THE ETIOLOGY OF EUROPEAN CHANGE

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The momentous events which have taken place in Eastern Europe during 1989 have caused widespread concern regarding the future of Europe and its relations with the rest of the world. These events were especially striking because neither their magnitude nor speed were anticipated by any of the affected governments. This recent failure to predict events in Europe raises questions regarding the reliability of current approaches to forecasting events there and introduces uncertainty in deciding what the United States can or should do to favorably influence the future.

The political events of 1989 have been seen as momentous or cataclysmic developments when viewed against the backgrounds of the Cold War (the past 40 years), the World Wars (75 years), and the Balance of Power (some 250 years), all centered on Europe. One can detect those

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1This paper was prepared for a RAND-sponsored European Security Symposium held in Santa Monica, California, on 2 February 1990. The symposium was convened to explore the future of European security in the wake of the extraordinary political events there during 1989. The paper is being published substantially in its original form more than a year later to make it more widely accessible as a reference. While some of the specific questions addressed here, such as the reunification of Germany, have been overtaken by events, the basic analyses and arguments are likely to be much more durable.

2As Meg Greenfield put it in her column (NEWSWEEK, 11/27/89, p.104): "...American policymakers and the professional-kibitzer class that attends them have greeted every momentous event that occurred with absolute astonishment. But the recovery is always quick. 'No one could have predicted what was going to happen,' we say in the first breath, and then, in the second: 'but this, of course, is why it did and what it means.'"
backgrounds as observers express various concerns about the future of Europe — about the balance of power in Europe, about the balkanization of Europe, about the reunification of Germany, about the rise of a new European economic giant, and about the resurgence of Russia with a restored economy. According to the expressions of these concerns, the future problems of Europe are to be found in models drawn from some part of the past 250 years of European political history.

That the future of Europe should be somehow read from its recent political history is not surprising. For the past 250 years, the history of Europe has been written by the politics of the European nations, with occasional interventions — in both directions — across the Atlantic. To understand Europe and much of the world's events which have been centered there, one had to begin and end with international politics of the nation-states, with an occasional bow to international economics, and only slight references to cultural and technological developments. One modeled the European experience in terms of its dominant forces — the nation-states, as they emerged and changed as political entities, with the power to control societies and economies.

To assume, however, that the future of Europe will remain rooted in the forces which have shaped it and the world over the past 250 years, while logical, is an important leap of faith. We may be at a break point in the history of Europe not unlike that which occurred about 250 years ago — one where the dominant forces shift in their sources of power. In 1750, a projection of the future of Europe rooted in the previous 250 years would have understandably relied upon the histories of the monarchies which had dominated European events for centuries. It would, indeed, have required considerable prescience to perceive, then, the rise of nationalism and relative liberalism that would soon sweep Europe and dominate its development for the next several centuries.

These considerations suggest that the recent events in Europe need to be examined not just in the light of the models which have prevailed for the past 40, 75, or 250 years, but against the possibility that these events are signs of a shift in the dominant forces shaping Europe. If there is a shift, the old models, even if partly valid, may explain
less than alternative formulations based upon different estimations of the significant forces at work. New models may be required, not so much because the old are dead wrong, but because they may no longer include the most important factors shaping the future: Monarchies didn't entirely go away in the revolutions of the late 18th century; they were just not so important in determining the face of Europe thereafter. Nations and their political expressions are not going to go away in the revolutions of the late 20th century, but they may no longer be the dominant forces in shaping the future of Europe in the 21st century.

The thesis of this paper is that the events of 1989 are the harbingers of a new model for human affairs worldwide—of an era where national governments will have declining control over those affairs. This thesis argues that the future of Europe is not rooted in its political history of the past several centuries so much as it is in global trends being driven by profound changes in technology, principally those technologies associated with the current information revolution which has yet to reach its peak. And the thesis suggests that national policies everywhere may have surprisingly little influence on the future of Europe.

There are several reasons for not welcoming the idea that new models will govern the future—some good, one not so good. If the old models are no longer adequate, the basis for confidence in projecting the future is seriously eroded. If new models are required, then the future hangs not only on how to interpret current events but on speculation about the dominant forces at work and the choice of models. The world appears unstable, not just because of the trends, but because we are unsure of what to make of them. But a bad reason for not welcoming new models is that they may depreciate the value of invested intellectual capital associated with the old.

