which produced a mean error of 32 points in predicting the percentage agreeing that “men have more right to a job than women,” and a mean error of 31 points in predicting the percentage saying that “religion is very important in my life.” Empirically, our modernization model produces predictions that have a much smaller error margin than the results of random predictions.

This analysis applies the central assumption of all inference statistics: explanatory models are designed to reduce prediction error. Fitness statistics in regression analyses are based on comparisons between predicted and actual data: the closer the predicted values come to the actual data, the better the fit, tending to confirm the underlying theory.

## Conclusion

This chapter has tested a model that enables us to predict the beliefs and values of the publics of given societies, based on a revised version of modernization theory. This model is parsimonious, utilizing two modernization factors: (1) real per capita GDP five years before the survey, and (2) the percentage of the labor force employed in given sectors; and two historical heritage factors: (3) how many years of communist rule the society experienced, and (4) a constant for each of the eight cultural zones that reflects the extent to which that zone’s cultural heritage causes it to deviate from simple economic-historical determinism. The model explains more than 80 percent of the variance on each of the two major dimensions of cross-cultural variation. We used this model to predict the values of 65 societies that were surveyed in 1999–2001, including 12 societies that had not been surveyed previously. When we plotted our predictions on a two-dimensional map, we found that the predicted position of the average society falls within a small radius of its actual position – within a circle that occupies about 2 percent of the map’s area. These positions reflect each public’s responses to scores of important political and social questions. We then used this model to predict the positions of more than 120 societies that may be surveyed in 2005–6; and the responses of each public to two specific questions that will be asked in these surveys. These predictions were posted as part of our Internet Appendix on the website of the World Values Survey Association in September 2004. These predictions will be imperfect, as they necessarily must be; even if our model were perfect, we still would have to allow a margin for sampling error. Nevertheless, we expect these predictions will be reasonably close to the observed figures.

Our model seems to capture some of the most important factors shaping cross-national variation in mass belief systems. We have laid the groundwork for further testing and improving this kind of model. We believe that the effort to produce a predictive model of cultural change can contribute to a better understanding of how cultural change takes place and greater insight into important long-term trends.

Our predictions are probabilistic, not deterministic, and we expect them to be only roughly accurate. But the results of the analyses in this chapter make us reasonably confident that the predictions presented here will be much closer to the results actually observed in 2005–6 than random predictions. The extent to which these predictions prove accurate will provide a strong test of the validity of our revised version of modernization theory.