

# A Scientific Reexamination of Modernization

## A Review Essay

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Ronald Inglehart and Christian Welzel, *Modernization, Cultural Change, and Democracy: The Human Development Sequence* (Cambridge: Cambridge University Press, 2005). pp. 333  
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Ronald Inglehart<sup>1</sup> and Christian Welzel<sup>2</sup> are two of the leaders of a remarkable social science enterprise called the World Values Survey. Every five years since 1990 its banners have led a polyglot battalion of social scientists and a brigade of interviewers into the field around the world to survey thousands of people in scores of countries, asking them about the values they hold dear.<sup>3</sup>

In this book the two authors draw on this mass of data to recast and refound our understanding of how societies become modern, and what modernization means and implies. In the process they demonstrate how “big science” (in the form of massive surveys) and computers (to permit huge statistical calculations) can be combined to make social science a great deal more rigorously scientific than many of us ever supposed it could become.

The question of why societies differ and why some seem more successful than others has intrigued humankind for more than two millennia that we know of. It has become sharpened over the past two centuries as it became clear that some societies were changing rapidly and growing in wealth while others remained mired in old ways and poverty. The issue of modernization has become central not only to social scientists but to a great many policy-makers and citizens.<sup>4</sup>

The authors start with a theory outlined by Inglehart in a 1997 book.<sup>5</sup> This posits that modernization actually is composed of two distinct processes or steps. First comes industrialization/mechanization, supplementing and magnifying human strength and skill by mechanical means in order to allow greater output of goods per unit of labor. In the process, the sense of awe and dependence on the seemingly supernatural forces that appear to tip the fine balance between

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<sup>3</sup> The related [Western] European Values Survey goes back to 1981.

<sup>4</sup> At this point, readers who want to know more about the main thrust and argument of the book before deciding whether to proceed are invited to jump to the concluding section of this paper, which provides a very broad summary.

<sup>5</sup> Ronald Inglehart, *Modernization and Postmodernization* (Princeton: Princeton University Press, 1997). The roots of his concepts trace back to his *The Silent Revolution: Changing Values and Political Styles Among Western Publics* (Princeton: Princeton University Press, 1977).

plenty and want for subsistence farmers and herders is progressively supplanted with one of confidence and pride in the institutions and technology that seem to have vanquished natural limits. In the terminology of the book, this is the progress from *traditional values* to *secular-rational values*.<sup>6</sup>

With man having at least partly displaced God at the center of power, industrialized societies naturally turn to the will of the people rather than divine sanction as the basis for governmental legitimacy. But this can mean totalitarian dictatorship as easily as democracy. George Orwell's novel, *1984*, vividly portrays the bleak future many projected as the logical end point of the process of industrialization.

## Postindustrialization and self-expression values

Yet industrialization in the classic sense of factory work does not continue indefinitely, and as it changes in character so too does the nature of the social changes it engenders. The advance of science and technology that goes hand in hand with industrialization – for which industrialization provides both the resources and the motive – brings with it a progressive removal of humans from the industrialization process, like the disappearing musicians in Hayden's "Farewell Symphony." Many find their work instead in conceiving, developing, managing, and guiding the production process, and in the great trade in goods and ideas which it prompts. Such knowledge-oriented work brings a freedom and need for creative and free-ranging thought unknown on the production line. And because it is critical in the production of great wealth, it brings secure affluence to those who engage in it.

With personal freedom, broad knowledge, and economic security will come individualistic, self-expressive values, Inglehart predicted. Not in each and every person, of course, but on the whole. He theorized that such *postindustrial* individuals would value freedom not just for themselves but as a universal good, something to which all should be entitled.<sup>7</sup> He speaks of this in terms of the shift from *survival values* to *self-expression values*.<sup>8</sup> And this, his theory predicts, is the seedbed of effective democracy.

But what of democracies which grew up before industry, let alone before the decline of industrial employment that marks the "postindustrial" period? What of ancient Athens? The mercantile Netherlands? The early United States?

Inglehart and Welzel observe that these earlier democracies were genuine, but limited. That is, effective participation in their politics was restricted to only a portion of their populations, and their institutions guarded the privileges of relatively closed elite groups. The proto-democracies

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<sup>6</sup> As the authors note, indoctrination can, if intensive enough and sustained for long enough, go far to erode traditional values in itself. Statistically, living under communism was nearly as powerful as living in an industrialized society in terms of fostering secular-rational values. Thus the people of Albania have values fully as secular as those of France, Belgium, or Luxembourg, and significantly more secular than those of Americans. Poles are an exception, however, reporting values about as traditional as those of Americans or Indians.