To the extent that new models of the future of Europe (and the world) might be rejected, consciously or unconsciously, because they depreciate capital—intellectual or financial—they deserve even greater attention, not because they are necessarily correct, but because of the very existence of strong, but impertinent, incentives to dismiss
them. Where intellectual capital has been invested, it may become heavy baggage for intellectual development.

From its earliest beginnings, when it was still dependent on water power, the Industrial Revolution was terribly cruel to those whose lives and livelihood it overturned. Revolutions are—it is their nature, because by definitions revolutions move too fast for those whom they strike.³

Are there new, dominant forces afoot, responsible for the dramatic events in Europe? Are those forces no longer rooted in the international politics that have shaped Europe for the past 40, 75, or 250 years? The authors think so, holding the view that the dominant forces shaping Europe have shifted and that new models are required to project Europe's future. Arguing for those new forces and describing a new model are the burden of this paper. In advancing these specific arguments and descriptions, however, the authors are less certain of the validity of their new model than they are with the need for a wide ranging consideration of new forces and new models that may already be defining the future of Europe and the world.

It would be unfair to question the "old" or existing model of European development without defining it. By model we mean any theory or explanation of why things work the way they do. Models, implicit or explicit, can be recognized in suppositions of the form, "if this, then that." The Domino Theory which rationalized much of the American involvement in Vietnam was such a model: If the United States allowed South Vietnam to fall to the Communists, the rest of Southeast Asia would soon follow. If this, then that. The Domino Theory wasn't

expressed as a model or theory by its proponents because they saw it as a factual relationship proven by history.

The prevailing model of European (and even world) developments derives from these premises:

1. The most powerful forces shaping Europe are those in the hands of national governments.
2. Those forces are manifested mostly in the form of political power, underwritten by economic and military powers.
3. The political, economic, and military powers are largely vested in national governments and wielded (or expressed) through governmental policies.
4. The leaderships of national governments, as the designers and implementors of governmental policies, can significantly shape the forces exerted by nations and, hence, the future development of Europe.

Those premises have endured for at least two centuries; they would not be strangers to 19th or 20th century politicians. But they might have seemed strange — even alarming — to those attending 16th and 17th century courts; and, as we argue here, they may come to be seen as dated or anachronistic to 21st century observers.

The model that logically evolves from these premises puts great weight upon the qualities of national leaderships, their policies, and upon the economic and military forces they control. Good or bad leaders can have a profound effect upon the face of Europe by the policies they adopt and by the way they employ the economic and military powers at their disposal. Leaders like Napoleon, Hitler and Stalin can redraw the national boundaries of Europe and cause widespread death and misery. Their depredations can be stopped or redressed by others like Churchill, Marshall, and Gorbachev. Alliances between nations can develop even more powerful forces for good or bad; and European leaderships have looked to them for ways to upset or to restore the balance of power. Since the future tenure or behavior of leaders cannot be assured, the
military and economic powers under their control are important measures of future potentials.

For at least two centuries, this model has probably been a reasonably reliable guide to the future of Europe. It urges great concern about the qualities of national leaderships, about the ideologies they profess and which may guide their policies, and about the economic and military powers at their disposal. Where those concerns point toward the possibility of good or bad developments, the model urges further concerns about upsetting or restoring the balance of power in Europe. The model is evident in such current questions as these:

- Will a reunified Germany represent an economic giant capable of dominating Europe, perhaps recreating the conditions leading to two world wars?
- If Russia is given relief from its military burdens, or if its economic development is aided by the West, will it become a threat to the rest of Europe once more?
- Will the breakup of the Soviet empire result in the balkanization of Europe, recreating the conditions that spawned the First World War?
- Will Gorbachev, after lulling the West, be replaced — notably, not with another of his ilk or even one of greater reformist tendencies — but with a hard-liner of the Stalinist mold?

