Andre Gunder Frank. ReORIENT: Global Economy in the Asian Age . Berkeley: University of California Press, 1998. xxix + 416 pp. ISBN 0520214749, $15.95 (paper).

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We got it all wrong. Every social scientist frequently has that sneaking feeling that perhaps the world is not constructed as he or she thought it was. Most of us then have a drink and a good night's sleep, go back to the university the next day, and keep on teaching along the well-trodden path of our predecessors. If we are wrong, we are at least in well-respected company. But Andre Gunder Frank is not like the rest of us. This maverick of many decades has now written a book in which his iconoclasm reaches a new climax. That Samuel Huntington and Walt Rostow got it wrong won't surprise the reader familiar with Frank's earlier work on dependence and the development of underdevelopment. But Adam Smith, Karl Marx, Werner Sombart, Max Weber, Arnold Toynbee, William McNeill, Fernand Braudel, and even Immanuel Wallerstein are now added to that list. Andre Gunder Frank also sees fatal errors in his previous work on dependency theory.

All these godfathers of social development study are guilty of Eurocentrism. They all look for explanations for the rise of (Western) Europe after the Middle Ages against a background of stagnating Asian societies. All these assumptions are wrong according to Frank. In that period Europe did not rise compared to Asia. On the contrary, Europe only ascended in the 19th century due to a (temporary) decline in Asia. Frank interprets this as one of the many seesaw-like centuries long swings of rise and decline within a millennia-old world-system. Not Europe (which after all was only a minor part of the world-system) but this world-system should be the start of our understanding of social development. This is, according to Frank, the unity in the diversity. The original sin of social historians and theorists is that they start at the wrong place. Like the proverbial drunk they look for their keys only under the lamp post. The further away from Europe, the less data are available for the social scientist. Because unknown is not unimportant, Frank visits some oases in this Oriental data desert. Although in his opinion the world-system is much older and consists not only of economic relations, Frank "limits" his analyses to the global economy between 1400 and 1800. He discusses global trade, the flow of silver from America to Asia, the comparative productive strength of Europe and Asia, and the theoretical implications of all his findings.

Frank studies global trade by describing some of the trade going on in different macro-regions in the world (The Americas, Africa, West Asia, the Indian Ocean, Southeast Asia, and the rest of Asia). Frank assembles the jigsaw puzzle of the global economy by starting at the edges, but these pieces don't belong together. There was trade going on

within those macro-regions. Frank gives some anecdotical evidence for that, although he does not make solid comparisons, and we have to place a lot of trust on Frank's judgments on the facts. But the trade between these regions is neglected. Frank's heap of anecdotical evidence of early regional trade camouflages the virtual absence of world trade. Only the trade in silver, porcelain, and silk had a global reach, hardly the foundation for a substantial world-system.

Frank's arguments about trade have another important flaw. The lavish descriptions of trade practices say little about their importance for the local economies, which is essential for the existence of a meaningful world-system. For instance, on page 97 Frank underpins the importance of trade within Southeast Asia in particular and global trade in general by listing some large trade-dependent cities in Southeast Asia. But long distance trade is only one basis for sustaining an urban population. Market towns and administrative centres dependent on the agricultural supplies of their immediate hinterland can also be very large. Large cities at the shores of world seas don't necessarily indicate the existence of important trade across these oceans.

Frank's conclusion on global trade is that Asia and especially China dominated the global economy. His observation that Europeans had a much less important role in East Asian trade than China is correct. But because he fails to compare trade within Asia to trade within Europe (see for instance p. 184), his conclusion that Europe was peripheral to the world-system is false. In that period Europe and Asia were largely external to each other. If China was central, it was only central to Asia, not the world as a whole. Only the flows of silver to which Frank devotes a whole chapter indicate China's dominance. This chapter on the important monetary connections in the world after the discovery of America is the most convincing part of the book. But the importance of this trade is questionable. The importance of the inflow of luxury consumer goods, not usable in the real economy of everyday life, was limited in Europe. China may have been central in the global economic network, but that network was unimportant - especially when compared to the present (twentieth-century) connections. Europe was perhaps marginal to the pre-1800 global economy, but that global economy was marginal to the parts it very weakly connected.



Frank's assertion that Europe and Asia were then, and are now, part of the same unified world-system is problematic on other grounds. Frank makes too little distinction between the worldwide connections of the past and the present. Frank delimits his world-system with an all-or-nothing criterion. The present world-system emerged, according to Frank, when the social development of different parts of the world started influencing each other. This stretches the world-system so much in space and time that it becomes a meaningless concept. If almost all of human history takes place within the same world-system, the explanatory power of the world-system for the worldwide differences in social development is greatly reduced. Frank also ignores the changing nature of worldwide contacts. These have intensified in impact and incidence. These changed from weak

incidental, mostly cultural, influences to strong mutual economic relations upon which the everyday functioning of each economy depends. For instance, Frank makes very plausible that the introduction of maize farming from America by way of Europe to China stimulated Chinese economic development from the 17th century onward. But this one-off is hardly comparable to, for instance, the present integration of the automobile industry in which the assembly plants of the global firms use parts produced in many different countries. By heaping all worldwide relations into one world-system one implicitly denies the importance and explanatory power of extending and intensifying relations within the modern world-system.

The world is a much more complex and multilayered place than Frank acknowledges. This book review can only outline a better solution where Frank's ideas are integrated with those of Immanuel Wallerstein ("Societal Development, or Development of the World-System," International Sociology, 1986), Fernand Braudel (The Perspective of the World, 1986), and Christopher Chase-Dunn and Thomas Hall (Rise and Demise: Comparing World-Systems, 1997). Frank's global history is the starting point. The historic examples of worldwide influences are important and have been too much neglected. Chase-Dunn and Hall make a very useful distinction within this global complex between four different exchange networks: information, prestige goods, political-military power, and bulk goods. The first two have the widest spatial range, while the latter two have the deepest impact. There is also a succession from culture, through politics to the economy. Most social development can be explained from within the last of these networks. When the borders of these four networks converge, then a world-system emerges. For instance Frank's book sketches the shadow of such a world-system in East Asia between 1400 and 1800. Much more recognizable is the European-based world-system as studied by Wallerstein, which emerged after the Middle Ages through the incorporation of the Americas. Only after a second phase of expansion in the nineteenth century did it overwhelm the whole world. Braudel agrees that this European-based world-system has a logic of its own, but this structure also hides a sequence of several different networks. These, which I provisionally label "world-formations," have cores located in different places. Not only their spatial, but also their economic and political, organizations differ within the broad logic of capitalism. During a period of stagnation a new world-formation arises out of the remnants of the old one. Crises mark the beginning of a process of reformation: one coherent world-formation which developed at a leisurely pace is going into decline. At the same time another world-formation is being born amid much hesitation and delay (Braudel, p. 85). These were subsequently centered on Venice, Genoa, Amsterdam, England (London), and the United States. The stumbling rise of East Asia in the last decades is perhaps the beginning of a new world-formation.

The parallel Frank draws between the rise of East Asia in the world-system during recent decades and its strong position before 1800 is not only debatable on theoretical grounds, but also on empirical grounds. Frank underpins the dominant position of Asia in general and China in particular in the pre-nineteenth century global economy not only on their presumed centrality in trade, but also by claiming that East Asia's economy was more advanced than Europe's and was developing at a faster rate. Frank's assertion that these

societies' technology was more advanced and their manufacturing superior to the Europeans is generally correct, even though his comparison between Europe and Asia is once again unbalanced. For Europe, he stresses that although university knowledge was developing, it lacked links with production. However, his discussion of technology in Asia focusses on the many sophisticated goods they produced.

More problematic is his analysis of the development of Asia compared to Europe. He asserts that it was the Asian economies and societies that were developing while Europe was lagging behind. Population figures, which are the only useful global comparative data indicating social and economic development in this period, clearly show, according to Frank, that in "the period from 1400 until 1750 or even 1800 population grew much faster in Asia, and especially in China and India, than in Europe" (page 171). This is one of the few instances in which Frank's evidence can be checked. Frank's own data is augmented by Bairoch, one of the scholars with whom he does not disagree. Because Frank frequently stresses that the Asian share of world population increased, the following figure uses this claim as the basis for comparison.



Figure: Changing Shares in World Population

Source: Frank, p. 168, and P. Bairoch , J. Batou, and P. Ch?vre, The Population of European Cities: Data Bank and Short Summary of Results (Gen?ve: Librairie Droz), 1988, p. 297.

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Frank is wrong to compare Europe as a whole with Asia. Even the staunchest Eurocentrists stress the rise of Western Europe. The figure shows that the regional differences within Asia are quite small compared to the dramatic differences within Europe. The biggest contrast between growth and decline are not found between Europe and Asia, but within Europe. This is evident in the figure, even though the data from Bairoch give much lower population estimates and growth figures for Europe as a whole in that period (see also the table). Especially Southern Europe stagnated, while the United Kingdom rose at a much stronger rate than India or China. So the period of what Frank sees as an "Asian age" in fact a Northwest European age. But by only looking at Europe as a whole, this rise is hidden by the relative decline of Southern Europe. This was however only the case between 1600 and 1750. Only between 1700 and 1750 did the United Kingdom decline relative to Asia. So Frank's assertion that in "the period from 1400 until 1750 or even 1800 population grew much faster in Asia, and especially in China and India, than in Europe" (page 171) is only true for just a part of the period in just a part of Europe. Frank's entire book is based on this kind of selective use of

evidence. Frank only looks for confirmation of his thesis. He does not test clear-cut questions against the data, but only uses the information and opinions of others which suit him. All others are ignored.