<sup>7</sup> The individuals are postindustrial in the sense that they do not, for the most part, participate directly in the production process. The production processes, although taking a declining share of labor, however remain fundamental to societal wealth and economic security. This is a distinction which Inglehart and Welzel tend to obscure, speaking loosely of "postindustrial societies," as if industry no longer mattered much.

<sup>8</sup> The authors also use the term *emancipative values* – in the sense of emancipation from authority and mass group conformity – as an apparent synonym for *self-expression values*.

of pre-modern and early modern Europe and its offshoots (such as the United States) grew up among and enfranchised relatively prosperous men (and not women) who were not bound to the land or to hereditary station and who thereby acquired some measure of self-expression values, which led them to demand and support democracy – but not for all.<sup>9</sup>

## What the empirical data say

Since Inglehart and Welzel's version of modernization theory turns on a connection between societal forms and mass values, the obvious way to test it is to examine the relations between these in reality. Having accumulated a massive database on what tens of thousands of people in societies representing the great majority of the world's population have said of their values over the past two decades, they have a great deal to work on. For the most part the analysis has been done with exemplary care, and the results are largely convincing and wholly fascinating.

As befits a scientific effort, the authors are clear and frank about what they have done, and furnish those with the necessary knowledge and skills the information necessary to reproduce their results.<sup>10</sup> The World Values Survey Web site at <http://www.worldvaluessurvey.org/> gives free access to the questionnaires used, the survey metadata, and the complete data set in SPSS format.<sup>11</sup> (An older Web site at <http://wvs.isr.umich.edu/> has little that is not duplicated at the new site.) Moreover, the site also offers a Web application which permits limited analyses and data extraction on line.

The authors work hard to facilitate thorough understanding by those who lack the knowledge or motivation to probe into the technical details of their analysis. Wherever possible, results are presented in the form of clear graphs, meticulously explained in the text. Where multiple regressions are necessary (involving statistical analysis of multiple variables which cannot all be plotted on a two-dimensional graph) tables of coefficients are clearly laid out and well explained. Or you can simply take the authors' word on the meaning of their analysis, if you prefer, and not miss anything truly essential. Indeed, you can get a good idea of the main argument and findings of the book solely by reading the summaries at the end of each chapter.

While the findings of their analysis do in general support the initial theory, this is not a result of picking and choosing favorable evidence. Inglehart and Welzel carefully and rigorously examine the main alternative hypotheses and use their data to probe for flaws or limitations in their own hypothesis.

They do not find much evidence that values are converging and becoming homogenized across societies. Changes in socioeconomic conditions do drive values to change in parallel di-

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<sup>9</sup> The authors follow other theorists in positing that these limited democratic traditions were crucial in thrusting their societies toward democracy rather than authoritarianism in the era when labor moved from farm to factory. Thus Britain, France, the United States and others became more democratic at the same time that other industrializing societies such as Soviet Russia, Fascist Italy, and Nazi Germany moved strongly toward totalitarian government.

<sup>10</sup> I have a measure of the skills necessary to re-analyze their data but not the time or need to do so. From what I read in their book, however, it seems clear that Inglehart and Welzel have done a thoroughly competent job of the analysis.

<sup>11</sup> SPSS (Statistical Program for Social Sciences) is a software package which facilitates large-scale statistical analyses. It is standard in the field, and alternative packages in general can read data in its format, so the use of SPSS format is not restrictive.

rections in different societies, but the starting point continues to matter for a very long time. People in distant places may wear American jeans, watch American movies, and eat in American fast-food outlets, but this does not cause their values to become more like those of Americans in any broad sense. Nor has the Internet driven any discernable convergence in values, at least as yet.

To pick a specific example, Americans and Germans live in societies which are broadly comparable in wealth, and they even share a large measure of cultural tradition. Both groups, on average, place a high value on self-expression. Yet Americans in general are more traditional in their value orientation, Germans more secular-rational. (And of course there are other differences in other components of values orientation.) This is not to say that there are no individuals in each society who share almost exactly the same values – there are no doubt a great many. But the average or mass values in the two societies are distinctly different.

This is a good example of the power of the quantitative, data-driven approach over qualitative analysis. If you think that socioeconomic conditions drive value changes (as Inglehart and Welzel do) and that in the wealthy countries socioeconomic conditions are generally converging (as I believe they would acknowledge) then it is easy to leap to the conclusion that values must also be converging. Their analysis reveals this error, and many like it.

In wealthy societies people who have more education and economic security tend on the whole to have values that are more oriented toward self-expression and less toward survival than those of their less favored compatriots. But this does not mean that there is a worldwide convergence among the wealthy and sophisticated, for the differences within societies generally are much smaller than those between societies. Again, well-off university graduates in Germany are more like their countrymen in their values than like people of similar educational and economic standing in the United States.

