Second thoughts: the last man in a bottle

Francis Fukuyama

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The seeds for "The End of History?" were planted in a conversation I had with Owen Harries on the sunny patio of the Beverly Hills Hotel, some time in the winter of 1987-88. This was the first time I had ever met this displaced Australian with great ambitions for a new and obscure journal called The National Interest; I was impressed by his energy and intelligence, and gratified to be asked to contribute.

The only problem was that I had nothing to give him. At that time I was working as a researcher in Soviet politics at the RAND Corporation; at some point later in 1988 I read a speech by Gorbachev in which he said that the essence of socialism was competition. I immediately called a political theorist friend and said, "If this is true, we've reached the end of history." He, knowing his Hegel, understood what I meant immediately. This observation became the basis for a lecture on the triumph of the West that I delivered at the University of Chicago the following winter, and then for the article I submitted to The National Interest. There was, of course, no respectable academic journal that would print an article with a title like "The End of History?", much less one that would feature it prominently and invite a variety of distinguished intellectuals to comment on it. Owen did, and the rest was, as they say, history.

I have been asked to reconsider and hopefully recant my End of History hypothesis at regular intervals virtually from the first month that it was published. I did publish a five-year retrospective in a volume edited by Timothy Burns that included some of the most thoughtful critiques yet published of the philosophical aspects of my book.⁠ Owen Harries' offer to publish a ten-year retrospective did, however, seem to be an opportunity too good to pass up, particularly in light of the fact that I had learned something in the interim, not so much about world politics, but about modern science. Hence the current article.

I will state my bottom line at the outset. Nothing that has happened in world politics or the global economy in the past ten years challenges, in my view, the conclusion that liberal democracy and a market-oriented economic order are the only viable options for modern societies. The most serious developments in that period have been the economic crisis in Asia and the apparent stalling of reform in Russia. But while these developments are rich in lessons for policy, they are in the end correctable by policy and do not constitute systematic challenges to the prevailing liberal world order.

On the other hand, the argument that I used to demonstrate that History is directional, progressive and that it culminates in the modern liberal state, is fundamentally flawed. Only one of the hundreds of commentators who discussed "The End of History" ever identified its true weakness: History cannot come to an end as long as modern natural science has no end; and we are on the brink of new developments in science that will, in essence, abolish what Alexandre Kojève called "mankind as such."

The Argument

In recapitulating my original argument, I refer readers not to the

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⁠ ¹ Burns, ed., After History: Francis Fukuyama and His Critics (Lanham, MD: Rowman and Littlefield, 1994).
article that appeared ten years ago in The National Interest\textsuperscript{2}, but to my 1992 book The End of History and the Last Man\textsuperscript{3}, which developed the article's themes in a more systematic way. Much of the initial debate over "The End of History" was a silly matter of semantics, with many readers not understanding that I was using "History" in its Hegelian-Marxist sense of the progressive evolution of human political and economic institutions. Not surprisingly, many of the most intelligent and perceptive early critics were Marxists who didn’t get hung up over my use of the term History, but challenged only my conclusion that it culminated in bourgeois liberal democracy rather than socialism\textsuperscript{4}.

The basic argument that History in this sense exists and leads ultimately to liberal democracy and capitalism can be stated briefly. There are two separate motors driving the historical process. The first is economic. What gives History its fundamental directionality and progressive character is modern natural science. Scientific knowledge about the world and the ability to manipulate nature through technology is cumulative; steam power and the computer chip cannot be uninvented once they are discovered. The progress of science and technology in turn creates a frontier of production possibilities and thus an economic order. Economic modernization is a coherent process; all societies, regardless of cultural starting points, must accept its basic terms of reference. And finally, markets are the most efficient drivers of economic development.

The second motor is what Hegel called the "struggle for recognition." Human beings desire not just material well-being; they seek recognition of their dignity and status on the part of other human beings, and this demand for recognition is the fundamental passion that underlies politics. The desire for recognition can take many forms, from recognition of one's gods or holy places to recognition of one's national identity within the community of nations. Modern politics is based on the idea, elaborated most fully in the German idealist tradition, that the only ultimately rational form of recognition is universal recognition of all human beings on the basis of their equal dignity as moral agents. A modern liberal democracy is simply a set of political institutions designed to secure these universal rights, which are today enshrined in documents like the American Bill of Rights, the Universal Declaration of Human Rights and the basic laws of most contemporary democracies.

The Three-Part Syllogism

If we move to a more practical realm of discourse, these ideas could be translated into public policy through a set of three interlocking propositions constituting a "democratic syllogism" underlying U.S. foreign policy over the past decade. The first proposition was that liberal democracies tend not to fight one another, and that existing democracies could improve their security by enlarging the so-called democratic "zone of peace." The correlation between democracy and peace has been debated with particular intensity in the past few years\textsuperscript{5}; despite

\footnotesize{\textsuperscript{2} Fukuyama, "The End of History?", The National Interest (Summer 1989).  
\textsuperscript{4} The New Left Review devoted an issue to "The End of History?" (May/June 1992).  
\textsuperscript{5} For some recent books on this topic, see Michael E. Brown and Sean M. Lynn-Jones, Debating the Democratic Peace (Cambridge, MA: MIT Press, 1996); Miriam Fendius Elman, Paths to Peace: Is Democracy the Answer? (Cambridge, MA: MIT Press, 1997); and Spencer Weart, Never at War: Why Democracies Will Not Fight One Another (New Haven: Yale University Press, 1998).}
the arguments that have been raised against it, I believe that this correlation still stands as one of the few non-trivial assertions that political science can make concerning international politics.

The proposition is most defensible if we keep in mind, first, that it is liberalism more than democracy that is the true institutional basis for the so-called democratic peace, and second, that there is merely a correlation and not an iron-clad relationship between the degree of liberal democratic consolidation and peace (the major counter-examples cited by critics all tend to involve countries with weak or incompletely developed liberal democratic institutions, like the antebellum American South or Wilhelmine Germany). Those who doubt this correlation need only look at the fact that the former Soviet Union and its Warsaw Pact allies in effect unilaterally disarmed themselves after 1989 on the basis of an internal change in regime type, rather than a change in the external balance of power, which according to the realist school of international politics should drive policy.