However critical one must be of Frank's arguments, it is an inspiring book to read. If he were correct, we would have to clear all the classics on social development from our bookshelves and replace them with his latest book. Clearly, I don't think that is necessary. I have put it on my shelf just below the classics. His book shows the importance of studying areas not in isolation, but in their developing relations with the rest of the world. Good horizontally-integrative macro history indeed needs to place our European-based world-system in a wider perspective. However, I think that Andre Gunder Frank's argument is only partly right. He is, however, very convinced of the correctness of his book.

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Table: Changing Shares in World Population (1400 = Index Value of 100)

| Year | 1400 | 1500 | 1600 | 1700 | 1750 | 1800 | | |
|---|---|---|---|---|---|---|---|---|
| Europe (Frank) | | | 100 | 128 | 152 | 154 | 155 | 170 |
| Europe (Bairoch) | | | 100 | 113 | 126 | 115 | 112 | 120 |
| United Kingdom | | | 100 | 119 | 138 | 154 | 149 | 183 |
| Netherlands | 100 | | 132 | 192 | 191 | 158 | 145 | |
| Southern Europe | | | 100 | 106 | 118 | 98 | 94 | 97 |
| Spain | 100 | 105 | 111 | 87 | 80 | 88 | | |
| Asia | 100 | 95 | 100 | 108 | 113 | 111 | | |
| India | 100 | 98 | 113 | 131 | 141 | 139 | | |
| China | 100 | 93 | 96 | 111 | 120 | 125 | | |

Note: The index is based on the share in world population of each country or region for each year. It expresses the change in shares of world population as compared with the year 1400. For instance, China's population in 1400 was 112 million, of a world total of 373 million. In 1800 China's population had increased to 345 million and that of the world as a whole to 919 million. Thus, China's share of world population increased from 30.03 percent to 37.54 percent. Therefore, China's share in world population increased by (37.54 - 30.03)/30.03 = 25.01 percent, and its index changed from 100 to 125.

# Huntington\u2019s Clash Revisited

Samuel P. Huntington. The Clash of Civilizations and the Remaking of World Order. New York: Simon and Schuster, 1996. 367 pp. ISBN 0684844419, $14.00 (paper); ISBN 0684811642, $25.50 (hardcover).

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## Introduction

Although eight years have now passed since the fall of the Berlin Wall, no satisfying or widely accepted label has yet been pinned to what is still, unhelpfully, referred to as the post-Cold War era in international relations. This is not, however, for lack of effort. Scholars, journalists and pundits have proposed an astonishingly diverse range of paradigms for comprehending the structure and dynamics of contemporary world politics. Some pessimists foresee a return to the unstable multi-polar rivalries characteristic of the first half of the twentieth century (Mearsheimer 1990). Perhaps even more alarmingly, others predict a spreading erosion of state power, accompanied by lawlessness, resource scarcities and general social decay (Kaplan 1996). Optimists, on the other hand, argue that the end of the Cold War will usher in a bright new age which, in contrast with the bloody and tragic experiences of the past, will bring about the obsolescence of major war (Mueller 1990), the spread of democracy (Russett 1993; Brown, Lynn-Jones and Miller 1996), the deepening of interdependence (Rosecrance 1986) and perhaps even a figurative end of history (Fukayama 1992).

This great debate recalls and often reprises earlier periods of intellectual ferment that followed perceived turning points in international relations, such as the years after the First and Second World Wars. Such debates are necessary, important and often provocative. They serve to enliven scholarly and popular discourse by forcin g participants to reexamine basic assumptions and contemplate fresh perspectives during periods of fundamental change. Inevitably, however, these grand intellectual clashes also give rise to ungrounded speculation, overdrawn claims and a good deal of plain hype.

Samuel Huntington\u2019s new book, The Clash of Civilizations and the Remaking of World Order, exemplifies both sides of this coin. The decades of the Cold War were characterized by a cautious, narrowly conceived and relatively static brand of thin king about international relations. Huntington\u2019s reconceptionalization of international politics, while not as dramatic a departure from traditional realism as some have suggested, nevertheless represents a new level of intellectual risk-taking by one of the field\u2019s most prominent mainstream spokespersons. It also, however, illustrates a

truism well known to reformed gamblers: big bets, whether in poker or in academics, often fail. Such is the fate of Huntington\u2019s ambitious but seriously flawed effort to chart a new direction in thinking about the future of international relations in the post-Cold War period.

## Summarizing the Argument

Huntington\u2019s post-Cold War paradigm can be summarized as a series of straightforward propositions:

1. The principle political cleavages of the post-Cold War world will center along the fault lines dividing civilizations from one another. Culture, rather than ideology or national identity, will serve as the main litmus test for distinguishing friend from foe.

2. Although states will remain the central actors in world politics, the alliance behavior of states will be largely dictated by civilization politics. Unity among countries sharing the same overarching cultural values and commitments will rise while conflict across civilization boundaries will grow. Fault line wars along the borders where civilizations come into contact will threaten to expand through a phenomenon Huntington refers to as "kin country rallying." While states, therefore, will continue to serve as the active agents of international politics, civilizations can be considered the principle units of analysis.

3. Although the clash of civilizations will be multifaceted, the most important dividing line will separate Western societies from the other six or seven civilizations identified by Huntington. Western cultural penetration and political domination has prompted resentment and heightened attachment to non-Western cultures in other parts of the world. At the same time, the declining relative economic and demographic power of the West will bring growing political challenges to Western hegemony on the part of rising states representing rival civilizations.

4. In response to these circumstances, Western societies should strive to strengthen and unify their own civilization against possible internal or external challenges to core values and interests. At the same time, the West should shed its universalistic pretensions by forswearing efforts to transform other societies into a Western mold or meddling in conflicts that do not directly threaten vital Western interests. Peace, should it prove possible, will rest upon the maintenance of a stable balance of power among the core states of rival civilizations.

The following discussion evaluates these propositions at both the theoretical and empirical levels. The theoretical structure of Huntington\u2019s argument raises several important questions: What are civilizations and how can we identify them? Will underlying trends in the internatonal system, including modernization, globalization and democratization, lead to convergence or divergence among states? Is the West, taken as a whole, entering a period of decline as compared with competing civilizations? How does

Huntington\u2019s new paradigm relate to traditional realist thinking about international affairs? In addition to these broad, overarching issues, it is also important to ask how well Huntington\u2019s argument performs in helping to explain a number of recent empirical cases, such as the Bosnian conflict, the Persian Gulf war, and the growing ties between China and the Middle East. Finally, this review concludes with consideration of the policy implications flowing from Huntington\u2019s perspective.



## Defining and Identifying Civilizations

The problems begin with Huntington\u2019s concept of "civilization." Civilizations are defined as social entities that serve as the most encompassing objects of political and social identification short of the human species itself. The most important defining feature of a civilization is the unifying culture that it represents. Culture is, however, an indistinct and multifaceted concept. What are the core elements of a culture? Huntington relies most heavily upon religion, although not in a consistent fashion. Language, ethnicity and a common history are invoked in some cases but not in others. In general, Huntington offers no standard criteria for identifying civilizations or distinguishing them from one another.

The elusiveness of culture as an organizing principle for understanding possible cleavages in international politics is evident in Huntington\u2019s classification scheme. The West is basically defined as Europe and its former settler colonies, such as the U.S., Canada, Australia, New Zealand, etc. Yet Latin America, conquered, settled and colonized by Europeans, is treated as a separate civilization all its own, even though most Latin Americans speak Spanish, Portuguese or English and worship a Christian God. The Slav-Orthodox world of Russia, the Ukraine and portions of the Balkans is also treated as a distinct civilization, despite its close proximity to the rest of Europe, its history of interaction with the countries to its West over many centuries and the fact that its people also embrace a branch of Christianity.

In his original Foreign Affairs article (Huntington 1993), Huntington designated China, along with a number of nearby smaller countries who have been influenced by its culture, as Confucianist. Perhaps belatedly realizing that hardly anyone in China now refers to themselves as a "Confucianist" and that China has spent most of the past century in rebellion against its own traditional culture, Huntington resorts, in his book, to the even more ambiguous label of "Sinic" to designate this part of the world. Huntington regards Japan as a unique civilization all by itself, despite the heavy influence of China in Japan\u2019s history and culture and Japan\u2019s adoption of Western-style political institutions over the past half century. Huntington is typically vague about the particular cultural features that ostensibly distinguish Japan so uniquely from other civilizations.

The Islamic world, stretching from North Africa and the Middle East to parts of South and Southeast Asia, is defined solely by a common religion. Profound differences in

language, geography, ethnicity, history and tradition apparently count for little within what Huntington portrays as a near monolithic Islamic world. India is treated as the core of a separate Hindu civilization, yet countries whose people embrace Buddhism are denied civilization status. Finally, Huntington does not know what to do with the cultural diversity and fragmentation of Sub-Saharan Africa, effectively and quite unsatisfactorily classifying these countries as constituting only half a civilization.

What should be clear is that this motley collection of arbitrary cultural entities do not constitute "like units" that can be treated as distinct but isomorphic players in world politics. If we unpackage and disaggregate the concept of culture, it quickly becomes apparent no civilization is culturally pure, unique or homogenous. Religion, language, history, tradition - each overlaps, underlaps and intertwines within and across Huntington\u2019s civilization categories in hopelessly complex ways. In an age of globalization, in fact, cross-cultural borrowing and penetration have accelerated in ways that render rigid distinctions less and less meaningful. This does not mean, of course, that culture is irrelevant to understanding politics at either the domestic or international levels. But it does suggest that such investigations must address the subtle and complex nature of such linkages and that the place to begin is at the micro level rather than with misleadingly broad stereotypes.

Convergence or Divergence?