The study confirms the impression that the values of the young are different from those of the old, at least in wealthy societies – their values tend to lie more in the self-expressive direction, at least as long as socioeconomic security remains firm. But there is no evidence in the surveys of any trend for values to become more conservative and survival-oriented as people age.

In poor societies, neither the differences in values between educated and ignorant nor those between young and old hold true. In these societies, values are generally static and, in a statistical sense, unchanging unless and until impelled by socioeconomic change. Remarkably, this holds true to a large extent even in poor societies grown rich through windfall, such as the oil-rich principality of Kuwait. Though we talk loosely of wealthy societies, we really mean societies which have become wealthy through industrialization and now have moved to the stage where people continue to work (rather than simply collecting rents) but do so in jobs where the product has a large component of intellectual analysis and creativity, with relatively few people working directly in industrial production.

None of this is deterministic and none of it is immutable. If values are driven by socioeconomic conditions then we would expect that they should respond to negative as well as positive changes in wealth. Inglehart and Welzel find evidence for this in the trajectories of the former communist-bloc nations of Eastern Europe, where the fall of communism brought economic chaos and impoverishment. In these countries there has been a retrogression toward more sur-

vival-oriented values. The shift is not great, but it stands out sharply against the trend toward self-expression values in the rest of Europe. The authors also examine historical data about Germany in the 1920s and 1930s to conclude that it was the sharp economic contraction of the late 1920s and early 1930s (following on the earlier economic problems associated with World War I and its aftermath) and the turn toward survival values that this prompted that set the stage for abandonment of democracy and embrace of the strength and security that totalitarianism seemed to offer.

## Wealth, values and democracy

The fall of the Soviet Union and its communist bloc left democracy the undisputed champion among governmental forms. When Americans began very tentatively adopting democratic institutions just two centuries ago, it was radical experiment which many believed could come to no good. Now scarcely anyone advocates any other kind of government. Democracy is seen as good for what ails you, bringing freedom, human rights, and above all stability and prosperity. Who could not love and seek to emulate such institutions?

Indeed, today the great majority of nations claim to be democracies, or to have very substantial elements of democracy. Freedom House (<http://www.freedomhouse.org/>) lists 119 electoral democracies, 62% of all the independent states it counts.<sup>12</sup> The proportion of nations counted as “free” by Freedom House has grown more than half again as great since the mid 1970s, from less than 30% to more than 45%, with another 30% counted as “partly free.”<sup>13</sup> Freedom House’s scores are dominated, however, by the presence or absence of formal institutions of civil rights and representative government. Inglehart and Welzel point to seeming anomalies – for instance the Czech Republic and the United Kingdom score equally on the Freedom House scales, but in practice the rights and freedoms of Britons are more secure than those of Czechs because the leaders of Britain are more scrupulous in observing the law. Thus the authors multiply the score for what they term *formal democracy* (derived directly from the Freedom House scores) by one for the integrity of officials to obtain an index of *effective democracy*. (The scores for official integrity are derived from the World Bank Institute indexes of governance, found at <http://www.worldbank.org/wbi/governance/index.html>.) Because the index is multiplicative rather than additive, *both* the scores for formal democratic structure and integrity of public officials must be high in order to get a high score for effective democracy – neither alone will suffice, no matter how high, in the absence of the other.<sup>14</sup>

By their count, every society with high levels of effective democracy has high levels of self-expression values: there are no exceptions. The converse relationship does not hold, however –

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<sup>12</sup> <http://www.freedomhouse.org/template.cfm?page=205&year=2005>, accessed 12 January 2006. Some qualify for ratings of no more than “partly free,” however. Some states which in which Freedom House sees little if any evidence of democracy nevertheless claim some form of it – the “Democratic People’s Republic of Korea” (a.k.a., North Korea) is a prime example.

<sup>13</sup> Calculated from data in Freedom House’s “Freedom in the World Comparative Rankings, 1973-2005,” <http://65.110.85.181/uploads/FIWrank7305.xls>, accessed 12 January 2006.

<sup>14</sup> For instance, if both the scores for formal democratic structure and official integrity are 80% then the composite score for effective democracy will be 64%. But if the score for one component is a perfect 100% while the score for the other is 50% then the score for effective democracy will be only 50%.

some societies with relatively high levels of self-expression values have very low levels of effective democracy. A notable example is China, where effective democracy is virtually absent even though the levels of self-expression values among Chinese are about the same as those in India (where levels of effective democracy are about average relative to self-expression values) and Hungary (where levels of effective democracy are quite high relative to self-expression values).