The democracy-peace correlation implied that democracy promotion would be an integral part of U.S. foreign policy. Even if the correlation did not exist, the United States on ideological grounds would tend toward a Wilsonian foreign policy, and so indeed the Reagan, Bush and Clinton administrations all made use of Wilsonian rhetoric and set Wilsonian aims for the United States. The differences between administrations lay less in whether to promote democracy, than in how to do so: Republicans tended to be a bit more hard-headed than Democrats in assessing where and under what conditions democracy might realistically emerge. But few administrations have been able to cleave to a strictly realpolitik line of the sort advocated by Henry Kissinger during the Nixon years.

The second proposition in the democratic syllogism was the view that the best means of promoting democracy was through economic development. The correlation between level of economic development (as measured by per capita GDP) and stable democracy is, after the democratic peace correlation, the second nontrivial generalization that can be made about world politics. The development-democracy correlation has proven to be more robust by the 1990s than it was when first laid out by Seymour Martin Lipset in the 1950s. Adam Przeworski has shown recently that while level of development does not affect the likelihood that a country will attempt the transition from authoritarian regime to democracy, it has a critical impact on the likelihood that democracy will be stable: above a level of $6,000 per capita GDP in 1992 parity purchasing power, there is not a single historical instance of a democratic country reverting to authoritarianism. Spain, Portugal, Greece, Taiwan and South Korea all made their transitions to democracy at or near this magical figure.

The development-democracy correlation had a number of policy implications. The first was that if a political avenue toward democracy promotion appeared to be blocked, as was the case for China after Tiananmen, economic development in itself could be expected to prepare the ground, over time, for greater pluralism, liberalization and eventually democracy. While Samuel Huntington’s theory of the

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authoritarian transition (i.e., that we ought to encourage economic modernization before political democratization) was never officially resurrected by the Clinton administration, many people had in the back of their minds the possibility that the pattern established by Spain, Korea and Taiwan might be repeated in other authoritarian but rapidly developing societies like China, Malaysia and Indonesia.

The third element of the democratic syllogism was the view that the best way to promote economic growth was to integrate a country fully into the liberal capitalist trade and investment regime. That is, countries would grow the fastest by lowering tariff barriers, ending subsidies, privatizing state-owned industries, opening up their internal capital markets to external capital flows, and the like. Development strategies that had been popular earlier in the century, like import substitution or state-led investment, were roundly rejected in favor of what came to be labeled, in the early 1990s, as the "Washington consensus."

There were, of course, disagreements over how best to implement this package of economic reforms, but the general idea that came to predominate in the early 1990s was some version of "shock therapy." The political logic behind this non-gradualist approach, particularly for post-communist societies, was that socialism and other state-centered economic policies had, for the moment, discredited themselves; there would be a momentary window of opportunity during which radical (and often painful) economic reforms could be enacted; and that it was therefore preferable to undertake them all at once rather than piecemeal before the window slammed shut.

This three-part democratic syllogism led to a coherent set of policies that explained how politics, the economy and international relations interacted, and how movement in one area was expected to promote movement in another. Liberalization of economic policy would lead to rapid economic growth, which in turn would lead to the development of democratic political institutions, which would then enlarge the democratic zone of peace and promote the security of those nations inside it.

There was, of course - and there still is - a large part of the world for which this optimistic scenario seems a distant dream. There are rogue states like Iraq and North Korea that are actively trying to overturn the democratic international order. Much of the Islamic world outside of Turkey for cultural reasons seems unable to adopt either liberal economic or political institutions; and sub-Saharan Africa has so many problems that its lack of political and economic development seems overdetermined. On the other hand, in the 1990s, there was a substantial part of the world - societies in Latin America, Asia and the former communist world - for which one could imagine the scenario working.

The Changing Critique

It is hard to believe that there is at this point any perspective from which "The End of History" has not been criticized, so often and so relentlessly has the thesis been attacked. In the early 1990s there was a great deal of speculation about alternative trends in world politics, trends that many observers felt led away from rather than toward liberal democracy. The most persistent worry concerned nationalism and ethnic conflict, a perspective understandable in view of the conflicts in Yugoslavia, Rwanda, Somalia and other hot spots. But other types of regime were seen as being potential rivals to liberal democracy in the contemporary world, including Islamic theocracy, Asian soft
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authoritarianism, or even a return to a neo-Bolshevism. The most articulate exponent of this point of view was Samuel Huntington, whose book The Clash of Civilizations is now regularly paired with "The End of History" in countless freshman courses on world politics as rival interpretations of the post-Cold War order. I do not want to rehash the criticisms that I and others have made of Huntington (who is, in any event, a friend and former teacher), except to say that I feel he seriously underestimates the integrating forces of economic modernization and technological change that will tend over time to blur the boundaries between civilizations and promote a homogeneous set of political and economic institutions among the world's most advanced countries. I also do not believe it is possible to have economic development without a certain degree of value change in a Western direction.

The developments of the second half of the 1990s have been in many ways more threatening to the End of History hypothesis than those of the first. I never argued, after all, that all countries would or could become democratic in the short-run, only that there was an evolutionary logic to human history that would lead the most advanced countries to liberal democracy and markets. The fact that some countries like Serbia or Iran stood outside of this evolutionary process was therefore not a serious counterargument. On the other hand, if the motor driving this evolutionary process was shown to be broken - that is, if any of the major links in the three-part syllogism proved to be false - then the idea that history was progressive would have to be rethought.

Anno 1998

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If one wanted to make this case, the late summer of 1998 was a good time to do it. First and foremost was the increasing degree of instability in the global financial system. The 1990s had opened with the liberalization of capital markets all over the world, and a flood of money amounting to hundreds of billions of dollars flowing from the developed world into so-called emerging markets in Asia, Latin America and the former communist world. The decade then saw four major currency crises in the space of seven years: the European crisis of 1992 when sterling came under speculative attack; the peso crisis of 1994; the Asian crisis that engulfed Thailand, South Korea and Indonesia in 1997; and the Russian crisis of 1998. (To this list we might now add the Brazilian crisis of 1999.) Following the Asian crisis, this money reversed course and headed for safe havens like U.S. Treasury bills; the flow became a tidal wave after the Russian default in August. This turbulence in short-term capital flows was devastating to the countries involved; Thailand, Korea, Indonesia and Russia all saw their national incomes cut in half in dollar terms in the space of a few weeks. Not only were investors on Wall Street no longer enamored of emerging markets, there was a backlash against globalization on the part of people in the countries affected by the crisis. In South Korea, the economic setback became known as the "IMF Crisis"; Malaysia's Mahathir reimposed capital controls and returned to a crude, anti-Western rhetoric; and even free-market Hong Kong intervened to prop up its stock market. Countries like China, which did not have a convertible currency, appeared to weather the storm best.