In seeking to decipher the underlying forces shaping the post-Cold War world, many observers have focused on three trends: the rapid speed of economic modernization in some parts of the developing world, the deepening of international interdependence (or globalization) and the spread of democratic political institutions. For most, these tendencies portend a more hopeful future of growing peace, prosperity and cooperation. Modernization and globalization together serve to increase economic welfare and pave the road to a more secure and peaceful world. The mutual benefits of growing trade and investment have a pacifying effect on state behavior. The accelerated circulation of ideas, information and people enhances mutual understanding and leads, over time, to a growing convergence in values, institutions and interests. The spread of democracy, for its part, serves as a hedge against reckless or expansionist foreign policies and enhances mutual trust among societies that embrace similar political principles.



Claims for the pacifying effects of modernization, globalization and democratization have generated considerable debate among international relations scholars. It may prove true, as some argue, that early formulations of these hypotheses will be found too simplistic in their underlying assumptions and too hopeful in their projections of the future. At the least, further refinement and qualification will undoubtedly prove necessary. Yet considerable research already suggests that the assertions outlined in the previous paragraph contain more than a kernel of truth.

Huntington, however, attempts to turn these arguments upside down. Far from enhancing peace and cooperation, modernization, globalization and democratization, it turns out, plant the seeds of heightened civilizational conflict. According to Huntington, modernization and Westernization are entirely distinct. A society can modernize without changing its core values. Indeed, Third World modernization is typically accompanied by an anti-Western backlash. The enhanced resources brought about by the modernization process are then put at the disposal of a political agenda hostile to the West.

The growth of interdependence leads not to convergence but instead to the heightened awareness of differences. Only when brought into regular contact will people who identify with contrary value systems come into conflict with one another. Indeed, interdependence may spark resistance and hatred when it takes the form of cultural penetration of one society by another representing incompatible beliefs and values. For this reason, the backlash against interdependence will lead states to reorient their political and economic ties, where possible, toward countries that share basic cultural traits in common with their own. In coming years, economic interdependence will tend to cluster within civilizations while exchanges across civilizations will become increasingly shallow and precarious.

Huntington acknowledges that a shared commitment to democracy may well help to cement friendly ties among Western countries. But the spread of democracy to non-Western societies simply provides an avenue to power for religious fundamentalists or indigenous cultural movements that often embrace values far removed from those characteristic of Western democratic societies. The foreign policies such parties subsequently pursue lead to increased conflict with the West.

In short, Huntington suggests that modernization, interdependence and democratization lead not to convergence and increased cooperation among nations but to growing divergence and civilizational conflict. To understand why Huntington\u2019s contrarian views are unconvincing, it is worthwhile to examine his case for divergence in greater detail.

Modernization

Huntington does not dispute that modernization, in the form of economic development and enjoyment of the benefits of science and technology, serves as a near universal aspiration across all civilizations in today\u2019s world. Yet he treats modernization as strangely divorced from culture. Modernization, Huntington tells his readers, does not equate with Westernization. The West is unique and what makes it so unique is a set of cultural values, norms and beliefs that were largely in place long before the West itself modernized under the guise of the industrial revolution. Other societies, Huntington argues, will seek to emulate the West in their pursuit of modernization and the accompanying enhancement to wealth and power that go with it. But this process will leave the underlying cultural characteristics of such societies untouched.

This is a sweeping and untenable claim. It is true, of course, that important elements of present day Western culture can be traced back prior to the dramatic scientific, technological and economic changes of the past two centuries. It is demonstrably untrue, however, that the latter phenomena have proceeded without leaving their own fundamental mark upon the evolution of Western culture.

Nor does it seem likely or possible that modernization will fail to produce significant transformations in the culture and values of societies presently undergoing rapid economic development. Moreover, the cultural consequences of modernization may have something in common across societies. One recent study of values and norms in countries around the world offers evidence that, while there do indeed exist distinct cultural groupings that might be thought of as civilizations, the direction of change in values over time is consistent across all civilizations. The authors attribute this finding to the ongoing and pervasive influence of modernization in all parts of the world (Inglehart and Carballo 1997).

Interdependence

It is true, of course, that the penetration of Western cultural symbols into non-Western societies, combined with a history of Western power, domination and exploitation over other peoples, has often sparked movements aimed at combating external influences and reasserting traditional values and norms. Yet it is far from clear that such movements are generally successful in their aims. Huntington overlooks the fact that cultural penetration occurs only where there is a demand for it. While traditionalists in some societies rail against bluejeans, rock music, Western fast food, Hollywood movies and other cultural imports, these very challenges to older cultural traditions persist and grow only because others in the same society - often the young - choose to embrace them. Contrary to Huntington\u2019s view that cultural traditionalists are gaining strength in much of the non-Western world, traditionalism is in most places on the defensive and losing ground.



In rejecting the idea of cultural convergence, Huntington considers only one possible form that convergence might take, namely, the triumph of Western culture. This is, indeed, an unlikely (and undesirable) prospect. But convergence may not mean the victory of one culture over all others, but instead a process of mutual borrowing, leading to a gradually progressing, though never complete, synthesis across cultures. In this version of convergence, it is not only non-Western societies that are transformed by their contact with the West (as they are), but the West itself which is similarly altered in substantial ways. The multi-cultural movement in the U.S. and the growing impact of immigration on European societies provide examples. Rather than withdrawing into a cocoon, it seems more likely that most societies will seek ways to adapt to a multi-civilizational and increasingly interdependent world. In few societies will this process be free of strain and conflict. Individuals and groups will clash over what sort of adaptations

are necessary or desirable and how fast they should be made. But the underlying process itself appears irresistible.

Interdependence, of course, rests upon economic as well as cultural forces. Huntington assumes that culture trumps economics. In doing so, he underestimates the powerful role that material interests play in driving forward and defending links of interdependence. Huntington acknowledges that self interest will prompt continued economic exchanges across countries. But he suggests that these exchanges will increasingly take place as a regional basis among countries sharing similar cultural commitments. Trade and investment across civilizational boundaries, will shrink proportionally as compared with regional trade. Similarly, political efforts to build preferential trading blocs will succeed only when they follow, rather than cut across, cultural lines.

For most countries, trade confined to civilizational boundaries offers a poor substitute for a more global and diverse set of trading partners. Most countries belonging to non-Western civilizations are developing countries that depend heavily upon export revenues. Whether these exports consist primarily of raw materials or manufactured products, the principle markets for such goods lie in the industrialized countries of the West. While trade among developing countries will likely grow over time, continued dependence upon trade with the West will rule out the development of closed civilization blocs in the economic sphere for many decades to come.

Although Huntington claims that multilateral economic liberalization cannot succeed among countries of varied cultures, the opposite conclusion is closer to reality. Huntington unreasonably dismisses the substantial accomplishments of multicivilizational economic and political organizations such as the Association of South East Asian Nations (ASEAN) and the Asian-Pacific Economic Cooperation (APEC) forum. Unconvincingly, he explains away the North American Free Trade Agreement (NAFTA) by suggesting that Mexico now aspires to transform itself from a Latin American country to a smaller version of the United States. This treats the passing rhetoric of Mexican political leaders far too seriously. Most significantly, Huntington entirely ignores the success of the World Trade Organization (WTO), a global trading agreement that encompasses countries from every civilization. Business is still business and profit is still profit, whatever the language and whichever the god to whom traders and investors direct their prayers.

Democracy

Democratization, Huntington claims, also leads to divergence, as electoral systems are easily highjacked by anti-Western cultural traditionalists. Democracy is not, however, an empty procedural shell that exists in abstraction from the cultural values of the surrounding society. A country that has embraced and established genuinely democratic institutions is likely to be one that has already moved a considerable distance toward the underlying values (also held, but not monopolized, by the West) that place democracy in esteem. The spread of democratic institutions presupposes a degree of convergence in associated values, norms and aspirations. The actual practice of democracy, in turn,

reinforces some values while undermining others. Both the inputs and outputs of democratization, in other words, themselves reduce the cultural distance across societies that follow the democratic path.

The record thus far, in any case, does not support Huntington\u2019s assertion that democracy enhances the likelihood that a country will turn against the West. With some exceptions, Western ties with Third World countries typically improve substantially in the wake of democratic transitions and Third World democracies are much less likely to adopt anti-Western rhetoric and foreign policies than non-democracies.

The Decline of the West?

Huntington\u2019s claim that the West has peaked and is now entering a phase of relative decline vis a vis other competing civilizations appears overwrought, at the least. Only Huntington\u2019s "Sinic" civilization, centered around China, clearly appears on the ascendance relative to the U.S. and Western Europe. Africa remains hopelessly mired in poverty, political fragmentation and ethnic turmoil. Increasingly, much the same can be said of India. Latin America has only recently begun a weak recovery from a "lost decade" of debt and economic recession. Japan appears to have peaked in the late eighties. For much of this decade, its economy has been stagnant and its politics hobbled by paralysis. Moreover, Japan\u2019s political and military clout remain limited. The Soviet Union is no more. Russia and the successor states that Huntington identifies with the Orthodox-Slav world will take decades to recover from the wreckage of political and economic collapse.



Although Huntington cites the demographic surge of the Islamic world as a source of strength, this same indicator could be seen in a different light as a source of weakness. Moreover, the wealthiest states of the Islamic world, namely the major oil exporters, have witnessed steep declines in their export revenues as the real price of oil continues to decline. The Persian Gulf war revealed the West\u2019s vast military superiority over the Islamic world, as even Iraq, its most formidable conventional military power at the time, found it impossible to mount serious resistance to U.S. and allied forces. Indeed, though Huntington is correct to note that the West has often found itself in conflict with parts of the Islamic world over recent years, he ignores the fact that is has been the West, not its Islamic rivals, who have typically prevailed in such contests.

Even China\u2019s potential threat to the West is easy to exaggerate, despite its size and recent record of rapid economic growth. China remains a relatively poor country. Average incomes are less than one tenth of those in the United States. Only thirty percent of the population is urbanized. Moreover, China\u2019s ability to sustain rapid economic growth faces serious obstacles in the years ahead: significant food and energy shortages, the persistence of a large, inefficient and money-losing state-owned sector of the economy, infrastructure bottlenecks, growing environmental problems, and social strains

caused by the unevenness of economic progress between prosperous coastal regions and backward inland regions.