Inglehart and Welzel offer a plausible explanation for this discrepancy. They observe that changes in governmental institutions almost invariably move in fits and starts, much as the earthquakes which reorder the earth's crust occur only irregularly in response to the continuous movements of continental drift. But just as earthquakes are sure to come where tectonic plates move, even if the exact timing and mechanics cannot be precisely forecast, so they conclude that democratization is sure to come in response to increases in self-expression values.

### **Causes or effects?**

But do we really know that it is the changes in self-expression values that drive democratization? Could it not be that democracies are set up through revolutionary action by a small vanguard and that people then absorb democratic values by the experience of living under democracy? The authors have devoted a lot of effort to probing these issues and come down with a clear and generally convincing answer: the causation runs from values to democracy, not the other way. Their primary tool in establishing this is to look carefully at time sequences. Since the World Values Survey goes back to the late 1980s, they have a considerable body of data that are relevant to the "third wave" of democratization that came in the wake of the fall of the Soviet Union. The data here are very clear: in nation after nation, movement toward greater effective democracy came *after* increases in level of self-expression values.

Based on this, and examination of others cases in history, they conclude that China (among others) is almost sure to move toward democracy at some point in the next decade or two. Will this bring another round of repression, more Tiananmen Square confrontations between democrats and tanks? Inglehart and Welzel certainly do not rule out efforts by those in power to suppress democratic challenges – in many ways we see this frequently in China today. But they point out that democratic self-expression values have become far more widespread since 1989 (when they were largely confined to student groups). Could the Chinese People's Liberation Army (PLA) be relied upon to fire on peaceful protestors in the future? Would a new generation of leaders, themselves grown up in a society more inclined to democracy, be so inclined to such ruthlessness? A regime which is too far out of sympathy with the values of its population is liable to find itself with no friends, much as some of the failing communist regimes at the end of the 1980s found that their security services could no longer be relied upon to do their bidding.

Inglehart and Welzel use a similar analytical strategy to show that shifts in values have been preceded by changes in income, lagging movements in wealth by some time, yet moving in the same direction ultimately. They see in these statistical facts validation of Inglehart's theory of modernization. They are so confident, indeed, as to boldly put forward some definite and testable predictions. One prediction, as earlier outlined, is that "If high growth continues, we expect that

China will eventually make the transition to democracy.”<sup>15</sup> More immediately, based on earlier data on socioeconomic conditions and values they predict how the values in all the nations earlier surveyed will be found to have moved between 1999-2000 and 2005-2006, and where each nation they hope to have data on will be found to lie in terms of traditional vs. secular-rational values and survival vs. self-expression values. (See [http://www.worldvaluessurvey.org/Upload/5\\_Exploring\\_the\\_Unknown.pdf](http://www.worldvaluessurvey.org/Upload/5_Exploring_the_Unknown.pdf).) They clearly have a lot of confidence in their theory and its empirical underpinnings, and it seems well founded.

## Human development as an integral process

As they very carefully document, few of the ideas put forward by Inglehart and Welzel are novel in themselves. In addition to their wealth of statistical evidence, they bring a unifying form, the concept of an integral *human development process*: “(1) socioeconomic modernization, (2) a cultural shift toward rising emphasis on self-expression values, and (3) democratization are all components of a single underlying process: human development.”<sup>16</sup> They stress repeatedly that “The underlying theme of this process is the broadening of human choice.”<sup>17</sup>

“Choice,” of course, is a Protean concept. If I choose to drive down the middle of the road, straddling the white line, I constrain the choices of others. This sort of autarkic, damn-the-consequences-for-others choice is not what Inglehart and Welzel see as implied by human development. Their phrase might well be reworded as *humane* development, a process supporting broadening the choices of all. That is why it leads to democracy rather than a struggle by each to impose his choice on all.

Is this true? Is it desirable? Many will disagree. The authors show beyond much doubt that in socioeconomically-advanced postindustrial societies a great many people do in fact express values supporting human choice. Some of course contend that this is merely because their minds have been poisoned by “the media” and by college professors (like Messrs. Inglehart and Welzel). This does not seem to be a very strong argument on empirical grounds. The evidence we have indicates that personal values are largely formed at a stage in life before one becomes much exposed to college professors or to any media beyond television cartoons. Thereafter they change (slowly and to a limited extent) in ways that correlate too well with social and economic security circumstances to allow a great deal of room for other influences. Even in the early stages of values formation it seems that the child’s perceptions of his socioeconomic security environment play at least as great role in forming his views about choice as any ideological indoctrination he may receive from family, church, school, or peers.

## A few loose ends

It is all very impressive, or at least it impresses me a great deal. But that is not to say that I see no loose ends.