All of these questions contain within them the implicit, "if this, then that" relationship of a model of how the world works, might work, or is reasonably expected to work. None question the model or its premises. They pose a world in the hands of statesmen, exemplified by Kissinger and haunted by 1948 or 1939 or 1914 or 1870. We don’t fault the questions; however, their pertinency lies not in the events of 1989 but in the model that stimulates them and implies the possible answers.
The first premise of the prevailing model is key; if it fails, so easily may the rest. Is it possible that the most powerful forces shaping Europe are no longer those in the hands of national governments? We think so. We would offer the following premises as the basis for a new model that may better describe the future of Europe:

1. The most powerful force shaping Europe (and the world) is the rapid diffusion of power into the hands of individuals and factions who are freely and independently associating themselves with shared causes, not necessarily or even mostly identified with nationalism.

2. That more diffuse power is manifested in a variety of forms—political, financial, and destructive—which are increasingly capable of effective challenges to those of the nation-states.

3. The source of that power is to be found mostly in information—its communication, processing, management, dissemination, access, and utilization—instead of the traditional sources such as military forces, territory, industrial production, or natural resources.

4. Traditional human hierarchies of all kinds—in governments, business, and even in families, where based upon the limitation and control of information—are increasingly being eroded, bypassed, or ignored when they do not serve the causes of those who are subordinated in them.

We find evidence for these premises not so much in the past 250 years as we do in events of 1989 and in the past 40 and 4000 years. The past 4000 years is a story of the diffusion of power to individuals at the expense of elites through a series of revolutionary human developments, the latest of which is the information revolution, begun in the past 40 years.
Bronowski observed that all revolutionary forms of power—the horse, writing, gunpowder, and nuclear energy—initially vested with the elites, who are ultimately threatened as that power diffuses to individuals.4 The horse-drawn chariot conveyed power to early community elites who were subsequently threatened by the horse-borne nomadic raider. Writing conveyed power to the clerical elites; but the printing press threatened their authority as individuals gained access to books. Armored knights were horrified by the implications of crossbows and firearms in the hands of unregulated individuals. While the implications of nuclear power under control of anything less than the nation-state are widely appróbated, the inevitable diffusion of that power, even down to the individual, is still not accepted or really confronted.

The power of information is now diffusing rapidly to individuals throughout the world, but especially in the most highly developed parts of the world such as Europe, North America, and East Asia. As Wriston has observed, the information technologies are eroding the traditional powers of the nation-state.5 They are also eroding other hierarchical structures; but it is the nation-states that are now the most vulnerable, for they have been historically erected and maintained on the control and limitation of information by their elites. Indeed, in the absence of adequate means for communications, the power derived from information had to be entrusted to elites in order to organize societies.6 Individuals and factions with free and abundant access to information and communication among themselves represent a new and obvious challenge to the authority and, hence, the power of the nation-state.

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4Bronowski, The Ascent of Man, pp. 78, 79.
6When one's representative had to ride off on horseback to the seat of government, not to be seen again for six months, it was necessary to entrust him with the power to act on the behalf of those left behind, who were without access to the information pertinent to governance. Now, however, no such disability exists, either to be informed or to communicate one's views instantly.
The power of information and the potential challenge to the nation-state of its diffusion was recognized even before the beginning of the current information revolution. The efforts of the nation-states to seize and control the sources of information and the means of communication are well known in history and fiction. They include the efforts of the Nazis to destroy literature subversive to the state's interests and to exploit the means of communication for state propaganda. Orwell's vision of the future contemplated the extremes of such efforts. The communist bloc came close to (and in some places, may have achieved) Orwell's vision; but, judging by the past year's events, they were unable to persist against the expanding technical means for the diffusion of information.

In sum, we see a shift in the locus of power, from the nation-state to individuals and their free associations in factions and enterprises. That shift is the result of developments in the information technologies, particularly over the past 40 years, which have radically changed the speed, amount, and quality of information available to individuals. The power of that immediate, free, and abundant information in the hands of individuals is proving itself to be increasingly capable of challenging, undermining, or rendering impotent the traditional power vested in the nation-state in all of its forms - political, economic, and military.