China\u2019s recent growth in military spending follows a decade of severe neglect toward defense needs during the eighties. Much of China\u2019s increased defense budget has gone to meet rising personnel costs rather than new weapons procurement. The quality of China\u2019s military technology is poor. China\u2019s huge, labor-intensive land army remains ill-trained and poorly equipped. Naval and air forces, while improving, are still inadequate to project power much beyond China\u2019s own borders. Moreover, China\u2019s rate of growth in defense spending has been matched or exceeded by most of its neighbors in East Asia. China is probably two decades away from possessing the warmaking potential to seriously challenge the military dominance of the U.S. and its allies in the Pacific region. For all of its problems, the demise of the West has been greatly exaggerated.

## Comparisons with Realist Theory

Perhaps more than anyone else working in the field of political science, Huntington has in the past insisted on the importance of political institutions. For most of his career, Huntington has been regarded as a realist. In international politics, realists focus on the struggle for power among autonomous and self-regarding states. Yet Huntington pays little attention to states or other types of political institutions in The Clash of Civilizations. Has Huntington, in his reincarnation as a cultural determinist, abandoned the realist principles that have guided him through so much of his intellectual career?

The answer is no. With one important revision, Huntington\u2019s new view of the world is very much like his old one. World politics is still a zero sum game played among relatively unitary actors caught up in a never-ending struggle for power imposed upon them by the insecure conditions of an anarchic world. The major difference between the old Huntington and the new is that the unit of analysis has shifted from states to civilizations. The billiard balls are larger in size and fewer in number, but they still careen around the realist billiard table in the same old fashion. Realist concepts such as balancing and bandwagoning still play a central role in Huntington\u2019s analysis. Huntington\u2019s efforts to provide realism with a cultural veneer do little to answer or obviate the increasingly potent critiques that have been leveled at realist thought in recent years. Instead, he merely succeeds in overlaying a realist view of the world with an even more problematic cultural gloss, creating a hybrid approach that is arguably more vulnerable than either taken separately.

## Cases

Much of the empirical evidence cited by Huntington contradicts, rather than supports, his thesis. His strongest case is the Bosnian conflict. Here, indeed, deadly cleavages developed along the fault lines among three of Huntington\u2019s civilizations. The

breakup of the former Yugoslavia pitted Muslim Turks, Slavic Serbian Orthodox Christians and Roman Catholic Croats against one another. Yet little else about this tragic conflict conforms to Huntington\u2019s expectations. Muslims often serve as fanatically anti-Western bogeymen in Huntington\u2019s work. Yet at the beginning of the war large numbers of Bosnian Muslims, far more so than either of their Christian rivals, defended the supposedly Western values of tolerance, democracy and ethnic and religious pluralism.

Nor did the Bosnian war give rise to extensive civilization-rallying among kindred states. Aside from occasional stalling tactics, Russia provided precious little support for its Slavic brethren in Serbia and eventually committed troops to a Western-led peacekeeping mission. Bosnia\u2019s Muslims welcomed the sympathies and the modest trickle of weapons offered by several Islamic countries. But the Bosnian government continued, despite repeated disappointments, to look to the West for its principal salvation.



The tepid support given the Bosnian Muslims by the United States and Western Europe stemmed less from cultural aversion than from fear of being drawn into an unwinnable quagmire. Indeed, media reports and public opinion surveys suggest that cultural differences did nothing to prevent most Europeans and Americans from drawing the generally correct conclusion that the Muslims were the victims of a systematic and horrifying campaign of "ethnic cleansing" organized by Christian Serbs and, less thoroughly, their sometimes allies, the Christian Croats.

Huntington offers Saddam Hussein\u2019s efforts to rally the Arab Muslim world to his side in his confrontation with U.S. troops as another recent example of how national conflicts can be transformed into civilization conflicts. The Persian Gulf conflict, however, shows just the reverse. While Hussein did indeed "get religion" after his army invaded Kuwait and tried to portray himself as a defender of Islam against the West, the salient point is that this strategy failed miserably. With a few exceptions, governments in the Arab world fell in behind the U.S.-led strategy for expelling Iraqi troops from Kuwait. Although Iraq attracted some popular sympathies in the Arab world, Arab opinion was divided and Hussein\u2019s hopes that mass support for his cause would lead to the collapse of those governments who supported Operation Desert Storm proved futile. Beyond the Middle East, governments representing the entire span of Huntington\u2019s array of civilizations joined in condemning Iraq\u2019s aggression and in supporting political, economic and even military sanctions. It would, in fact, be difficult to find another instance where such a broad and culturally diverse coalition of nations came together in support of a military response to aggression.

Huntington discerns the beginnings of a nascent Sinic-Islamic alliance aimed against the West. He bases this perception upon evidence of Chinese arms sales to Pakistan and several Islamic Middle Eastern countries, as well as a presumed convergence of negative attitudes on the part of each civilization toward Western values and their penetration of

these societies. If arms sales were the principal measure of an alliance across civilizations, then it would make much more sense for Huntington to posit a Western-Islamic connection, since the U.S. and Western European countries have long served as the primary peddlers of weapons to a variety of Islamic countries, including, on occasion, those led by governments generally thought hostile to the West. On the other hand, it makes little sense to portray Chinese arms sales to Pakistan, for instance, as evidence of an incipient Sinic-Islamic alliance against the West when Pakistan has long been a close client of the United States.

It is, of course, true that Chinese interest in and ties to the Middle East are growing and will likely continue to do so. This has little to do with a common cultural antipathy toward the West, however, and much to do with China\u2019s escalating need for foreign oil imports, chiefly from the Middle East. This is the same motive that prompts so many other countries, Western and non-Western alike, to build political and economic ties to states in that oil-rich region. The cultural character of Chinese and Middle Eastern societies are simply irrelevant. Indeed, if culture were the principal determinant of relations between China and the Islamic world, then one might expect mutual hostility given China\u2019s poor treatment of the Muslim minority in its western provinces.

Policy Implications

Huntington rejects the notion that the coming clash of civilizations should be accompanied by a Western holy war against other cultures. Indeed, he warns, wisely in this instance, against the temptation to assume that Western culture is, should be or can be universal. Huntington does, however, urge unity within the West against forces from both within and without that would attempt to undermine the West\u2019s willingness or ability to defend its own values. Huntington tells us that the growing strength of some non-Western civilizations, particularly Islam, stems from their increasing sense of unity and purpose. In response to unwelcome Western pressures, groups within these societies have sponsored campaigns designed to purify their civilizations and promote a return to the roots. Huntington implies that the West can flourish only if it is willing to do the same.

Not only must the West gird itself to meet expected challenges mounted by non-Western civilizations in other parts of the world, but it must also reject or purge itself of those elements within its own midst who call for multiculturalism, relativism or serious critical appraisal of the West\u2019s own flaws and deficiencies. Given Huntington\u2019s ungenerous assessment of the multicultural movement, one suspects that his project as a whole is colored by a nostalgia toward a mythical past of Western, and particularly American, cultural homogeneity and unity of purpose. While many Western values are indeed worth defending, their survival does not depend upon a defensive response to perceived threats from without or within. Indeed, the future health of the West rests more upon its ability to engage in healthy self criticism, to provide space for previously marginalized voices, to learn from the successful ideas and practices of other societies and to embrace change and evolution as a necessary and often desirable response to shifting circumstances. Circling the wagons is an act of desperation.

## Conclusions

With little subtlety, Huntington concludes his book by offering an apocalyptic vision of another world war, this time pitting the core states of competing civilizations against one another. Ironically, however, this frightening scenario begins not with a fault line conflict across civilizations but with an intra-civilizational conflict between China and Vietnam over control of the South China Sea.

This choice merely underlines an empirical weakness in Huntington\u2019s presentation. To sustain his thesis, Huntington must not only show that conflict often occurs along the fault lines among civilizations, but that these kinds of conflicts are considerably more common than those among groups or states belonging to the same civilization. This is a difficult, if not impossible, claim to substantiate.

Take East Asia, for instance, where Huntington\u2019s global war scenario initially centers. The Sinic civilization grouping includes China, Taiwan, Vietnam and Korea. Yet there is precious little unity within this cultural complex. For almost fifty years, Koreans have remained bitterly divided and engaged in a tense armed standoff that once gave way to outright war. The fact that mainland Chinese and Taiwanese are cultural cousins has produced little in the way of genuine progress toward reconciliation and reunification. While embracing many Chinese cultural imports, the Vietnamese have resisted Chinese political domination throughout their history. The two countries remain serious and distrustful rivals to the present day, despite similar ideological leanings. More broadly, some of the bitterest and most lasting conflicts often arise among peoples who share much more in common in cultural terms than either does with the outside forces that sometimes come to their aid.

The superficial appeal of Huntington\u2019s thesis is considerable. The premature and unsustainable euphoria that accompanied the end of the Cold War has faded. In its place has arisen considerable frustration and disappointment with a world that remains complex and ridden with conflict. A world-weary pessimism is now in vogue. Huntington\u2019s vision of global disorder fueled by a clash of incompatible cultures is perfectly attuned to the present mood and plays skillfully upon the insecurities that plague many in the West.

Periods of transition, such as the present, commonly give rise to considerable uncertainty and pessimism. Prophets of doom and gloom find a ready audience. Fortunately, however, the underlying trends in the present international system, including the aforementioned spread of modernization, interdependence and democracy, do not justify such a dire outlook.

Nevertheless, perceptions do matter. Should policy-makers and publics base their expectations and actions upon Huntington\u2019s bleak predictions, then the danger exists that such prophesies could prove self-fulfilling. Perhaps the lesson for social

scientists is that otherwise laudatory stabs at intellectual boldness should be tempered by a sense of responsibility.