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<sup>15</sup> Page 42. They emphasize at the same place that the effect of growth on values is a function not of the *rate* of growth but of the absolute *level* of prosperity attained.

<sup>16</sup> Inglehart and Welzel, p. 2. For a somewhat more extensive treatment of their concept of the human development process (or sequence) see Christian Welzel, Ronald Inglehart, and Hans-Dieter Klingemann, “[The Theory of Human Development: A Cross-Cultural Analysis](#),” *European Journal of Political Research*, 42, No. 3 (May 2003): 341-79.

<sup>17</sup> *Ibid.*

One obvious question is the very nature of the *values* that they survey. The procedures for the survey are well specified. The English-language versions of the questionnaires are available at <http://www.worldvaluessurvey.org/statistics/index.html>, at the *Questionnaire* tab – for instance, the one used in the 1999-2000 survey is at <http://www.worldvaluessurvey.org/statistics/wvs2000.pdf>. Much more is available by browsing <http://www.worldvaluessurvey.org/services/index.html> and clicking on “Access database >>”. This leads to a page at which one may get a list of survey participants, find technical information regarding the administration of the survey in each country and epoch, and download full technical information (including native-language versions of the questionnaires in most cases) for each survey. (From this page one may also download the complete survey database for the 1999-2000 surveys or interactively analyze survey data online. For an index of completed surveys and very brief sampling notes for each, see <http://www.worldvaluessurvey.org/statistics/index.html>.)

In general, 1999-2000 survey respondents were each interviewed and asked scores of questions about their values – more than 230 in most western societies – by social scientists or trained interviewers. (The list differs somewhat in different places, but all versions are supposed to contain a core of equivalent questions relating directly to the values under scrutiny in the book.) Clearly, the meaning of the survey *process* to the individual respondent is not entirely contained in the survey’s “objective” content. It takes place within a social and cultural context and deals with intimate issues, and we can feel sure that its meaning differs from one respondent to another.<sup>18</sup> It seems not too unreasonable to suppose that the population within any one society will be statistically homogeneous in its response both to the objective content and social-cultural context of the survey – that the individual variations will cluster around a central tendency in a fairly regular and repeatable way. But what about intersocietal homogeneity? To put it another way, is there a *cultural* meaning to the survey process that is distinct from its *individual* meaning? If we accept Inglehart’s finding that values differ systematically from culture to culture, we can scarcely dismiss the possibility that the process of surveying them means different things in different cultures.

Two significant examples fall readily to hand. The first involves attitudes toward homosexuality. One series of questions (corresponding with variables V204 through V213 in the basic version of the 2000 survey) asks respondents to rate their views on the acceptability of ten different “problematic” social practices, ranging from divorce to bribe-taking to suicide, on a ten-point scale. Strongly negative responses to homosexuality (V208) are a significant indicator of survival (as opposed to self-expression) values.<sup>19</sup>

The ten Islamic societies so far surveyed all show quite negative attitudes toward homosexuality. Indeed, the authors report, “We do not have time-series data on attitudes toward homosexuality from any Islamic society because our Islamic colleagues were extremely reluctant to even ask about this topic. With considerable effort, we were able to obtain readings at a single time point for ten Islamic societies....” From the fractions of “never justifiable” responses they

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<sup>18</sup> Clearly Inglehart and his collaborators have thought a lot about these issues, and tried out a variety of instruments and forms, but he and Welzel do not talk much about it in the book, so I am forced to extrapolate and speculate somewhat, based on the somewhat fragmentary information I find on the project Web site.

<sup>19</sup> Inglehart and Welzel, Table 2.2 on p. 51.



report, it appears that Arab countries are if anything the most negative among Islamic societies when it comes to attitudes toward homosexuality – 99 percent of Egyptians respond so, and 98 percent of Jordanians.<sup>20 21</sup>

It would seem natural to conclude from this that that homosexual practices must be very rare in Arab countries. Certainly, homosexual intercourse is specifically banned by the Koran (26: 165-66). Yet, as is well known, certain homosexual practices, *as they are defined in the west*, are common in Arab societies. Young men, not yet married and thus denied all culturally-sanctioned heterosexual outlet, quite often have resort to intercourse with boys, frequently relatives. Yet in the terms of the culture this is not “homosexuality” per se, but a sort of “boys will be boys” issue.<sup>22 23</sup> That is to say that rejection of homosexuality does not mean quite the same thing in these cultures that it would in mainstream American culture.