But that shift is not yet complete. We are in a transition period where the sources of power - in things or in information - and the trustees of power - the nation-state and the individual - are still contending with each other; and there remains room for reasonable doubt about the final resolution. Evidence of strength on both sides abounds, and complete domination by one side, soon, is improbable. Nevertheless, we see more of the future of Europe in the current trends of the information revolution than we do in two centuries of European nationalism.
IV

The current information revolution, which we see as only the latest major diffusion of power to individuals, can be traced back to the telecommunications developments of the last half of the 19th century—the telegraph and telephone—followed by radio, television, and electronic computers in the first half of the 20th century. But it was the developments in solid-state electronics beginning in the 1950s that brought all of these devices into practical forms that could be manufactured for, distributed to, and used by individuals throughout the world. It is the world-wide spread of cheap, reliable, and powerful information devices that is truly revolutionary. Thus, the basis for the current information revolution is not in the advent of radio or television or even computers, but in their magical transformation by the silicon chip in all of its many manifestations. Even the hundred-year-old telephone was transformed. That is what sets the past 20 to 40 years apart from prior history.

Since the 1950s, the means for communicating, processing, accessing, storing, managing, and exploiting information have exploded. No dimension of human affairs seems to have grown or changed so rapidly. In the past decade alone, measurement of the information revolution on almost any dimension—numbers (of telephone circuits, television receivers, videorecorders, videocameras, or facsimile machines), capacities (of transmission media, storage devices, or displays), speed, or cost—is described not in mere percentages, but in factors of three, ten, or more.

Coupled with the jet transport, space satellites, and the concomitant spread of English as a common language, the electronic information revolution has netted and shrunk the world to the proportions of a village community. One can go almost anywhere in that world, taking videocameras and satellite uplinks, in the space of hours. As in a village, one can now observe most events in real time. Indeed, people half way around the world may know more than those who are on the
scene of events and temporarily limited to information acquired directly through their own eyes and ears. Exploding volumes of information are exchanged daily through electronic mail, facsimile machines, and computer databases — between individuals who may never have met and whose nationality and location are nearly arbitrary. Global markets have skyrocketed as abundant telecommunications, together with computerized means for utilizing voluminous data, have facilitated managing global enterprises.

That technology could accomplish such feats is no longer a great surprise. Coming in an age of nuclear power and space travel, modern business and consumer electronic gadgets and their capabilities seem no different from other technical marvels in medicine, travel, and warfare. But unlike most of the other technical wonders, the information gadgets are diffusing power more than they are concentrating it in the hands of elites. While the most spectacular technological developments — in space, weaponry, and medicine — appear to have concentrated power, the information technologies during the last fifteen years have been marked and measured by the conveyance of capabilities directly into the hands of individuals.

Since the introduction of microprocessors in the 1970s, computer and communications technologies have moved rapidly away from centralized facilities and towards the broad distribution of information and computational power. Powerful technical factors lie behind this trend, and suggest that future improvements in technology will only increase the speed with which the power of information is placed in the hands of individual citizens. The economic payoff of distributing computation and information resources is an enhancement of the creative productivity of the individuals given access. This economic benefit is proportional to the degree of distribution; cautious adopters of the technology can expect proportionately limited gains. But once the power of information

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7 For a compelling non-technical exposition of this aspect of information technology see George Gilder, Microcosm (The Quantum Revolution in Economics and Technology), Simon and Schuster, New York, 1989.
is given to individuals, they will use it to serve their own ends, with little opportunity for effective control by authorities.

Because the information technologies are increasingly required for competitiveness in nearly all human activities, the transfer of power to individuals, even if unintended, is unavoidable. That transfer is having an effect on all aspects of human affairs: cultural, social, political, military, and economic. Perhaps the development having the greatest impact upon the affairs of nations is the practical networking of individuals through telecommunications. Print and broadcast media allow a privileged few to communicate to the many who receive their messages. These media concentrate power in the hands of those who control the printing press or the television station. Electronic networking of the office, the nation, and then the globe, has for the first time permitted many to freely communicate with many — for almost any individual to be both a broadcaster and a selective receiver.⁸ The individual is no longer limited to a single source for information, and can now communicate information to as many as may have interest in that information. Although power elites may control the newspapers and television stations, personal computers and facsimile machines make every citizen a potential publisher or broadcaster.⁹

Previously, the ability of individuals to freely communicate was limited by geographic proximity and especially by national boundaries. Now information flows freely around the globe and crosses national borders with increasing ease. Even where national governments may try to isolate their populations by limiting access to networks, information will cross national boundaries because it is ubiquitous in satellite