The second important development that occurred in mid-1998 was the fall of the Kiriienko government and the apparent end of the reformist period of post-Soviet Russian history. The seriousness of this development should not be underestimated: much
of the euphoria of 1989 centered around the collapse of communism and the apparent embrace of capitalist democracy by its heretofore greatest enemy. Prior to 1998, it was possible to believe that Russia was on a reform track, moving more slowly than Poland, Hungary or the Czech Republic, but nonetheless making progress in dismantling socialism and building the institutions of a working market economy and democratic political system. Western policymakers could tell themselves that even if Russian institutions looked corrupt and imperfect, there were at least powerful forces unleashed that would drive them in a reformist direction. Competition from newly privatized businesses and foreign capital would put pressure on inefficient state-owned enterprises to become more efficient; if they didn’t do so, there would be a general economic crisis leading to political pressure to finally bite the bullet and accept painful changes.

Today, it is hard to be confident that the simple passage of time will lead to either better democracy or market institutions in Russia. Clifford Gaddy and Barry Ickes have in fact suggested that the Russian economy, with all of its unreconstructed, large state-owned enterprises, is actually in a state of equilibrium and could go on for a long time without any pressure for change.9 What this means, in effect, is that the cultural obstacles to reform have proven insuperable: whatever the wishes of the Russian people at some level to join Western Europe, they, unlike the Eastern Europeans, do not have the social habits needed to create modern economic institutions and a market economy.

In 1998 there appeared to be other straws in the wind signaling an ideological shift. In contrast to the 1980s, when conservatives came to power in the major industrial democracies, parties of the Left now ruled everywhere: the victory of Gerhard Schroder’s Social Democratic Party in late 1998 made Germany the last major developed country to follow this trend. In the eastern half of Europe, former communists had returned to power in Poland, Hungary and the Baltic states, pushing out the new non-communist political actors that emerged after 1989. Even in the world’s oldest democracy, the United States, there was an apparent retreat from free-market principles as the U.S. Congress voted down Fast Track authority twice in 1997 and 1998, and gave in to protectionist pressures from the steel industry as the trade deficit ballooned.

The collective significance of these late-1990s events was greater than ethnic violence in the Balkans or Somalia earlier in the decade, to repeat, because they had implications for some of the central tenets of the democratic syllogism. They suggested that there was serious instability, not in some peripheral country, but at the core of the global trade and investment system, and that the development-via-globalization strategy promoted by Washington and international financial institutions like the IMF could lead to economic crisis rather than long-term growth.

Does this mean, then, that 1998 will be considered in retrospect as a watershed year, when the headlong rush toward globalization, markets and democracy was suddenly reversed? Will it mark the beginning of a long secular shift to the Left, or else toward some form of economic nationalism? Are we at the end, so to speak, of the End of History?

The answer to these questions is, in my view, no. It still remains possible that there is another shoe to drop, the result perhaps of a Chinese devaluation or an unanticipated

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blowup in the derivatives market, that will convert the current emerging markets crisis into a global economic depression. If that happens, all bets will be off. But barring such a disaster, it seems much more likely that the events of 1997-98 will represent the bottom of an economic cycle for the developing world, and that the End of History hypothesis will emerge at the other end not only unscathed, but stronger in many ways. We have, on the other hand, received a wake-up call to change certain specific policies. Neither market economies nor well-functioning liberal democratic political systems simply emerge of their own; they have to be built painstakingly, and it is clear that a good deal of the advice that Washington, the international financial institutions and the West more broadly have been giving out needs to be rethought.

The Inevitability of Globalization

For all of the hardship and setbacks suffered by Mexico, Thailand, Indonesia, South Korea and Russia as a result of their integration into the global economy, globalization is here to stay. There are three reasons for thinking this.

First, there remains no viable alternative development model that promises better results than globalization, even after the crisis of 1997-98. In particular, globalization’s chief competitor, the so-called "Asian development model", has been even more deeply discredited by events of the past decade. At the peak of the Japanese bubble economy in the late 1980s, everyone from American management consultants to Mahathir bin Muhammed was singing the praises of Japanese state-led development, in which a government planning agency oversees sectoral transitions through its ability to allocate credit. Today, with Japan mired in its deepest recession since the oil crisis, and with Finance Ministry officials being regularly carted off to jail, no one is about to advocate imitating Japan or trusting economic bureaucrats to manage growth.

More importantly, the economic crisis has demonstrated that, even for culturally distinctive countries in Asia, there is no alternative to democracy as a source of regime legitimacy. During the heyday of the "Asian economic miracle", spokesmen like Singapore’s former Prime Minister Lee Kuan Yew and Malaysia’s Mahathir argued that Asian values dictated a soft authoritarian form of government, in which freedom in the economic sphere would be coupled with paternalistic dictatorship in the political realm. Lee argued that this type of government was more in line with Asia’s hierarchical Confucian traditions, and that it reflected the consensus that existed in Asian societies favoring growth over the kind of rights-based polities typical in the West.

The economic crisis that hit Asia has demonstrated the hollowness of Asian soft authoritarianism. For all of his talk of Asian cultural distinctiveness, Lee never really had the courage of his convictions: his justification for continued authoritarian rule lay not in the fact that he held the “mandate of heaven”, but that his regime could deliver continuing high rates of economic growth. The problem with any regime that bases its legitimacy on economic performance rather than a more basic underlying principle of justice is that it is vulnerable in bad times.

The weakness of such regimes becomes glaringly evident if we contrast Indonesia and South Korea. All Indonesians understood that the Suharto regime was highly corrupt, and that the Suharto children in particular were making off like bandits. But no one was willing to rock the boat given the regime's record in raising living standards continuously since the 1960s. But whatever goodwill or tolerance the regime enjoyed as a result of this performance evaporated.
immediately the moment Indonesia fell into crisis: who needs a corrupt dictator, after all, if the greater part of the population is being pushed back into poverty? The legitimacy of the South Korean regime, by contrast, was based not on promises of economic performance but on the fact that it had established viable democratic institutions after 1987; indeed, it managed to elect the veteran opposition candidate and human rights campaigner Kim Dae Jung in the teeth of the most severe economic crisis the country has faced since the Korean War. While there was considerable social turmoil in Korea from the fall of 1997 on, no one contested the fundamental legitimacy of the system. Indeed, the usually combative Korean trade unions pulled back from confrontation because they faced not an oppressive military regime but a democratically elected president.