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One of the persistent challenges for contemporary historiography of science is the problem of why three great ancient cultures (China, India, and Egypt) display, independently of one another, a similar pattern with respect to science. The pattern is one of "aborted discovery " in each of them in spite of the availability of talents, social organization, and peace - the standard explanatory devices furnished by the sociologies of science on which that historiography relies.

Almost a decade ago, Janet L. Abu-Lughod's Before European Hegemony (1991) made two points that are of critical import in understanding the above challenge and how the publications under review may be of interest to world(-)systems scholars. One was that the fall of the East was a necessary precondition for the rise of the modern world(-)system and that since "the East had already substantially 'fallen' before the Portuguese men-of-war appeared in the Indian Ocean," then "no special 'virtue' inhered in the conquerors ..." (p. 260). The second of Abu-Lughod's points was that in understanding the rise of the West, we should focus not on the Portuguese takeover of the Indian Ocean zone but on the Spanish incorporation of the New World. Without detracting from the achievements of Fuller and Harding, I think it would be fair to say that their contributions follow the path so succinctly sketched by Abu-Lughod with respect to tracing the roots of modern science.

Science and Is Science Multicultural? share a common theme in the sense that both are concerned with debunking the age-old myth of European superiority and the uniqueness of science to Europe. The two authors approach the task in very different ways, however, and this reviewer makes no pretence at being able to comprehensively encapsulate the intricacies of either author's reasoning within the pages provided here. Nevertheless, I would like to focus on two broad themes that in my view constitute important moments in both discussions: European science as a co-production of Europe's interaction with other cultures, and the place of science in contemporary understanding of the world (public understanding of science). These themes have become increasingly important as the myth of a science that is the unique invention of Europe has come under attack from the margins (feminist and postcolonial) and the center (social studies of science). A second and not unimportant reason for the increased attention to these questions is provided by Samuel Huntington ("The Clash of Civilizations?", Foreign Affairs, 1993), who contends that

With the end of the Cold War, international politics moves out of its Western phase, and its center-piece becomes the interaction between the West and non-Western civilizations and among non-Western civilizations. In the politics of civilizations, the peoples and governments of non-Western civilizations no longer remain the objects of history as targets of Western colonialism but join the West as the movers and shapers of history. [p. 23]

It is these discourses (feminist, postcolonial, and social studies of science) that form the point of departure for Fuller and Harding. Harding begins with a concern about integrating the insights of postcolonial and feminist criticism of received understandings of science and the universality of the knowledge claims produced from this process. For Fuller, the initial concern is with public understanding of science in the light of recent sociological critiques which demonstrate the social and cultural embeddedness of the process of knowledge production and the claims that emerge from such a process. Despite their divergence in point of departure, these two writers are both grappling with the "legacy of Thomas Kuhn." By this, I refer to the post-World War II tradition of treating modern science as a "historical, sociological, cultural and political phenomenon." This body of work has revealed several invaluable insights and has both helped to uncover as well as make problematic a satisfactory resolution of the issues on which Science and Is Science Multicultural? focus.



Science takes the reader from initiatives such as Science Week in Britain, which is a government effort to demonstrate to the public the fruits of science, to the thorny question of "what is science?" and finally to the view of Western science from outside. This involves Fuller's gazing at the practice of science from the vantage points of Islam, Japan, and a report purportedly written by Martian anthropologists. This approach is a pedagogical demonstration of the old adage of "practicing what one preaches" in that if we take seriously the insight that our understanding of science is determined by our situatedness, then the view from a different location ought to reveal different insights into the same process. Harding retraces and expands on some of the more fundamental questions such as the role of rationality in science and what constitutes objectivity in the light of postcolonial, feminist, and postmodern contestations of traditional understandings of these concepts. Put differently, she provides insight to the reader as to the "why" of Fuller's exploration of different standpoints from which to view science. Although my use of the term "standpoint" to describe Fuller's different perspectives is a loose one, I think it is justified if only as a tool to underscore the complementarity of Fuller's and Harding's contributions.

Harding is first and foremost preoccupied with the problem of how to correct the worst aspects of Europe's Eurocentric views on science through informing it with that of other accounts. In this sense her objectives are similar to Fuller's in that he too is concerned with bringing another perspective on Western science to the forefront of the discussion. Whereas Fuller sees this task as a part of an effort to improve public understanding of

science, Harding's interest lies in saving what she sees as key European concepts, such as rationality and objectivity. Harding does not tell us why these concepts or their European versions are central or why they are worthy of preservation. More importantly, it is unclear whether the different critiques of Western science can be satisfactorily addressed through this approach. One sometimes gets the feeling that Harding's position is too much like that of a supervisor faced with a fairly well developed critique of mainstream theory from a clever Ph.D. student. Rather than push the student in the direction of developing this critique to stand on its own terms vis a vis the Received View, Harding's approach is to show how such a critique may be integrated without losing the central concepts of the Received View. This approach, while in line with the Kuhnian account of how science progresses, assumes fundamental agreement on the part of all parties that the subject to be saved - in this case the concepts of rationality and objectivity - should be saved. Harding however, argues that such agreement is not necessary since her account is not intended to be a universal one but merely one position from which the Western observer could read science. This raises the issue of standpoint epistemology, a point to which I will return presently. I would like, however, to leave Harding for a moment and turn to some aspects of the testimony Fuller brings forth when he gazes at science from other standpoints.

One insight that Fuller gleaned from the Martian anthropologists\u2019 report is that human faith in science is superstitious, given the widespread public ignorance as to the nature of this enterprise and the belief among practicing scientists that every scientific achievement is an advance towards the "Truth." Here Fuller connects the discussion to what I believe is his central concern in this book, i.e. "the public understanding of science." On this issue, he poses two main questions: "what is the public view of science?" and "can an enriched understanding of science that takes into account other perspectives on science contribute to informed public understanding?"

Fuller's argument is that science has superseded religion in the public's minds' eye, but whereas religion had been able to hold the attention of its audience for centuries, the congregation of science - after only a few decades of worship - has started to experience a loss of faith. At the risk of extending the analogy too far, it would not be unfair to posit that science faces a dilemma similar to that encountered by the Catholic Church when demands were made for Mass to be said in the language of the congregation rather than Latin. Just as using the language of the congregation was initially read as a process of demystification that would in turn threaten the authority of religion, so too can one argue that sociological accounts of science are undermining of its authority.

Rituals such as Science Week are designed on the assumption that the public presentation of a glowing array of black boxes labeled as "achievements of science" would be enough to reassure the public that their tax money is well invested. "Would a public informed of the mundane reality behind the production of such black boxes be willing to continue to fund their production on the same basis as it currently does?" Fuller believes that the answer to this question is yes. Judging from the science wars, many scientists think otherwise. Fuller further believes that a public informed of the fact that science is not a uniquely European product but a process that has over time appropriated and borrowed

knowledge from other cultures would also be willing to continue to support science. While I share Fuller's optimism about the public's willingness to pay for science, I would like to play devil's advocate here and raise two points. The first is an alternative reading of the potential impact on public understanding of science. The second is to raise the issue that at the core of all these discussions is a genuine concern with the problem of the political accountability of science. This accountability has several other dimensions apart from those represented in the publications under review. In an attempt to broaden the discussion I will shortly sketch out some of these and their relation to the problem at hand. An alternative reading: both Fuller and Harding are arguing, and quite rightly so, that it is about time that the public understands that Western science is not an exclusively European invention. They both show in different ways how the achievements of Western science have been the result of interplay between the West and other cultures. I doubt very much however, whether such a subtle account of sc ience will capture the imagination of the public. Instead, I would like to pose that the response will be similar to that faced by world systems and dependency analyses when they showed that the view that modernization was a uniquely European effort was a myth. That is, the new evidence will sway a small percentage of the academic and maybe even the policy community, but the vast majority will remain untouched.



The power of the idea of science as a uniquely European achievement lies in its simplicity, its appeal to vanity, and its bolstering the image of the West as the benevolent winner that can now show others how to imitate its success. The more complex and accurate account has only one thing going for it - accuracy - and while this may be irresistible to scientists, I doubt it would have a similar impact on policymakers.

The public understanding of science is only one dimension of a larger problem which Fuller mentions in passing, i.e., the public accountability of science. Several observers have noted that we are witnessing a new era of demands for science to be accountable. In the 1960s, the movement for a socially and politically accountable science was most concerned that science should above all be non-oppressive and promote peace. The accountability of the 1990s is radically different and in many ways more layered than that which inspired, among other things, the social study of science and technology. Contemporary science faces two main types of account ability pressure: environmental and financial. The latter may be further subdivided into accountability to the taxpayer and the more narrow notion of user accountability. The second of these two is raised by Fuller, and I am in full agreement with his view that there is no reason why science should not be made to be accountable as any other activity that demands a share of the taxpayers' purse. Within this broad agreement however, there is a great deal to quibble over as to how this accountability should be implemented. Should the British research assessment exercises be the model or should we strive for some other type of evaluation mechanism? These issues have been and are still being debated elsewhere.

Fuller neglects, however, another dimension of the accountability drive which connects to both the ideal image of science and to the new image of science that both Fuller and Harding are striving to promote. Research councils, governments, and private enterprise have reached a consensus on the notion that scientific research should be conducted in such a fashion as to integrate the needs and views of users at every step of the process from project design to implementation. This is a great idea both in theory and in practice. It is also in keeping with some longstanding demands from several communities such as the social studies of science, the public, and last but not least radical scientists and some corporations (cf. the Lucas Aerospace cooperation experiment).

The recent wave of unalduterated enthusiasm for this practice, however, has raised some problems if not for the public at least for the scientists' understanding of science and the University, which has until recently had a monopoly on determining the rules of understanding for how science should be produced. Strangely enough, I think that it is in social science where the move away from a science done in private and results presented in public has had the most dubious impact. This is ironic. Some might call it poetic justice, since social scientists have been those most eager to have a participatory science.