⁸The authors are indebted to their colleague, Norman Shapiro, for codifying this notion in an electronic communication dated 13 July 1989.
⁹This paper and the symposium for which it was prepared are examples of the point: The symposium was stimulated by a spontaneous frenzy of electronic mail messages among colleagues. The coauthors of this paper, although physically separated by only a hundred yards, without premeditation, found it convenient to negotiate and write this paper entirely through electronic mail, never once meeting to discuss it in person or by phone. They could have as easily been half way around the world from each other for added telecommunications costs less than the costs of printing the paper.
links. For years, East Germans have been watching West German
television; West Germans have been watching Dutch television; and the
Dutch have been watching British television.\(^{10}\) State controlled
television (still common) is increasingly subject to alternative sources
of information. To jam or deny such international communications, one
must forgo all communications (and benefits) of that type.

Computer technology and the free communication of information have
become the weft and warp of successful commerce in the world village.
Computer technology is increasingly important both through its
contribution to manufacturing and through processors embedded in
products. A growing share of economic output is embodied in software,
both in the programs that run the computers, and in the information
which allows for the efficient management of human enterprise. The
world is entering an information age, where the source of wealth and
power is increasingly from information and human mental creativity, with
physical resources declining in relative value. It is becoming
increasingly difficult for any nation to keep pace with world affluence
without embracing information technology.

Information technology introduced to improve economic performance
will end up being utilized for other purposes. Regimes which once
limited access to typewriters and photocopiers must now confront the
challenges of computer terminals, printers, and networks. Attempts to
limit the availability or use of such devices can only reduce the
economic gains which motivate introducing computers in the first place.
Furthermore, to deny free communications is to be excluded from
participation in a global economy that is growing much more rapidly than

\(^{10}\) While international radio communications have been available to
the world publics for more than half a century, international television
represents a quantum jump in the amount and credibility of information
about other societies. Obviously, being able to observe people and
events, in addition to hearing them, makes a big difference in the
acceptance of information. As one writer put it, "the power of the
video and satellite underground was that, unlike Western radio
broadcasts such as Radio Free Europe and the British Broadcasting Corp.,
it offered visual proof that made its message undeniable." (Thomas
B. Rosenstiel, "TV, VCRs Fan Fire of Revolution," Los Angeles Times,
January 18, 1990, pp. 1, 14, 15.)
that of any closed national economy. To accept free communications is to grant the power of information to individuals who are then empowered to challenge the hierarchies which have been built upon, and maintained by, the denial and control of information.

The business hierarchies have been among the first to recognize the dilemma. Those which permit the free association of their employees through modern information networks enjoy the benefits of innovation and productivity that come from sharing information from many sources. But those employees may then bypass or ignore the existing business hierarchies in their networking. Employees may often find they have more in common with fellow workers in other establishments than they do with their own managers. There is a logical tendency to share information with those who can or want to contribute to the common enterprise and to ignore those whose use of information might serve other ends. Not surprisingly, these situations have appeared first within those businesses directly involved in the information technologies — the computer industries. For them, the choice is often between control and innovation, as they bear upon business competitiveness.

National political hierarchies face a similar choice. For their nations to be economically competitive, they must allow individual citizens access to information networks and computer technology. In doing so they cede significant control over economic, cultural, and eventually political events in their countries. Symptoms of this devolution are discernible in the shift in control between Western governments and the electronic media11 and in the gradual decline in authoritative regimes during the last fifteen years. But a definitive impact of these trends upon the fate of nations has not been seen until now, in Eastern Europe.

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11Western governments lost control over the public agendas to the electronic media some time ago; now they are beginning to recognize that they may have also lost the advantage in access to current information (i.e., current intelligence). Indeed, Cable Network News may often be better informed about current events than the White House staff.
The role of telecommunications in the events of the past year has certainly been noted and remarked upon by many observers. But the effect generally ascribed by the media, to the media, is more that of facilitating change than compelling change. Telecommunications are still more likely to be characterized as a new factor to be reckoned with in the old order of things rather than the manifestation of a completely new order. We do not agree. In the footsteps of Marshall McLuhan, we are suggesting that telecommunications are not simply a new factor to be reckoned with, they are the dominant force that will shape the decades ahead.