Another issue regards belief in God, which plays a prominent role in determining how far a respondent is to be considered to have traditional as opposed to secular-rational values.<sup>24</sup> The key question (V196) seems straightforward enough: “How important is God in your life?” with answers to be given on a ten-point scale. Yet whatever this question many mean to most Chinese, Japanese, or non-Muslim Indians, it can scarcely be much like its meaning to most Europeans, Australians, or Arabs.<sup>25</sup> The concept of God – the one true God of the Judaic-Christian-Muslim monotheistic tradition, the anthropomorphic and omnipotent, omniscient Prime Mover – simply does not exist in the traditions of those societies. In Japan and China, the real *tradition* is not even religious in a way that corresponds at all closely to western ideas of religion.<sup>26</sup> Are we to say that the multi-millennial tradition of these societies is in itself somehow non-traditional?<sup>27</sup>

These problems are not catastrophic; they do not invalidate the whole enterprise by any means. But they certainly are not trivial either. While they do not directly undermine the fundamental concept of the two dimensions that Inglehart and Welzel based their work on, they do call into question the consistency and specificity of the data on which their statistical estimates of the

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<sup>20</sup> Inglehart and Welzel, pp. 128-9. Note that the question is phrased in *value* terms – it asks about the acceptability of the practice of homosexuality, not homosexuals as individuals or a class.

<sup>21</sup> In the Egyptian survey, the English version asks not whether homosexuality *et al* are “justifiable” but whether they are “logical.” I do not know enough about Egyptian cultural traditions to judge how equivalent these formulations are. No English version is provided for the Jordanian survey and I lack the language as well as cultural knowledge to evaluate the Arabic survey question.

<sup>22</sup> This is true, that is, for the young man, who has played the “masculine” role. For the boy forced into the “feminine” role the transaction can bring lasting opprobrium. Thus such liaisons are almost always clandestine.

<sup>23</sup> It is interesting to contrast this with attitude shifts reported recently among American adolescents. Warned of the moral, practical, and health dangers of premarital sex, they have migrated from coital to oral and anal intercourse, and have redefined them (particularly oral sex) as “not going all the way.”

<sup>24</sup> Inglehart and Welzel, Table 2.2 on p. 51.

<sup>25</sup> While I might be able to translate the Japanese question with the aid of a kanji dictionary, it seems a futile exercise since I do not really know how the question would seem to a Japanese in any event. I’m even less able to assess the Chinese survey instrument. But my knowledge of the sociology of religion in both countries suggests that there can be no very satisfactory way to express the meaning intended in V196 in either culture, regardless of form of words.

<sup>26</sup> Buddhism is an import in these countries, and is explicitly an overlay on deeper traditions of belief and ritual.

<sup>27</sup> For a brief rice-roots survey of traditional life in these societies, before village life had been too greatly affected by modernization, see Tadashi Fukutake, [\*Asian Rural Society: China, India, Japan\*](#) (Tokyo: University of Tokyo Press, 1967)

numerical values in these dimensions is based. And that suggests that their measures of statistical confidence are misleadingly optimistic to some degree – for they are founded in underlying mathematical assumptions about the distributions of errors which are not fully satisfied by this data set.

To estimate how optimistic the confidence measure actually are one could make some plausible assumptions about how much the distributions might be distorted by the cultural biases I have outlined and then use computer-based sampling experiments (also termed, rather colorfully, *Monte Carlo methods*) to determine their effects. I have not done so, but my experience in such matters suggests that the overall impact of these two sets of biases is not great in the sense of undermining the authors' fundamental conclusions. When it comes to specific conclusions about the societies directly involved, however, the effects are much more serious. And these are simply two issues that I happened to be in a position to recognize – there might well be more.

These are difficult problems. It is not really clear how one measures traditionalism in a way that is consistent across very widely different traditions, or how one measures self-expression consistently across societies where the meaning of *self* varies significantly. Although their values measurements are, as the authors argue very clearly, at the level of societies, they ultimately are founded in individual responses. Unless the authors are going to base their theories on a very strict social-constructionist viewpoint – which they show no signs of doing – they really need to examine the roots of their measurements in social psychology and even neurobiology. No amount of linguistic tinkering with survey instruments, so far as I can see, can ever suffice to put the comparisons across widely diverse cultures on a truly firm foundation.

Again, however, I want emphasize that I do not see these concerns as undermining the fundamental importance of the work that Inglehart and Welzel report. This is simply another instance in which important scientific work reveals and illuminates areas of comparative ignorance in the very process of adding to our knowledge.