This dubious impact manifests itself in cases where the new ideology of stakeholder/user/client participation in social science research leaves little room for the social scientist to reflect on the impact of his/her research on communities beyond the narrowly defined groups considered to be the community of interest to the project. In many instances, social science work robbed of this reflexive moment becomes a mere facilitation of policy or other goals. This type of work, while useful and in many cases necessary, puts into question the critical function of social science.

A further observation of the Martians' report is that the history of Western science is viewed as an obligatory passage point through which all aspiring cultures must go. On further examination, the Martians discover that this conclusion rests on a view of the history of science that necessitates a reconstruction of the events in that history so that they form one continuous episode. This is one of the seeds that gave birth to the discussion that now goes under the rubric of multiculturalism and science. Other distortions of the history of modern science of interest to this account include the invisibility of the other in the history of modern science. Put differently, received accounts of the history of modern science depict science as the unique achievement of the European (usually male) person. The debate about multiculturalism, particularly as it manifests itself with respect to the issue of why science developed in the way it did in the West as opposed to other cultures, is a strange one. The very term multiculturalism is baffling since it now denotes everything from a cultural relativist stance to a collective description of non-White cultures. It is as if having discovered cultural diversity, Eurocentric thought frames demand the creation of a new bipolar category, multicultural vs. monocultural, the "European us" and a "complex others." This performance of mental acrobatics takes on even more bizarre proportions when one considers some of the claims made in the pursuit of reclaiming an Islamic Science, Hindu Science, or even Afrocentrism. By this I refer to the fact that some of these accounts, in their efforts to point to the flaws in the Eurocentric construction of modern history of science,

themselves commit the same errors. A classic example is the way arguments for non-Western science get caught up in the issue of claiming priority which is a quintessential part of the Eurocentric moment in science.

Both Science and Is Science Multicultural? attempt with careful scholarship to stem the tide of excess that sometimes characterizes popular and even some academic attempts to do battle with Eurocentrism. Both accounts affirm that science is a complex social phenomenon that is at the very least a co-production of European and non-European ideas and materials. Harding's reading of postcolonial accounts traces the role of science in the "voyages of discovery" and the great enterprise of colonialism. Two aspects of this account that struck me most were, first, the - to use an anachronistic description - mission-oriented nature of science in the colonies. This contradicts the colonial history of science narratives about colonial science qua civilization of non-Europeans and substitutes an account which speaks of science as a process of the accumulation of knowledge necessary to displace and subjugate non -Europeans in space that was previously theirs. The instrumentalist leanings of colonial science also raises questions about the validity of another popular belief about modern science, which is science as a disinterested search for knowledge. Second, I was struck by Harding's synthesis of these concerns with the major battleground issues in post-Kuhnian philosophy of science, i.e., rationality, relativism, and standpoint epistemology. This is where Is Science Multicultural? reveals itself to be a potential candidate for classroom use. Harding's account is as insightful as it is pedagogical and her contribution, like Fuller's, is one that should be on the reading list for graduate courses this fall.

Graeme Donald Snooks. The Dynamic Society: Exploring the Sources of Global Change. London: Routledge, 1996. xvii + 491 pp. ISBN 0-415-13731-4, $24.95 (paper); ISBN 0-415-13730-6, $84.95 (hardcover).

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See also: Steven Sanderson\u2019s earlier review of this book in JWSR.

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This book is a veritable tour de force beginning with the establishment of the universe 15 billion years ago and the emergence of life on earth 4 billion years ago. It goes on to analyze the bio-social or socio-biological ascent of man and of human society over two million years and of the rise and development of civilization over the past ten thousand. The author offers a novel interpretation of the causes of the industrial revolution two hundred years ago, and stresses the demographic revolution of the past fifty years. The political payoff from all this and more is the author's recommendation to face the future global ecological crisis by generating a new technological paradigm shift, rather than giving in to Club of Rome type ecological limits to growth, whose existence the author denies. Snook's resolute and uncompromising materialism is out of step with all manner of past and contemporary idealist positions:
A major message of The Dynamic Society, namely that the driving force is provided by an overwhelming desire to maximize material advantage, is both distasteful and unacceptable to many people [especially] intellectuals [p. 13]. Ideas ... do not constitute the driving force. This position is diametrically opposed to the conventional wisdom. [p. 203]

The real life or motor force of this long and still ongoing process, the author is at pains to demonstrate, is economic -- or more precisely material/ist -- competition to use scarce resources for survival. The author himself refers to the simile of a great game of life on earth. Its chess board and the rules of the game represent the constraints of universal chemistry and terrestrial geology. However, man [sic!] makes himself as indeed does all life itself. They are not a given or a mere product of chemical or natural forces. For the object of playing the game of life for all players derives from the genetically internalized and selfish individual quest for material sustenance to permit survival. The open secret of this social process in The Dynamic Society is the economic competition with all other individuals which itself requires and generates rational biological and social choice among different combinations of "dynamic strategies" and tactics to permit material sustenance and survival within these physical constraints. Thus, Snooks appeals to the authority of Darwin -- and of the evidence! -- to argue that natural , including social, selection is itself [generated and driven by] economic competition among all individual claimants for the scarce material resources that permit survival. Social institutions are

only enabling derivative mechanisms. The idea that ideas or the intellectuals that formulate them move history is no more than the ultimate intellectual fantasy.

The author's tour de force includes a short history of time, plate tectonics, climatology, and the chemical conditions of life; the origin of the species and natural selection; on being human through competition and cooperation, selfishness and altruism; family life and gender in Paleolithic hunter- gatherer society and the political economy of Neolithic civilization; the wealth of nations and all world history. The author also discusses and disputes the geographical determinism of Eldredge and of Gould's Time's Arrow, Time's Cycle: Myth and Metaphor in the Discovery of Geological Time, the physical "supply-side" theses of Crawford and Marsh about The Driving Force of chemical reactions, of Dawkin's neo-Darwinist The Selfish Gene, and of the populationist determinism of the Ehrlich\u2019s Population Explosion, Ronald Lee and others. He challenges supply -side economics from Marx's Capital to Mokyr's Lever of Riches and modifies Keynes\u2019 demand side in The General Theory. He fundamentally disagrees with Hegel about the role of ideology and with Fukuyama on The End of History. Indeed, he rejects all ideological positions about "moral/political versus economic man"; but he also does battle with economists about homo economicus and with the "schizophrenic" internally contradictory position of Becker about "altruism, egoism, and genetic fitness" in A Treatise on the Family. And he challenges and rewrites all received economic history, especially The European Miracle [Jones] of Prometheus Unbound [Landes] in The Rise of the Western World [North and Thomas]. These allegedly lead to The Limits of Growth by Meadows and the Club of Rome, and support the thesis of the entire ecological/environmental movement, against which Snooks combats.

Snooks does not dispute all these authorities just for the sake of argument. He does so in order to demolish or circumvent the obstacles that all this received supply-side and ideological wisdom poses for the construction of a truly materialist demand-side theory for Exploring the Sources of Global Change in The Dynamic Society. For Snooks claims that these sources are endogenous materialism or materialist endogeneity, which generate the internal dynamic of all biological and social life. Snooks' exploration of this endogenous dynamic is designed to cover his bet on further technological change as the only way to confront the threatening Gordian ecological knot -- by cutting it through a new technological paradigm. Therein this book offers a wider basis for and complements Robert M. Adams' (1996) Paths of Fire: An Anthropologist's Inquiry into Western Technology. For that only reviews the "tunnel" history of the last five thousand years from Mesopotamia to the United States to support the plea for a U.S. government technology policy, which would probably be acceptable also to Snooks.



Snooks constructs a complicatedly simple model to explain endogenously driven social change. Decision making individuals, each acting during their own lifetime in a competitive environment that is subject to transformation whose rate of change is mostly much slower than a generation's life cycle, chose among available "dynamic strategies" to

maximize their material well-being. Snooks's short summary of these dynamic strategies is procreation, predation/conquest, generic/technological change, and symbiosis/commerce, and/or their combination in sets of such "dominant" and "dependent" strategies.

Snooks devotes a chapter to each of the dominant dynamic strategies. The first one is family multiplication. That was the dominant strategy for 99.9 percent of humanity's struggle to survive during the past two million years. Family units -- prior to the past fifty years -- with an average of five members that, however, may combine in bands of several families, use natural resources near them as gatherer-hunters. Cooperation within family and even band units is materially maximizing and therefore economically rational for the individual, and contrary to Becker (1991) and others is not a sign that altruism replaces competitive individualism within this social unit. Where and when foraging or gathering predominates, it is economically rational for women to have relatively more income and status. When hunting -- and a fortiori war -- predominate, the income and status of men rises. Family multiplication was the dominant economic growth strategy as family and larger group units migrated to open up new lands all over the habitable earth until land and other resources became too scarce to support this strategy any longer. That in itself "dynamically" generated new dominant strategies, which become socio-economically rational in turn.

The next two strategies are technological change and conquest. Indeed, adding hunting to foraging was itself also a technological paradigm shift. Another major one was the Neolithic agricultural revolution, which permitted the material support of far larger populations in smaller areas. Alas, not all or even most of the members of these larger population groups were able to enjoy as good a livelihood, and certainly not as much freedom and leisure as their foraging ancestors. Nonetheless, material wealth increased, although it became more concentrated in the hands of upper classes, who formed states mostly at the expense of their lower agricultural laboring classes -- and of their neighbors. Snooks's account does not altogether clarify how and why the rational action of "all men and women" led to adopting strategies whose cost for so many, including women, generated benefits primarily for the few.