V

Our model of the future of Europe (and the world) suggests that the communist bloc failed, not primarily or even fundamentally because of its centrally controlled economic policies or its excessive military burdens, but because its closed societies were too long denied the fruits of the information revolution that was developing elsewhere over the past 40 years. The centrally controlled economies were not comparative or obvious failures 40 or even 20 years ago. Even today, it would be difficult to show that the communist economies and their societies are greatly worse off today than they were 40 or 20 years ago. What has changed so dramatically are not the communist economies but the free economies of the developed Western nations, nurtured and fueled by the information revolution.

Absent the information revolution and its effects on the Western economies, it is not at all clear that the disparities between the Western and communist economies would be so great or increasing at their present rates. With the majority of producer durables of the American economy in the information technologies, it is difficult to deny the role of the information revolution in the comparative growth of the Western and communist economies.¹²

Absent the information revolution, the closing of the communist societies to protect the control of their elites might not have mattered. Indeed, that closing did not matter until the information revolution took hold as a significant world development in the 1960s — with solid-state electronics, space satellites, and the jet transport. \(^{11}\) Thereafter, closed societies hurt; they denied the economic growth inherent in information technologies and their progeny — world commerce and community.

The closed communist societies may not have been blind to the dilemma; but the consequences were not equally stark: It must have been clear that opening their societies to the information revolution would threaten the control of their elites; it was probably less clear that foregoing participation in the information revolution would leave their economies so far behind the rest of the developed world. One was an obvious and immediate threat; the other was a remote possibility.

Now, that other, remote possibility has become a fact that can no longer be denied, even within the closed societies. The information revolution has breached the walls — both physical and political. They were breached not by military forces, diplomacy, alliances, or economic power, but by information spewing out of television sets, telephones, computers, and facsimile machines into the minds of individuals. It wasn't that the authorities couldn't prevent that flood of information — they could. In some cases they tried, and in a few — like Albania, Cuba, China, and North Korea — they continue. But to do so is to deny themselves the benefits of the prospering societies they see all around them. Now the clock is ticking for them; probably none will continue as closed societies when their present leaderships die off.

Gorbachev chose to open his society and to risk his control over it. Glasnost was the strategic decision, not perestroika. It is not a one time choice, for the dilemma will persist so long as the information

\(^{11}\)Note that the closed communist societies did not greatly lag the open Western societies in the development of jet transport and space satellites. It was in solid-state electronics that they lagged so notably, perhaps necessarily if they were to remain closed.
revolution provides the dominant force in changing the world: The choice is either to open the society and hope to secure the benefits of the information revolution or to close it and insure its continuing backwardness relative to the open societies and the rest of the developed world community. Gorbachev's successors cannot escape the dilemma; they can only ratify or repudiate the choice. Perestroika is merely the undertaker that must deal with the dead body of the hierarchy of elites created in, and sustained by, a closed society.

The mostly peaceful revolutions that have followed Gorbachev's decision to open the Russian society have not been political movements so much as they have been collective actions of informed individuals. The lack of political movements and leaderships in these revolutions has been remarked upon. Those who have emerged—modestly, hesitantly—to positions of leadership have been spokesmen of the prevailing and popular view in their society rather than political statesmen or proponents of a political ideology.

In the more violent revolution in Romania and the suppression of the Chinese student revolt, one can clearly see the handprints of the information revolution. The focus of repeated Romanian clashes was over control of the Bucharest television station. By most accounts, the television station became the nerve center of the Romanian revolution. The role of facsimile machines has been given prominence in the events leading up to and following Tianamen Square.

The simultaneity of the revolutions in Eastern Europe must be explained by whatever model one subscribes to for events there. That the Eastern European satellites of the Soviet Union were restive was certainly no surprise. If they had progressively gained greater political freedom from Moscow over the next decade or so, few would have expressed astonishment. But for all of these nations to come in from the cold, separately, sequentially, in the space of a few months, implies some common mechanism.