The second reason that globalization is unlikely to be reversed is that the Left has a much bigger problem dealing with the global economy than does the Right. This is because the political base of any party of the Left remains an essentially national one, while the problems of economic inequality that the Left seeks to remedy can today be addressed only at an international level, and require governance mechanisms that are extremely unlikely ever to be created.

In the contemporary global economy, capital has become much more mobile than labor. This puts great pressure on the real wages of low-skill workers in developed countries who have to compete against the millions of new low-skill workers who yearly enter the global labor market. Developed countries can either let real wages fall, as in the United States, or increase the social safety net and take the pain in the form of persistent high rates of unemployment, as in Europe. Ultimately, the only remedy for this is either to upgrade the skills of developed country workers (something more easily said than done), or to raise the wages and improve the working and environmental conditions of workers in developing countries. But no trade union or socialist party in the West can mobilize its base around a program dedicated to raising living standards in foreign countries; protectionism on a national basis remains the only valid rallying cry. And while the Left will (justifiably) push for the inclusion of labor standards and environmental issues on the agenda of the World Trade Organization, they face a daunting challenge: how does the world community force Vietnam, India and particularly China to address seriously any of these issues, particularly when these countries are teetering on the brink of economic crisis?

The third and final reason why globalization is not likely to be reversed has to do with technology. Contemporary globalization is underpinned by the information technology revolution that has spread phone, fax, radio, television and the internet to the most remote corners of the globe. Some observers have tried to argue that today's world economy is no more globalized than that of the late nineteenth century, when international trade and investment as a percentage of world output were at levels comparable to those of today. But this seriously underestimates the communications revolution and the kinds of cultural changes it has brought about. Today, no country can ever truly cut itself off from the global media or from external sources of information; trends that start in one corner of the world are rapidly replicated thousands of miles away. A country trying to opt out of the global economy by cutting itself off from external trade and capital flows will still have to deal with the fact that the expectations of its population are shaped by their awareness of living
standards and cultural products emerging from the outside world.

Thailand and Korea, following the advice of the IMF, have recovered substantially: interest rates are now down below pre-crisis levels; current accounts have moved back into surplus and reserves have been rebuilt; and in the case of Thailand, a new, far more democratic constitution has been written. Throughout Asia, culturally rooted business practices - including the Korean chaebol, lifetime employment in Japan, kin-based business networks in Southeast Asia, and state-led economic development - are receiving hard scrutiny. Many will likely not survive into the next century, but will be replaced with Western-style corporate governance and more transparent economic institutions. If we have indeed reached the bottom of the current economic cycle in Asia and other emerging markets, then the democratic syllogism remains intact.

What Is To Be Done?

Does this mean then that everything in the global political and economic order is fine, and that there are no lessons to be learned from the experience of the last decade? The answer, in my view, is clearly no.

One of the criticisms of "The End of History", raised by among other people Margaret Thatcher, was that its prediction of progress toward democracy and markets would make people complacent because they would come to believe it was inevitable. This was, of course, never my intention: human beings have to build institutions, and need constantly to revise policies in light of events to keep them viable. They can make policy mistakes, as Western governments did in the 1930s, that set back the cause of democratization for generations. We have in fact received a wake-up call that all is not right in our new, globalized world: even if the system still has no real competitors, it will not remain legitimate over the long run unless it can be run more effectively. There is plenty of blame to go around in the lead-up to the Asian and Russian crises, and the primary blame in each case falls on national governments that made a series of mistakes such as failing to provide for adequate banking regulation, permitting high levels of corruption, providing implicit credit guarantees to companies to make non-economic investments, and the like. However, the United States and the international financial institutions that it largely controls are also complicit in these mistakes. In retrospect, many of the policies originating out of Washington in the decade since 1989 seem excessively naive and misguided in at least three major ways.

The first mistake that American policymakers made was to defer excessively to the economists, and to forget the priority of politics, governance and institutions. The liberalizing package of economic reforms that constituted the "Washington consensus" of the early 1990s was in itself unobjectionable. The advice to deregulate, privatize, remove barriers to trade and investment, and the like was basically sound and constituted economic policies that transitional or developing countries would have to follow sooner or later if they expected to achieve long-term growth. The problem was that these policies presupposed the existence of political institutions that could implement them, and institution-building was a much more difficult problem that was not effectively addressed from the outside.

Take the case of Russia. One well understood problem was that the so-called "democrats" squabbled continually among themselves and were never able to obtain a solid majority in the Duma. The political base therefore never existed to push through anything close to the radical economic reform that was successfully carried out in Poland. But the
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governance problem went well beyond this. Certain basic state institutions either never existed under the Soviet regime (such as a commercial court system that could adequately protect property rights), or else were dismantled as part of the transition from communism (such as tax and regulatory authorities with police powers).

As in the case of Sicily, the absence of an enforceable system of property rights led to private agents getting into the business of property-rights protection; much of what Russians label as "mafia" activity is actually a quasi-legitimate effort to sell private protection of property rights in a society where the state does not supply this as a public good. Privatization is a state activity that takes a great deal of institutional competence to carry off: it is difficult for even experienced governments to sequence the sale of assets properly, to value them fairly, and to set up a bidding system that is transparent and free of corrupt influence. Even the most apparently successful privatizations, like the one carried out in the Czech Republic, were subject to the "tunneling" out of assets by majority shareholders because the newly written securities law did not provide adequate protection for minority shareholder rights. In retrospect, it should have been clear that the Russian state did not come close to having the institutional competence necessary to carry out a clean privatization of its gas and oil or other commodity industries; it should be no surprise then that politically connected insiders were able to scoop up assets, not to operate them efficiently, but to loot them.

Many of the economic policy officials involved with Russia would say, in their own defense, that they did in fact stress the importance of institutions, and that the United States and the international community more broadly gave Russia considerable help establishing a court system, banking regulation and the like. The problem was that none of these state-building efforts was remotely adequate to the task, and when the decision time came on whether to proceed with something like privatization, the advice was always to push ahead. Private capital markets also share a good deal of blame: after Yeltsin's re-election in 1996, the Russian government, with the help of Western investment bankers, was marketing state debt - the infamous GKO's - to cover government deficits that went to subsidize loss-creating state enterprises. This flood of foreign short-term capital from Western financial institutions prolonged the final day of reckoning and made the meltdown worse than it would otherwise have been when the Russian government finally defaulted in 1998.