### **Is it truly science?**

This is not a personal book and the authors do not speak explicitly of their personal values, but it is fair to say that they give an impression of endorsing the trend toward postindustrial self-expressive values. This will have the unfortunate but probably unavoidable effect of making it harder for many people to fully appreciate the significance of their work. Those who have some reservations about self-expression values are liable to suspect that Inglehart and Welzel may be engaging in advocacy disguised as science. Many of these people will lack the scientific and statistical knowledge – or the will to apply it – to learn otherwise.<sup>28</sup>

When I was studying physics, mathematics and symbolic logic in the 1950s, I found sociology, anthropology and psychology interesting too – but scarcely scientific in the same sense. The hard sciences had leaped ahead in terms of their ability to produce objective and verifiable results while the social sciences seemed to have gone little beyond the methods of Aristotle.

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<sup>28</sup> In the end, I feel pretty certain, a new generation which will learn of this work in college will take it as conventional wisdom.

It seemed that this disparity was all but inevitable. Each class of objects in a physics model typically consists of entities whose relevant properties are well determined and measurable, and each entity is wholly interchangeable with any of the others. It is this which permits the very definite and precise predictions we associate with physics. And it is the huge complexity and lack of interchangeability of humans that makes the social sciences so “soft” and lacking in precision.

Physical environmental sciences such as meteorology and geology face problems of complexity that are less than those of the social sciences, but daunting enough. But while we still do not have exact predictions of the weather or volcanic eruptions (and probably never will) recent decades have seen great strides in these fields, resulting from a combination of instruments to collect far more data than previously and computers to process it.

The social sciences lack the benefit of having underlying physics theories (at least for now) like meteorology and geology,<sup>29</sup> but large-scale collection and intensive processing of data can still do a very great deal for them. With its large, multi-variable samples extended over decades and dozens of societies, the World Values Survey provides a data set that is not altogether unlike those of meteorology. Computers have made it possible to put data sets like this under a statistical microscope, and Inglehart and Welzel have made very good use of this potential. This is a very long way from Aristotle or even Max Weber, and it certainly looks scientific to me.

## Some implications and questions

Whatever they may in fact think about the changes in values, it is sure that Inglehart and Welzel stop with an examination of what is unquestionably the most attractive and exciting prospect that these bring in view, the spread of genuine and effective democracy. For an American, at least, it does not take very extreme devotion to self-expression values (as here defined) to see this as very good news.

It is not unalloyed, however. It is clear that while democracy probably is in fairly near-term prospect for China, say, it is not for most Islamic societies. In particular, the results Inglehart and Welzel report have depressing implications for the prospects of the costly American effort in Iraq. Unless a way can somehow be found to make water flow uphill in terms of values, Iraq will have to find its own way to stability, prosperity, and finally democracy. Their work implies that those who fear that continued American presence in strength does at least as much harm as good are likely to be right. Certainly, American policies in Iraq ought to be reexamined very carefully in the light of Inglehart and Welzel’s findings, combined with the best and most intensive survey data that can be obtained.

More broadly, there are two large clouds on the horizon of sunny progress toward spreading prosperity and democracy; they bear the names of *demographics* and *economics*. Demographically, postindustrial people seem to find having children inimical to their self expression. Of all the major postindustrial societies, only the United States is sustaining its population through re-

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<sup>29</sup> My parenthetical reservation will raise some eyebrows among physicists, but suppose that someday we could compute the quantum wave function for a human nervous system.... Even on less grandiose levels there is still much that more exact knowledge of neurophysics might be able to do for the social sciences. We seem clearly to be moving in that direction.

production, and the relatively high fecundity of recent immigrants is a major factor in U.S. population maintenance. If this does not change, self-expression values could prove to be self-extinguishing.

While we have no values surveys from the 1920s and 1930s, it is certainly clear that the engine of democratization was thrown very sharply into reverse in the late 1920s and through the 1930s, and that this was largely in response to the socioeconomic toll of the Great Depression. While the ultimate causes of the Depression are still debated among economic historians, there is broad consensus that structural problems in the American economy contributed powerfully to deepening and extending it. Today the U.S. economy remains a major engine of world growth and the intractable structural problems of its inexorably growing government debt and steadily worsening balance of payments surely are cause for concern. The data and arguments presented by Inglehart and Welzel make it seem very plausible that a major world economic downturn could bring a strong turn from democracy toward totalitarianism, with all the dangers that would portend.

We must also ask ourselves, it seems to me, about the long-term stability of systems built on values of human choice. The ancient Greek democracies all collapsed quite quickly. Nor did the Roman Republic prove robust, even though it did endure longer. It was in part their knowledge of this discouraging history that made even the more advanced of thinkers in early-modern Europe wary of democracy as a feasible governmental form. In America the Founders took many measures to constrain democratic tendencies, and steps toward making American government more effectively democratic have come haltingly and with concerns and reservations on the part of many.

Many might dismiss these concerns as the product of self-interested survival motivations on the part of the haves. But there are issues that cannot so lightly be set aside.