Certainly Gorbachev's pronouncements and behavior implied that it might, for the first time, be safe to protest without being confronted with Soviet tanks. But what made the protesters safe against the
repressive powers of their own nation? Indeed, the pre-revolutionary leaderships in Poland, East Germany, and Romania threatened to use force to control dissent. With the possible exceptions of Poland and Hungary, there were no well-organized political oppositions to the national governments. Something told the separate publics of more than a half-dozen nations that:

- It would be safe to engage in mass protests against the continuance of their national governments;
- Unlike the 1968 Prague Spring, the Soviets would probably not move against them;
- Unlike the Hungarian expectations in 1956, the West would probably not move to help them until after they had succeeded in changing their governments; and most important,
- They could peacefully persist even against the repressive efforts of their own governments.

Significantly, no national government on either side of the Iron Curtain was telling them these things. No national government wanted to. The publics throughout Europe, east and west, knew these things and acted on the basis of information that was increasingly available through non-governmental sources — through television, telephone circuits, facsimile and copying machines — as part of the global network of electronic signals. Indeed, national governments and organized political bodies on both sides of the Iron Curtain acted to moderate rather than amplify the forces engendered by the information revolution.

And so the media became the force behind the domino, as the Poles inspired the Hungarians, the Hungarians inspired the East Germans and the East Germans inspired the Czechoslovaks.14

We cannot find significant signs of national political power in the European upheavals of 1989. Rather, we find signs of growing power in the hands of individuals—power derived from what they know about the world around them from information increasingly available in the world's electronic networks. With few exceptions, national political power appears to be in retreat from events that governments either do not control or would control only at their own peril. Political leaderships appear not to have anticipated these events, but in their face, can only urge caution and moderation.

Are these temporary circumstances which the national political elites will soon accommodate and adapt to their traditional ends? We think not in any enduring or widespread way. The most important form of power is diffusing beyond their control; and technology, as it has before, is showing signs of changing from their mistress to their rival. The horse has slipped the chariot's harness and has been saddled by the nomadic raider.

VI

Our model suggests that it is not democracy or capitalism that has triumphed, as much as the Western political elites might like to demurely pretend. Indeed, Western institutions may soon find themselves being challenged by the information revolution, simply because hierarchies of all kinds are vulnerable to its effects. The authoritarian communist states were the most vulnerable to these effects because they depended, more than the democracies, upon hierarchies and the control of information for their power and legitimacy. The democracies are less dependent upon these things, but to the extent that dependencies remain, they will ultimately become vulnerable too. The difficulties of democratic governance in the age of television (and other mass media of communications) is increasingly acknowledged.
Some see renewed nationalism in the peaceful revolutions in Eastern Europe and in the breakup of the Soviet empire. Certainly, the waving of national flags in the public rallies and the moves to reassert national prerogatives against Soviet domination would seem to point in that direction. However, our model suggests something subtly different—not nationalism so much as the desire to reestablish self-governing cultural communities which have been long suppressed. We do not detect in these mostly peaceful revolutions the desire to reestablish centrally-controlled nation-states with the usual trappings of national power—particularly military power. Thus, we do not see the current direction as one of balkanization so much as one for identification and affiliation with a common culture and local control within that culture.

Europe in 1990 differs from Europe in 1914 in several critical aspects. Horizontal contacts between individual citizens of different nations through travel and communications provide a rein on nationalistic aggression. The propaganda effort required for central governments to convince their citizens to forfeit their lives through state-organized warfare is now being undermined by the availability of independent sources of information. This effect is now strong in Western Europe, and can be expected to grow stronger in the East as restrictions on the flow of people and information are eased.

The economic dependencies that were supposed to prevent war in 1914, but didn’t, have also changed. The growing economic interconnectedness between societies is different than that which existed prior to the information revolution: before it was mostly in trading connections, now it is in the business enterprises themselves—in the ownership, management, financing, and production. The risks of war have become more than a threat to trade profits; they now jeopardize capital and its purposes. Furthermore, in the information economy, the sources of wealth and power are increasingly dominated by human knowledge and creativity, with material resources declining in importance. Wealth based upon information cannot be acquired through the conquest of territory. Thus, information technology causes the motivation for nationalistic conquest to decline along with the
capability. Violence of various kinds will remain, perhaps even grow, but the likelihood of wars of national conquest appears to recede as states lose the ability to dictate either the use or the availability of information.