For these Neolithic developments also created conditions in which conquest became economically rational. That is why Snooks says that civilization is synonymous with conquest. It became rational to pursue further economic expansion through conquest of neighboring societies and states. Some had also amassed wealth or controlled resources and trade routes that could be conquered and pillaged or otherwise productively incorporated into the spoils of the victor, for whom reliance on conquest strategy was not only rational ex-ante but ipso facto also post hoc. All settled wealth-producing agricultural and industrial communities and their states became magnets for conquest, not only by their other settled neighbors, but also by their herding nomadic ones. That institutionalized offensive and defensive war, its enormous infrastructural investments and other military and related political expenditures, and of course the political-military castes that came to specialize in these activities. Even so, under many circumstances and recurrently for a long time war and conquest was able to generate greater material income

and wealth for some at the expense of others. Snooks reviews the use of this strategy from antiquity in the Fertile Crescent, through classical Greece and Rome, but also in East Asia and in the Western Hemisphere to modern times. Conquest alone is however different from the other dynamic strategies: it is a zero sum game, which cannot itself directly generate more material benefit for all concerned. At best, it can and did stimulate others which can: further technological change used as a dependent strategy (e.g., to improve military hardware) and the next dynamic strategy -- commerce.

Commerce can increase the total material welfare of the trading parties in accordance with the classical economists' principles of absolute and comparative advantage, which Snooks accepts. Fortunately, he also recognizes "unequal exchange" in trade and is not so naive as modern "free traders" to claim that the benefits of trade are likely to be distributed equally as well. Unlike conquest, commerce is a positive sum game dynamic strategy, whose use however makes some more equal than others.

Commerce was initiated by state traders and private merchants already in early antiquity in West Asia, but then also in East Asia and the Western Hemisphere, thereby taking advantage of differences in the natural and social endowments among regions. For instance, ancient inter-fluvial Mesopotamian and Nile-straddling Egyptian bottom lands were good for producing food even in excess of local requirements and cotton for weaving textiles, but lacked timber and metals, which were available in highland Anatolia and even in the Levant. Snooks reviews the expansion of trade from there to the ancient Greek world, the Phoenicians and the Carthage they founded, to Rome which battled against it relying more on conquest than on trade, and to Constantinople, which survived much longer on its trading position. He then jumps to Venice, Genoa and Pisa to arrive at northwest Europe and its commercial "expansion" around the world, which alas Snooks reviews from a far too Eurocentric perspective. Contrary to Snooks (p.370), at the end of the Middle Ages Europe was not the center but entirely marginal to a world trading system. It is also not true that then "history turned to north-western Europe" (p.369); only historians did, and even they did not do so until the nineteenth century! Alas, even Snooks was taken in by them; and that still compromises his otherwise excellent analysis, as we will see further in my critique below.



The inequality in the benefits from commerce also contributes to political economic and social inequality among societies. That in turn combines with the exhaustion of the marginal benefits compared to the marginal costs of relying on other dynamic strategies, especially family expansion and conquest, but temporarily also of commerce. This combination of circumstances then made it economically rational for some -- in Western Europe -- to once again switch reliance among dynamic strategies, so that reliance on technology itself now became dominant. The result during the past two hundred years was an "industrial revolution" in productive, commercial, and also military technology.

Therewith, Snooks arrives at the practical political policy payoff from his tour de force: It is not that this new technological capacity now does or threatens to exhaust the physical and natural capacity of the Earth to support life as we know it, as environmental ecologists try -- wrongly according to Snooks -- to persuade us. No says Snooks, it is the dominant dynamic strategy of technology that itself requires and will undergo still another major paradigmatic shift. For "materialist man is the same yesterday, today and forever. Only the underlying economic conditions facing him have changed" (p. 197). Human Dynamic Society can and will come up with the necessary and therefore economically rational dynamic strategy to face and overcome these new conditions -- if only its intellectuals will wise up and let it.

Already in his preface, Snooks stresses that
a major expression of the humanist spirit of this book is my argument that the dynamics of human society arises from the decision-making not just of small elites but of all members of society both male and female throughout the world.... It may come as a surprise to some that focus upon fundamental economic forces involving a central role for materialist man should lead to an uncompromisingly humanist outcome. [p. xiv]

So wide ranging a book is bound to tread on many toes. Cosmologists, geologists, climatologists, chemists, evolutionary biologists, psychologists, philosophers and others can and hopefully will speak or shout for themselves. I confine myself to reservations from my own perspective of world economic history and its implications for the age old battle between determinism and free will. I begin with the latter.

Snooks stresses the "humanism" of his uncompromisingly materialist reading and writing of evolution and history in which -- to recall Karl Marx and Gordon Childe -- "Man [sic!] makes himself," but not under conditions of his or (still less?) her own choosing. In this task, all members participate, albeit perhaps not equally. Intellectuals and their ideas do so much less than they would like to think. What about the ecologists among them? Are they likely to stem the "progress" to a new paradigmatic shift within the dynamic technology strategy? Not if there is anything to Snooks' central argument that the innate economic rationality of (almost) all materialist men and women will continue to generate Global Change in the Dynamic Society. But then why write this book to propagate these or indeed any ideas -- I asked the author by e-mail. His answer: Well, ideas do influence intellectuals. But why bother, I retorted, if intellectuals and their ideas themselves are mostly -- and thankfully! -- so useless, if not downright perverse, as Snooks and I "think"? Life is contradictory!

Snooks also enmeshes himself in other "minor" contradictions. What is "society," dynamic or otherwise? Well, Margaret Thatcher said, it does not exist; only individuals do! And ultimately in Snook's book, it is the rational decision-making action over their own lifetimes of each, or at least of almost all, individuals that drives Dynamic Society and its dominant strategies. But if it is the action of "all men and women" that does so, then "society" has been world-wide for a long time past, at least since the family multiplication strategy ran its course. Like Frank and Gills (1993) and Frank (1993), Snooks also identifies growth cycles of three to five hundred years duration. Unlike us,

he looks for different ones in China and Rome; and he concentrates his interest in Europe during the past millennium. That leads him to regard the fourteenth-century Black Death and the seventeenth-century population decline as exogenous events. We instead treat all these events, like the European cycle itself, as integral parts of Afro-Eurasian-wide cycles going back to 3000 BC, which we identify and date but that Snooks disregards.

Why then does Snooks argue that only Western Europe relied on technological strategy over the past millennium, which finally generated the paradigm shift to the industrial revolution about eight hundred years later? But such claims or analyses are not consistent with the global erudition of Snooks and the wide range of his book. Indeed the same may be said of the above cited book by Adams (1996), who is the premier archaeologist of world ranging experience. For when they come down to (literally) brass tacks, they restrict the purview of their analyses so much as to contradict their own more global models. In my view (Frank 1997) and also in that of Pomeranz (1997), this shortcoming is a legacy of Eurocentrism, which leads Snooks to disregard -- indeed explicitly to deny with regard to China -- the contemporaneous developments in Asia.



Like Snooks, we also see the source of the industrial revolution in rational marginal benefit/cost choices and response to resource factor price alternatives generated by changing economic and ecological circumstances. But we insist that these were global and not just British or West European and that it was the economic history of the whole world and especially of Asia that confronted the previously quite marginal West Europeans with new choices; and only quite unexpectedly and abruptly so around 1800. Therefore, only a truly global economic/ecological/demographic analysis can even hope to account for this paradigmatic shift of also global proportions. One of the strange internal contradictions in The Dynamic Society is that its (for world historians and others) exemplary globalism over the millennia is suddenly abandoned in favor of a still Eurocentric "explanation" of the latest global transformation. In my view, that constitutes a serious shortcoming.

Snooks' sudden abandonment of globalism also leaves less than clear or consistent to what extent conquest and commerce can be and still are rationally materialist dynamic strategies. A "minor" but interesting example is his rather extensive but inconclusive treatment of World War Two, which he does not find so rationally materialist after all. Yet, the Pacific part in which Japan, China, and the United States competed with each other very explicitly for economic resources and markets in a "Greater East Asian Co-Prosperity Sphere" receives short shrift from Graeme. Not so the Atlantic and European theater.

Snooks shows how economic competition generated military adventures that were consistent with the pursuit of rational materialist conquest strategies by the major Atlantic and European contestants, at least until 1943. Yet, Snooks insists again and again that Hitler was "irrational," and that the policy that he "imposed" on Nazi Germany was

equally so. His argument is based mainly on the horrors of the Holocaust and on Hitler's mistake to fight on two fronts. But what if he had avoided that strategic mistake or if the winter of 1941 had not been so severe, etc.? Snooks insists that in global materialist competition, the winner takes all. Then Germany might well have taken all the world's material benefits that the war bestowed on the United States in the \u2013 short-lived -- "American Century."

I have touched on no more than the highlights of Snooks' magisterial tour de force. Therefore, I have sought to organize their exposition in a more orderly fashion than the author himself, who goes into vastly more detail, but does so at the cost of jumping back and forth through time from one place to another. That also makes it a bit hard to follow his sophisticated and complicated attempt to boil the course of the Universe, the Earth, Life, Humanity, Society, and World History down to bite-size categories that he in turn combines into a "simple" model menu of self-generating and auto-transforming rational materialist choices. To help the reader follow his argument, Snooks also supplies a ten page alphabetized glossary of three dozen of these categories, for most of which he also invented the terminology himself. Moreover he cites 13 pages of references including over 300 items; and he or his publisher supply an index that runs between pages 455 and 491 of a very long and dense book. Although it concentrates on only .01 percent of the time frame that it covers, the diligent and attentive reader will nonetheless find this book more richly rewarding than the other 99.9 percent s/he is likely to read.