The second mistake that American policymakers made was to underestimate the cultural obstacles to development. As I argued in Trust: The Social Virtues and the Creation of Prosperity10, there are many societies that suffer from a crisis of trust. In virtually all Latin American countries, for example, there is a group of twenty, thirty or forty prominent families whose businesses will control a large part of the country's GDP. These businesses are often linked in networks that bring together firms with no obvious synergies and whose interrelationships are obscure to outsiders; their raison d'etre is that they are controlled by extended kin groups. But while trust relations within kinships are strong, the ability of people to work together as strangers is limited, producing a two-tier moral system in which family and friends are treated much better than everyone else, and in which public service is seen as an opportunity to steal on behalf of the family. This leads to

nepotism and pervasive corruption, and constitutes one of the major obstacles to development for a wide range of countries.

International financial institutions have, of course, long recognized that corruption represented a serious problem. Given how deeply corruption was embedded in many political systems and cultures, however, most international agencies felt that there was relatively little they could do about it other than restrict the degree of discretion open to local politicians in economic decision making. It is not clear, however, that this will continue to be a tenable position, given the sheer volume of aid and now foreign direct investment dollars that has ended up in the pockets of corrupt officials from Pakistan to Indonesia to Russia in the past decade. The World Bank has started to address this issue systematically, as well as other elements of good democratic governance. The OECD has passed an anti-corruption protocol that tries to harmonize the policies of its member states and eliminate the advantage that German and Japanese firms have had over their American counterparts in being able to deduct bribes as business expenses.

The final set of lessons concerns capital markets and the general project of liberalizing the economies of transitional and developing countries. A complex debate has opened up among the economists concerning the causes of the Asian economic crisis and the complicity of Western institutions like the IMF in it, one that pits Jeffrey Sachs and Martin Feldstein on one side against Larry Summers and Paul Krugman on the other. Among other issues, the debate concerns whether the crisis was driven by short-term liquidity problems, or whether there were deeper structural problems involved; whether the IMF ought to be involved in trying to fix the latter; and whether the IMF’s high interest rate policy is best suited for achieving either goal.

It has been fairly clear to most of the participants in this debate that one of the dysfunctions of the new global economy is the sheer volume of short-term capital sloshing around in it. Private capital markets, it would appear, have not been terribly efficient over the past decade; they substantially mispriced risk by sending hundreds of billions of dollars to Asia and Russia under the assumption that exchange rates would hold steady. The receiving countries contributed to this problem by the incorrect sequencing of capital market liberalization: both Thailand and South Korea, for example, liberalized the short end of their capital markets in the early 1990s without having in place adequate regulatory systems, and without dismantling a politicized internal system of credit allocation. There was, in the early and mid-1990s, a great deal of developed-country capital seeking long-term investment opportunities in Asia; being barred in a country like Korea from foreign direct investment or even substantial equity market participation, it went instead into short-term bank loans.

While the receiving countries made mistakes, they were abetted in crucial ways by policy from Washington. There was a common belief among policymakers in the early 1990s that if a country could liberalize only 20 percent of its capital markets, that would be a better outcome than zero percent liberalization. In retrospect, this was a terrible error: in the absence of transparency and strong regulatory institutions, 20 percent liberalization can lead to a much worse situation than no liberalization at all. Countries like Chile that maintained controls on short-term capital were less vulnerable. The IMF and U.S. Treasury Department compounded the problem by creating moral hazard: much of the senseless Western private investment in Russian GKO's was driven by the
belief that Russia was "too nuclear" to be allowed to fail.

In the end, all of these problems taken together do not constitute, as George Soros has suggested, a "global crisis of capitalism." A simple policy intervention like the Federal Reserve's three emergency cuts in interest rates in the fall of 1998 increased the supply of dollars to the world economy and prevented the emerging market panic from broadening into a 1930s-style financial collapse. This doesn't mean that there are not deeper problems in the global economy: John Makin of the American Enterprise Institute has suggested that underlying the financial crisis is a crisis of global overproduction in the real economy. But to the extent that this is true, it reflects not a structural weakness of contemporary capitalism, but rather state-driven overinvestment by Asian countries seeking to replicate the Japanese development model.

The outbreak of war between NATO and Serbia in March 1999 - after the first draft of this article was written - may be taken by some as evidence that History is alive and well. And so it is, in the Balkans. But cruel as it may be to say in light of the sufferings of the Albanians and others who live there, the conflict in Kosovo does not rise to the level of world history because it is very unlikely to have any lasting impact outside the Balkans. In my original article, I said that after the End of History,

There would still be a high and perhaps rising level of ethnic and nationalist violence, since those are impulses incompletely played out, even in parts of the post-historical world. . . . This implies that terrorism and wars of national liberation will continue to be an important item on the international agenda. But large-scale conflict must involve large states still caught in the grip of history, and they are what appear to be passing from the scene.

The United States has tragically mishandled Kosovo, but the idea that it and its NATO allies represent will outlast the incompetence of any one administration.

Why "The End of History" Was Essentially Wrong

If we shift our perspective from contemporary politics and economics to the more philosophical issues underlying the End of History, there are developments in plain sight just over the horizon of the twentieth century that will definitely end human History, but not in the manner I suggested.

In The End of History and the Last Man, I argued that the directionality and progressive character of human history was driven by the unfolding of modern natural science. Steam power, railroads and machine production created the Industrial Era and made possible Weber's centralized, bureaucratic, rational state, of which the Soviet Union was one extreme example. On the other hand, the shift from an industrial to a postindustrial society established a very different set of economic conditions, in which manufacturing gives way to services, where educational requirements rise substantially, where intelligence replaces material product at the margin, technology and technological innovation become pervasive, and the complexity of economic life rises exponentially.

Socialism, at least in the form of the centralized planning that was practiced in former communist countries, cannot survive under postindustrial conditions. The reasons for this were outlined fifty years ago in a classic article by Friedrich von Hayek.11 In a modern economy, the vast bulk of the information generated in it is local in character, and also

requires an increasingly high degree of technical knowledge to master. It is the riveter on the factory floor bolting on a door panel who knows that the panel is defective, and not the manager sitting in corporate headquarters; similarly, it is the Red Director with a degree in engineering rather than the party boss who understands the requirements for building a factory. Economic systems that funnel decision making through centralized agencies saddle themselves with crippling bottlenecks. The growth in economic and technological complexity, and the kinds of local and tacit knowledge required to manage this complexity, almost inevitably dictate a high degree of decentralization in economic decision making, which inevitably means a greater reliance on markets.