We really have two widespread models of human choice in action: democratic political structures and market economic structures. That the two have generally progressed in tandem is clearly consistent with the Inglehart-Welzel theories about human development.

Free markets and democracy are both approved of by nearly everyone in our world. Indeed, some governments that boggle at democracy – like China’s – nowadays express approval of markets. As Inglehart and Welzel observe, however, those who express support for the principle of democracy do not always show great enthusiasm for the practice. This is if anything even more true of free competition.

Not long ago we were assured that the energy-trading activities of Enron Corporation were a exemplar of the power for general good of market freedom. Then it transpired that they better exemplified the power of greed to override scruple. Serious examination of the history of markets shows clearly that there have been constant and widespread attempts at self-interested manipulation. The only effective way to constrain these has been through close policing. The fall of communism and the spread of democratic politics and market economics in the 1990s did bring a period of millenarian enthusiasm for “self-regulation,” but the scandals of the early 2000s seem to suggest that this particular millennium did not after all arrive in 2001.<sup>30</sup>

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<sup>30</sup> John McMillan, [\*Reinventing the Bazaar: A Natural History of Markets\*](#) (New York: W. W. Norton & Co., 2002).

This is not to say that people invariably behave with ruthless selfishness in market situations. In fact, cooperative behaviors often occur in such settings. But these seem to come despite rather than because of the structure of free choice that the market provides. Indeed, there is empirical evidence that simply to study market economics tends to lead people to shift toward more selfish values.<sup>31</sup>

Do these problems with markets proceed simply from a residuum of excessive survival consciousness, from Scrooges whose moral development was stunted by childhood deprivation? Did Enron's pitiless extortion of Californians have its roots in the socioeconomic deficiencies of Kenneth Lay's and Jeffrey Skilling's families of origin? Do economics students generally come from especially straitened backgrounds? If so, we can perhaps hope that further surges in the tides of economic fortune will eventually raise all to a level of self-expression – but not self-interest – that will obviate concerns about the integrity of markets and governments alike.

Until this comes we can hope that governments will regulate markets to keep them operating in the public interest. But how will governments themselves be regulated? If we cannot count on the stability of markets in the absence of external regulation, can we really count on that of unregulated popular government?

## Conclusion

This is a major study by any standard. How well it will stand up to scrutiny and challenge over the long run remains to be revealed, but I can see nothing that would cast it in serious doubt. Inglehart and Welzel make a very strong case that for the most part socioeconomic conditions drive popular values and that these values in turn drive the institutions of government. If you take a subsistence agricultural society and industrialize it then, after a time, its people will turn away from a sense of impotence in the face of divine forces toward a confidence in society's potential to master nature and itself. If their government already had elements of democracy then they will probably embrace more democratization, based in mass parties and movements. But if they lack a democratic tradition they may well turn to the apparent strength and security of mass totalitarian government.

Moreover, if this industrial society becomes rich enough and sophisticated enough to move into an era of postindustrialism – an era in which industry produces more and more wealth with less and less direct labor and more and more people find secure and well-paid work in directing and facilitating industry through skilled mental labor – further values changes will come, but in a different direction. These postindustrial humans will grow suspicious and even hostile toward authority and more concerned about freedom for themselves and others than further enrichment. This, in turn, will bring overthrow of any totalitarian institutions and both a broadening and deepening of democracy and popular commitment to democracy. But it will be democracy of autonomous individuals rather than disciplined masses.

While socioeconomic changes are strongly correlated with movements of values in particular directions, the starting point – the basic values of the particular culture – continues to matter for

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<sup>31</sup> Robert H. Frank, [\*What Price the Moral High Ground?: Ethical Dilemmas in Competitive Environments\*](#) (Princeton: Princeton University Press, 2004).

as long as anyone has so far measured. Values associated with religion in particular tend to persist, even if formal mass religious institutions fade. Hopes and fears of spreading “westernization” or “Americanization” are unfounded. Democracy and freedom are not western or American exports – they arise anew wherever socioeconomic conditions and values favor them, always rooted in the local society.

But there is no “end of history” here. The process can work equally well in reverse and serious regression in socioeconomic conditions can bring dark consequences for values and political institutions.

All this is not simply theory, buttressed perhaps by a sprinkling of selective historical analysis. These processes have been observed and statistically measured in a great many societies, worldwide, over the past 15 years and more. There is good evidence that the flow of cause is from economics to social values to politics, and not much if at all in the other direction. And while we lack much information for periods before 1980, what we do know suggests that these processes have operated in pretty much the same way for many decades, and even longer. In short, this seems to be something that is deeply embedded in the nature of human society.