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David Hackett Fischer. The Great Wave: Price Revolutions and the Rhythm of History. Oxford U.P., 1996. 536 pp.
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In The Great Wave: Price Revolutions and the Rhythm of History, David Hackett Fischer explores the historical significance of patterns in the secular trend of prices to increase . As Wallerstein has imposed onto European history a geographical model of the world economy, as Arrighi has imposed a cyclical model of capitalist development, as Goldstein has imposed a cyclical model of war-making, now comes Fischer to superimpose yet another model onto history, this one focusing on price inflation.1

Fischer observes, over the past eight centuries, four major price revolutions -- steep rises in prices -- punctuated by periods of relative equilibrium in which prices remained stable or grew at a slower pace. Fischer calls this a pattern of "price waves". His aim is to relate the price waves to historical events. He demonstrates how historical contingencies affected the wave structure, and how the waves in turn affected social and cultural developments, thus constituting the "rhythm of history".

At first gloss, Fischer's approach appears cognate with other conceptions of economic cycles such as Kondratieff waves, Braudel's "secular trend", and various business cycle models.2 However, Fischer's waves differ from price cycles in both character and epistemic status. Price waves are "no more (or less) predictable than waves in the sea" (Fischer, 9). Fischer's waves differ from cyclical models in that waves are apparent on the surface of the data. The naked eye can see the wave pattern emerge when price trends over the past eight centuries are graphed. Cycles, on the other hand, are known through statistical inference, teased from the data through mathematical manipulations. Price cycles are regular, predictable, and of shorter duration than Fischer's price waves. Fischer's waves are far more variable than cycles in duration, magnitude, velocity, and momentum. They have lasted from 90 to 180 years, and are characterized by more irregularity than cycles.

The price wave, claims Fischer, is an historical fact -- not a theoretical model, and not an artifact of mathematical massage. The problem then becomes: what sense can we make of the wave? How does understanding the wave alter our conception of history? How might we modify our theoretical approaches to the historical development of capitalism, based on our new understanding of price waves?

Each wave begins with a long inflationary period. Fischer calls these the Medieval Price Revolution (1200-1320), the 16th Century Price Revolution (1520-1620), the 18th Century Price Revolution (1720-1820), and the 20th Century Price Revolution (1896-present). Price revolutions are followed by long periods in which prices remain relatively stable: Following the Medieval Price Revolution, the Equilibrium of the Renaissance. Following the 16th Century Price Revolution, the Equilibrium of the Enlightenment. Following the 18th Century Price Revolution, the Victorian Equilibrium.

Fischer holds that the four major price waves reveal commonalties in their structure. During the inflationary stage, populations grow while real wages fall. Returns to capital and land ownership increase. Social discord rises, as measured by indicators such as crime and illegitimacy. Governments experience fiscal crises, and revolution and wars become more likely.

During periods of equilibrium, however, real wages rise while returns to capital and land diminish. Crime and illegitimacy decrease, population growth slows, and governments experience more fiscal and political stability. There is a cultural florescence.

This interaction between the structure of price waves and historical events constitutes the analytical focus of the book. Fischer writes from the perspective of an historian, focusing on human experience rather than abstract numerical patterns. His book is articulate, ingeniously organized, and a pleasure to read. The core of the book is comprised of four chapters, one describing the story of each wave.

But Fischer is not a pure, ideographic historicist. Social scientists will find the book not only a fascinating empirical study, but also theoretically stimulating. Fischer evaluates seven competing theoretical explanations for the wave structure. He not only theorizes the causes and structure of the waves themselves, but also compares and contrasts competing theoretical explanations for a variety of outcomes related to price waves. These theoretical explorations are presented in a series of essays organized as appendices. Many readers will find the appendices the most valuable part of the book. And anyone interested in the topic will find Fischer's extensive annotated bibliography to be essential reading. Much of it references works in European languages that will be unfamiliar to English-only researchers.



Fischer conceives of price waves as an autogenous process whose engine of self-reproduction is driven by individuals' aggregated actions and expectations. In times of price equilibrium, real wages are rising while rents and interest rates are falling. Confidence rises. People marry earlier and have more children, increasing the labor supply. This reduces real wages and thus increases returns to capital. Aggregate demand grows more rapidly than supply, and so prices begin to rise.

As inflation begins to become apparent to everyone, individuals and institutions react in ways that induce yet more inflation: "The stock of money is deliberately enlarged to meet growing demand. Capitalists charge higher rates. Landlords raise the rent. Real wages fall further behind" (Fischer, 247).

Increasing inequality leads to more poverty and homelessness, straining social relationships and intensifying class conflict. Social cohesion diminishes, and consequently people begin making more claims on the state and paying less in taxes. This

leads to state fiscal crises. The growing hardships lead to despair, and pessimism spreads. Markets grow less stable. Production and productivity decrease or stagnate. Stagflation ensues. There is general cultural dissolution. Drugs, drink, and sexual infidelity become more common.

People lose the optimism that engendered the inflation to begin with. Widespread pessimism leads people to delay marriage and child-bearing. This reduces the labor supply, drives up wages, and reduces land rents. Inequality begins to decline and social solidarity starts to grow. As demands on state benefits fall, states become more stable and effective. Taxpayer resistance declines. Family and marriage become more possible and attractive. Domestic stability grows while bastardy decreases. But eventually, confidence leads to the usual problems, and the inflationary cycle begins once more.

There are major flaws in Fischer's presentation. First, he conflates two different types of inflation that each stem from different causes, and his theory fails to account for this divergence. One type of inflation results from a decline in the value of money relative to the value of other commodities. This type of inflation is caused by changes in supply and/or demand that alter the relative valuation between money and commodities. The second type of inflation results from the debasement of money. This occurs when the value of a given monetary unit of measurement is decreased by the government. In the past, this was accomplished by reducing the amount of precious metal in a given coin. Now, it is accomplished by increasing the supply of paper money.

The first type of inflation can easily span national boundaries and affect an entire world-economy. The second type is caused by state actions, and thus has more impact within national boundaries than beyond. When paper money is delinked from precious metals, its value becomes determined solely by state fiat. The consequence is that debasement becomes the only source of inflation. Inflation can now be contained within national boundaries.

The fundamental difference between the two types of inflation raises questions about Fischer's theory. In the first three price revolutions, inflation was driven by the decline in the value of money relative to other commodities. But the most recent price revolution has been driven by governments debasing their money. Indeed, inflation in the West since 1970 has been caused only by debasement. While the social disruptions consequent to each type of inflation may be similar, the causes are quite different. Is it possible to explain these two phenomena with the same theory?

The first type of inflation fits well into Fischer's theory. The value of precious metals relative to other commodities is clearly determined by aggregated individual actions in response to prevailing conditions. But when inflation is driven by state policy, the linkage between that policy and aggregated individual actions is less direct, and so Fischer's theory becomes less relevant. The fundamental problem here is that the first three price revolutions were driven by Malthusian processes, while the most recent is of a qualitatively different character.

There are also contradictions and lacunae in Fischer's linkage between his theoretical paradigm and his evidence. First, the rates of inflation vary considerably among historical periods. In earlier price revolutions, inflation was typically 1 to 3 percent per year. This is trivial compared to the 20th century experience, in which inflation rates greater than 70 percent occurred in several countries only last year. It becomes necessary to explain why modern economies can tolerate moderate inflation without experiencing the kinds of major social disruption that the same rate of inflation caused in earlier times. Second, we need to explain why inflation often spans national boundaries even in the modern era of floating currencies, considering that only state manipulation of the money supply can create "debasement" inflation. These questions highlight significant lacunae in Fischer's theory.

More damaging to Fischer's theory are the empirical contradictions. Crucial to his theory is the link between population growth and inflation, but this linkage only pertains until the 1820s. Population grew rapidly in Europe and the US during the later 19th century, yet prices remained stable, even deflationary during this period. Fischer's argument here is founded upon shifting comparisons that are highly questionable. For the 19th century, his empirical presentation describes a linkage between the growth rate of population and prices in England, which is substantively divergent from his theoretical link between population growth and prices.



For the 20th century, he shifts his comparison to prices in the US and world population. But prices and population growth within any Western European country would show an inverse relation during that period. There is no convincing rationale for comparing US prices and world population. This selective use of evidence to support the theory seems out of character with Fischer's generally impeccable scholarship.

There are also empirical contradictions to Fischer's theoretical link between rising prices and inequality. Inequality in Florence increases while prices remain stable between 1330 and 1427. Inequality in the US decreases while prices rise between 1910 and 1970. Fischer expects real wages to fall during inflationary periods, but this doesn't happen between 1946 and 1970. All of these contradictions between evidence and theory are found in Fischer's own text. Clearly, his theory needs refinement.

These theoretical flaws do not undermine the book's importance. The theoretical problems that Fischer encounters do not warrant dismissing the entire enterprise, for he presents compelling empirical patterns that deserve close consideration and analysis. While his theoretical explanation for the price wave needs improving, the existence of the price wave itself is an historical fact, not a theory. Analyzing the interaction between price waves and historical events is clearly a worthwhile enterprise. It is also worth exploring whether our understanding of the 20th century price revolution and its social consequences can be improved by studying previous inflations.

And so the book's theoretical weaknesses should not distract us from its significant contributions. It is a truism that all models are wrong, but some are useful. Neoclassical economists may reject Fischer's theory out of hand for being insufficiently axiomatic, and in places, wrong. But scholars of the modern world-system will find in Fischer an eminently useful heuristic model for analyzing the role of inflation over the long duree. Even those who dismiss Fischer's theory out of hand will find the book valuable. The footnotes, appendices, and extensive annotated bibliography alone make it essential reading for scholars interested in the history of the modern world-system. After reading Fischer, any theorist blessed with the grand ambition of explaining the history of capitalist development (or should I say "cursed"?) will feel compelled to address the questions Fischer raises. Analyzing price waves is an important task, for the social consequences of inflation affect all humans, not just the great Braudelian beasts who roam the shadowy top layer of finance capitalism.

Notes

1 See Arrighi, 1994; Braudel, 1992; Goldstein, 1988; Wallerstein, 1974.

2 Goldstein surveys most major theories of economic cycles.

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