The shift from centralized, hierarchical, bureaucratic authority structures to more participatory ones in which power and authority are more broadly distributed has characterized not only politics but individual firms in the economy. Just as the overcentralization of decision making in East Germany or the former USSR stifled innovation, so too did the overcentralization and overbureaucratization of large firms like IBM and AT&T cripple their ability to compete against smaller and nimbler competitors.

In this respect, the ongoing information revolution has had a major impact on global politics and has hastened the arrival of the End of History. While the major technologies of the late nineteenth and early twentieth centuries - from petrochemicals to automobiles to nuclear energy and weapons - encouraged scale and centralization, the technologies of the late twentieth century seem to encourage flexibility and decentralization. The arrival of cheap and ubiquitous information has had a profoundly democratizing impact; it is much less easy for hierarchies of various sorts, from governments to corporations to unions, to use their control over information to manipulate those over whom they have authority. It is no accident, then, that authoritarian regimes began to collapse all over the world just as the global economy started to shift into the information age.

Economics, however, is not the only force driving a progressive human history. Operating in parallel is the struggle for recognition; that is, the desire of all human beings to have their fundamental human dignity recognized by those around them. The End of History and the Last Man argued that Kant and Hegel were essentially right in their view that the only rational form of recognition was universal recognition, and that universal recognition was best realized in a modern liberal state that guaranteed a set of fundamental human rights. Ultimately, this argument was underpinned by reference to human nature: human beings in Hegel's view do not simply seek economic ends and are not satisfied with simple material prosperity; their satisfaction depends in critical ways on what Plato called thymos, the spirited part of the soul that sought recognition of their dignity. Socialism's failing went far beyond its inability to produce factories that could manufacture semiconductors: by creating a dictatorship that trampled over the dignity of individual citizens, it failed to create that equality of recognition that is necessarily the basis of a just society.

The possibility that we are at the End of History can arise only under two conditions. The first is that such a thing as human nature exists. If human beings are infinitely malleable, if culture can overwhelm nature in shaping basic human drives and preferences, if our entire cultural horizon is socially constructed, then
clearly no particular set of political and economic institutions, and certainly not liberal democratic ones, can ever be said to be, in Kojève's phrase, "completely satisfying." Marxism assumed a high degree of plasticity: if human beings seemed selfish, materialistic and overly concerned with family, friends and their own property, it was only because bourgeois society had made them that way. According to Marx, man was a "species being", with unlimited reservoirs of altruism toward mankind as such. Part of the Marxist project in existing socialist societies was to create a "new Soviet man." Socialism foundered because it ran into the brick wall of human nature: human beings could not be forced to be different from what they were, and all of the characteristics that were supposed to have disappeared under socialism, like ethnicity and national identity, reappeared after 1989 with a vengeance.

The second condition for the End of History, as I noted at the beginning of this article, is an end of science. Americans are in the habit of thinking that technological innovation is a good thing, and that those who question it are Luddites standing in the way of progress.\textsuperscript{12} And indeed, the technologies that have emerged as the dominant ones at the end of the twentieth century, particularly those related to information, appear to be relatively benign and supportive of a more democratic world order. If we could somehow be assured that future technological innovation would move along similar lines, then we might say that we have the right set of political and economic institutions. But we cannot, and indeed, we are on the cusp of a new explosion in technological innovation that will force us to rethink first principles. For just as the twentieth century was the century of physics, whose prototypical products were the atomic bomb and the transistor, the twenty-first century promises to be the century of biology.

In some sense, it is possible to regard the biotechnology revolution as merely a continuation of the ongoing revolution that has taken place in the life sciences over the past century and a half, a revolution that has brought us vaccines against smallpox and polio, dramatically increasing life expectancies; the green revolution in agriculture; and countless other benefits. But the discovery of the structure of DNA by Watson and Crick opened up a much more distant frontier in the human conquest of nature, and the kinds of developments likely to be forthcoming in the next couple of generations will make earlier advances pale in comparison. To take just one small example, it is no longer clear that there is any upper limit on human life expectancy. Recent research on stem cells - cells that exist in embryos that have not yet differentiated into the various organs of a baby - suggests that aging and cell degeneration are genetically controlled processes that can be deliberately turned on or off. Some researchers now think that it may be possible for human beings routinely to live two or three hundred years, perhaps even longer, at a high level of health and activity.

The most radical outcome of ongoing research in biotechnology is its potential for changing human nature itself. If we define human nature as a statistical distribution of genetically controlled characteristics of a population, then the so-called "germline" research of the future will differ from medical technology of the past in its potential to alter human nature by affecting not just the individual to whom it is applied, but all subsequent descendants of that individual. The ultimate implication of this is that biotechnology will be able to accomplish what the radical

\textsuperscript{12} For an example of this line of thinking, see Virginia Postrel, The Future and Its Enemies (New York: Free Press, 1998).
ideologies of the past, with their unbelievably crude techniques, were unable to accomplish: to bring about a new type of human being.

Many of the proponents of biotechnology will argue that this kind of observation is unduly dramatic and alarmist. The purpose of research in biotechnology is therapeutic: it aims at uncovering what are now clearly understood to be the genetic underpinnings of diseases like breast cancer, Alzheimer's and schizophrenia, and to provide cures for them. Germline research, it can be argued, simply takes this form of therapy to its logical conclusion: if the propensity for a disease lies in a genetically heritable characteristic, what is wrong in principle with a genetic intervention designed to eliminate that propensity from present and all future generations that might suffer from it?

The fact that there is no clear answer to the last question suggests, as bioethicist Leon Kass has pointed out, why biotechnology will be so hard to resist in the future: any potential negative consequences of genetic manipulation will be intimately connected with positive benefits that will be obvious and measurable. Many people argue that we can draw a line between therapy and enhancement, and that we can reserve genetic engineering for the former. But drawing boundaries in gray areas will be much easier said than done. There is general consensus that some conditions like schizophrenia are pathological; the problem is that there is no consensus as to what constitutes health. If one can administer growth hormone to a child suffering from dwarfism, why not to one who is in the fifth percentile for height? And if it is legitimate to give it to a child in the fifth percentile, then why not to a child in the fiftieth, who wants to receive the clear-cut benefits of tallness?

Or to take another example, supposing we decide that we really don’t like the median young male all that much. There is a growing body of evidence to suggest that propensities for violence and aggression are genetically inherited, and are much more characteristic of males than females. This comes from a wide variety of sources, from the fact that the vast majority of crimes in any culture are committed by young males, to recent primatological research that suggests a continuity in male-bonded group aggression from man's primate ancestors through early humans to modern man.13 But if the propensity for violence is genetically controlled, then why not intervene to correct that? For even if the propensity for violence could be said to be natural, there are few people willing to defend instinctive violence as a healthy condition. There is already a growing body of criminological research, a lot of it coming from twin studies in behavioral genetics, that suggests that propensities for crime can be inherited and possibly, in the future, located in specific genes carried by specific individuals. Research in this area has gotten caught up in a huge fight over political correctness, since many people suspect and fear that research will also try to correlate the propensity for crime to race as well. But the time will come when it will be possible to separate the issue of violence from the issue of race, when we will have to confront directly the question of what constitutes health in this regard. For we will be in possession of a technology that will allow us to breed less violent people, or people cured of their propensity for criminal behavior.

Those who think that this sounds like science fiction have simply not been paying attention to what has been going on in the life sciences recently. What one day may be accomplished through gene therapy is already being brought about by neuropharmacology. Drug therapy is

13 See my article, "Women and the Evolution of World Politics", in Foreign Affairs (September/October 1998).
different from gene therapy insofar as its effects are not heritable, but its impact affects the same fundamental level of human behavior. Take two of the best known and controversial drugs that act directly on the neurological system, methylphenidate (sold under the brand name of Ritalin)\(^{14}\) and fluoxetine (better known as Prozac).\(^{15}\) Ritalin is used to treat what has come to be called attention deficit-hyperactivity disorder (ADHD), most commonly associated with young boys who are unable to sit still in class. Prozac and its relatives are antidepressants. Ritalin works by inhibiting the brain’s reuptake of a key neurotransmitter, dopamine, while Prozac works by inhibiting the reuptake of another important neurotransmitter, serotonin.

Ritalin and Prozac have both been described as wonder drugs, and have earned enormous profits for their manufacturers, Novartis and Eli Lilly. There are any number of cases where severely disruptive, violent or aggressive children have been effectively sedated with Ritalin and integrated back into classrooms. Similarly, Prozac and its relatives have been in large measure responsible for the demise of psychoanalysis, so effective are they at treating severely depressed patients. Ritalin is now used by three million children in the United States today; school nurses dispensing daily Ritalin doses have become a common feature of many schools. Similarly, Prozac and its relatives are prescribed for more than 35 million patients nationwide, and like Ritalin they have developed an enormous cult following and fierce partisans who testify to their therapeutic effects.

These drugs have, however, also been the subject of violent controversy because of their behavior-altering potential. Ritalin’s critics, including many doctors, do not believe that ADD and ADHD are diseases at all; while some cases of hyperactivity are clearly pathological, in many others the behavior in question would, in a different age, be characterized simply as high spirits.\(^{16}\) Indeed, since Ritalin is much more often prescribed for boys than for girls, some critics go so far as to charge that the drug is used to prevent boys from being boys, i.e., that it is being used to treat not pathological but normal behavior that harried parents and teachers find inconvenient or stressful. Ritalin’s effect on the brain is similar to that of a number of illegal amphetamines, indeed, to cocaine.\(^{17}\) Stories of Ritalin’s effects often make it seem like the drug soma administered to the citizens of Aldous Huxley’s Brave New World to make them passive and conformist.

Prozac and its relatives are potentially even more consequential because they affect levels of serotonin in the brain. Serotonin is intimately linked to feelings of self-esteem and dignity, and in primates plays a role in competition in status hierarchies. Chimpanzees feel a "serotonin high" when they achieve alpha male status; by regulating the levels of serotonin in their brains, scientists can reorder the dominance hierarchies in chimp colonies. Because more women tend to be depressed than men, Prozac is widely used by women and has been celebrated in books like Elizabeth Wurtzel’s Prozac Nation. Like Ritalin, the drug has uses that are unquestionably therapeutic; but an unknown number of its millions of

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\(^{14}\) Related drugs include dextroamphetamine (Dexedrine) and pemoline (Cylert).

\(^{15}\) Related drugs include Pfizer’s Zoloft and Smithkline Beecham’s Paxil.

\(^{16}\) The controversy over Ritalin is such that the National Institutes of Mental Health were forced to convene a symposium in early 1999 to discuss ADHD and the growing use of the drug.

\(^{17}\) For a discussion, see Mary Eberstadt, "Why Ritalin Rules", Policy Review (April/May 1999).
users are pursuing what Peter Kramer calls "cosmetic pharmacology."

Perceptive readers will have noticed the words "self-esteem" and "dignity" in the preceding paragraph. In the Hegelian-Kojevian interpretation of world History, the struggle for recognition of human dignity or worth is not just incidental to human affairs; it is the very motor that drives the historical process. According to Hegel, human History starts when two human beings engage in a battle to the death for recognition. That is, they show that they are willing to risk their lives, not over material gain, but over the intersubjective recognition of their dignity by another consciousness. The unfulfilled longing for recognition creates the various forms of political order that have existed in human history: lordship and bondage, the unhappy consciousness, and finally the universal homogeneous state in which all citizens finally receive rational, and therefore equal, recognition of their dignity.

There are a number of problems with the Hegelian account of History, beginning with the fact that non-human primates apparently struggle for recognition as well, and ending with the fact that the equal recognition provided by a modern liberal democracy is perhaps not as "completely satisfying" as Kojeve claims. And yet, it is hard to observe political life and not understand that it indeed has always centered on recognition struggles. But all of a sudden, the global pharmaceutical industry in its enormous inventiveness has provided us with a shortcut: instead of striving for recognition by the painful building of a just social order, instead of seeking to overcome the self with all its anxieties and limitations, as every previous generation of human beings has done, we can now just pop a pill! We are, in a sense, confronted with Nietzsche’s Last Man in a bottle: the disrespect that we face, the dissatisfaction with our current situation, which have been the ground for History as such, suddenly vanish, not as a result of liberal democracy, but because we have suddenly discovered how to alter that bit of brain chemistry that was the source of the problem in the first place.

There is a pleasing symmetry to the effects of Ritalin and Prozac: the first makes boys less boy-like; the second overcomes the downsides of being female. Together they move us imperceptibly toward the kind of androgynous human being that has been the egalitarian goal of contemporary sexual politics. As Nietzsche’s Zarathustra said of the Last Man, "everyone wants to be the same, everyone is the same." One wonders what the careers of tormented geniuses like Blaise Pascal or Nietzsche himself would have looked like had they been born to American parents and had Ritalin and Prozac available to them at an early age.

These developments in neuropharmacology give us only a foretaste of what is to come in the next century. It seems all but inevitable that we will develop the ability to manipulate the germline itself, and therefore change once and for all the set of genetically controlled behaviors that have characterized the human race since the so-called Era of Evolutionary Adaptation, when human beings lived in hunter-gatherer societies. No one should underestimate the potential consequences of this for either politics or morality. For today, any understanding we may have of just political arrangements or a universal moral order is ultimately based on an understanding of human nature. To the extent that that nature is something given to us not by God or by our evolutionary inheritance, but by human artifice, then we enter into God’s own realm with all of the
frightening powers for good and evil that such an entry implies.

Global Governance and Twin Revolutions

There are currently two revolutions going on in parallel, one in information technology (IT) and the other in biology. Of the two, the first is more visible, but the latter, a revolution in basic science rather than technology, is in the end likely to prove much more fundamental. These twin revolutions are likely to interact in ways that have implications for global governance.

As we have seen, the IT revolution has had beneficial effects in bringing about the End of History by undermining authoritarian hierarchies and distributing power more broadly. In popular imagination, IT is seen as good for democracy, good for the economy, and (if one is American) good for the United States as well, since it is we who dominate the global IT industry. Biotech, on the other hand, while having unquestionably beneficial effects, is regarded by many non-scientists with much greater suspicion. In Europe generally and Germany in particular, the Nazi legacy has made people wary of genetic research and manipulation. The Germans have banned activities like germline research, and have gotten into disputes with American biotech companies like Monsanto over genetically altered foods. As I suggested above, much more radical and therefore scarier developments lie in our future.

Supposing that we will decide some time in the future that we will want to stop, ban or even slow down the development of certain new biological technologies - say, human cloning. Will we be able to do this? The orthodoxy that prevails in the world of information technology is that it is, first, illegitimate to seek political limits on scientific research or the development of technology, and second, that even if we wanted limits, they could not be implemented.

The normative view that we should not seek to control science has a number of sources, including an unquestioning acceptance by many scientists of the Baconian-Cartesian project of modern natural science, the libertarian outlook that has become dominant in the last generation, and the natural tendency of Americans to hold an optimistic view of the future. This view has been strongly reinforced by the perceived success of IT in supporting political values like individualism and democracy. Attempts to control the use of IT, for example by banning pornography on the internet, as the Communications Decency Act of 1996 tried to do, have been ridiculed as puritanical and out of date.

There are of course some uses of IT that even its most libertarian advocates won't try to defend, like child pornography and the passing around of bomb-making information. At this point the second argument comes into play, that even if one wanted to control the uses of technology, it would not be possible to do so. Again, IT has been particularly susceptible to this line of argument because it, in contrast to nuclear weapons technology, does not reward economies of scale. The decentralized nature of information technology and the inherently borderless nature of modern communications promotes globalization and creates a situation where it is virtually impossible for any single nation-state to control the uses of IT within its borders. States like Singapore or the People's Republic of China that have tried to control political dissent on the internet have faced an uphill fight; French attempts to mandate the use of the French language on web sites within its borders have been more ludicrous than effective. Any real effort to impose controls over IT use today would require a level of global
Second thoughts: the last man in a bottle

Francis Fukuyama

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governance that does not now exist, and is politically very unlikely to exist at any time in the future.

The same problems will exist for any attempt to control biotechnology. The benefits of biotechnology will be so great and so evident to many people that moral concerns about its downsides - which in my view are much more serious than for IT - will tend to be brushed aside as uninformed prejudice. The examples of Ritalin and Prozac are instructive in this regard: a major revolution in the control of social behavior has been launched in the past decade without fanfare or significant debate, propelled by the self-interest of private pharmaceutical companies.

Furthermore, efforts to control biotechnology will run into the same practical hurdles as attempts to control IT. Globalization means that any sovereign state seeking to impose limits to, say, cloning or the creation of designer babies will not be able to do so; couples facing a ban imposed by the U.S. Congress, for example, may be able to slip into the Cayman Islands or Mexico to have their cloned child. Moreover, international competition may induce nations to cast aside their qualms: if one country or region of the world appears to be producing genetically superior individuals through its relaxed rules on biotechnology, there will be pressure for other countries to catch up. The libertarian mindset and the absence of international governance mechanisms, which seemed appropriate for the largely benevolent IT revolution, may be less appropriate for a more sinister biotech revolution. But at that point, efforts to close the gate may be unavailing.

Conclusions

It is of course impossible to predict the future course of technological development; much as "The End of History" was attacked for being an exercise in futurology, that was never its intent. Biotechnology may not prove to be as powerful as I have suggested, or it may be that people's moral revulsion to genetic engineering will prove so strong that movement in this direction will be stopped dead in its tracks (no one, after all, is pushing for building personal nuclear weapons, even though this is technologically feasible).

Those who attempted to find the key flaw of "The End of History" in political and economic events of the past decade were barking up the wrong tree. There is nothing, as I have said, that has occurred in world politics since the summer of 1989 that in any way invalidates the original argument: liberal democracy and markets today remain the only realistic alternatives for any society hoping to be part of the modern world.

The key defect of "The End of History" lies at a completely different level. The possibility of such an end depends on the existence of a human anthropology that is grounded in nature. The period since the French Revolution has seen the rise of different doctrines that hoped to overcome the limits of human nature through the creation of a new kind of human being, one that would not be subject to the prejudices and limitations of the past. The collapse of these experiments by the end of the twentieth century showed us the limits of social constructivism, and endorsed a liberal, market-based order grounded in self-evident truths about "Nature and Nature's God." But it could be that the tools twentieth-century social constructionists used, from early childhood socialization and psychoanalysis to agitprop and labor camps, were simply too crude to alter effectively the natural substratum of human behavior. The open-ended character of modern natural science suggests that within the next couple of generations we will have knowledge and technologies that will allow us to accomplish what social engineers of
the past failed to do. At that point, we will have definitively finished human History because we will have abolished human beings as such. And then, a new, posthuman history will begin.

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18 These social engineers may not work for the state, but rather for a drug company or for a parents' advocacy group.