We see the leaderships of national governments everywhere being challenged to stay ahead of their increasingly international publics and commerce, whose access to information and communications are no longer so disparate from that of their leaders. Gorbachev's precarious situation has been likened to "riding on the back of a tiger." From the vantage point of our model, the leaders of most nations may find themselves on the backs of animals that they do not entirely control. While they may not all be riding tigers - which might devour them if they should fall - they may no longer be riding the docile beasts they once knew and enjoyed "leading."

The moves toward a European community seem less one of bold leadership than the ratification of moves and directions that have been adopted by the publics and businesses of Europe. Thus, our model suggests that the question of whether European community should be broadened or deepened is impertinent; it will be broadened to follow the business interests and needs of European publics; and it will be deepened only so far as it serves their interests. The interests of the national governments or their federation government will be the weaker forces.

Will Gorbachev be replaced by hard-liners in the Soviet Union? Our model suggests that it won't make much difference in the long run. Conservative, repressive regimes may well come to, or reclaim, power, as they have in China, as they may in the Soviet Union. But such power cannot be sustained unless the society is closed off from the noise of the world; and that is not only becoming more difficult to do; it will prevent that society from participating in the prosperity of the world village.

Will NATO endure? NATO is a creature of the national governments of the North Atlantic nations and emerged in the context of the cold war. It has always been a political alliance more than it has been a
military alliance. Now that the cold war appears to be over and the military threat subsides, it is easier to acknowledge, even enshrine, its political character. Many call for the gradual transformation of NATO into an overtly political organization—to ratify the past reality and take the burden off the military pretensions. Our model suggests that NATO will be endured by the publics of the member nations so long as it does not greatly interfere with their interests in freedom, prosperity, and peace. If NATO appears to be contrary or anachronistic with respect to those interests, it will become the object of ridicule, to be laughed or shamed out of existence.15

If the trends we identify are in fact the dominant factors influencing the future, the events of 1989 will be only the first wave in a process of global transformation which may continue for decades. If this future comes to pass, those who dedicate themselves to preserving the existing power structures may find themselves in a losing battle as technology undercuts the old approaches. Others championing particular economic or cultural ends may find available means in the rising forces for change. While any technology can be used for good or ill, information technology seems disposed to place greater power in the hands of individuals, thereby enhancing pluralism and individual freedom. This aspect of information technology is harmonious with the fundamental precepts of liberal democracy, and presents the West with special opportunities (balanced to be sure with dangers of possible negative consequences). The winds of change are blowing. The only available choice is between running with the wind or spitting into it. We see signs of both in the national governments.

15This is the fate of the military as seen by John Mueller in Retreat from Doomsday, The Obsolescence of Major War, Basic Books, Inc., New York, 1989.
In general, the United States government and its policies may have less control over the future of Europe than it would like to think, even as its culture and commerce may have been the most influential forces in shaping that future. For the American government to emphasize its national interests and its superpower status may reduce, rather than enhance, the respect and influence it seeks. If our model is correct, the audience for American foreign policy is changing; it is less other national governments and more their publics — who are watching and listening and to whom the power is shifting. America, more than ever, at this important juncture, needs to behave in conformance with its most positive and emulated ideals instead of its pragmatic national and political interests.

What is it, then, that the United States should do to favorably shape the future of the Europe? Our model suggests several possibilities:

* With respect to the reunification of Germany, the United States should look with favor upon what the two German societies want, given that they enjoy the freedom and voice to express their desires — something which neither side has been able to do up to now. The role of the two German governments should be to look after the operational details of any degree of association commonly desired by their two publics; they should avoid getting ahead of their societies or imposing more association than either of the two societies want. As for fears of German nationalism and militarism, any fair reading of the character of the present German societies would argue that America and Europe have less to fear of German nationalism and militarism than the Germans and Europeans have to fear of American nationalism and militarism. Indeed, excess zeal in American nationalism and militarism could be one of the most invidious
ways to stimulate their reemergence in two of the world's most powerful pacifist societies — in Germany and Japan.

• With respect to NATO, the United States and Canada should let its future be guided by the expressed desires of its European members. It was created to serve European security at a time when that was in great political and military jeopardy from Stalin's version of Soviet communism. The political threat has all but disappeared; the military threat is rapidly subsiding, with or without arms control agreements. If the European members see a continuing need for the NATO alliance, or the need to transform it explicitly from a military to a political alliance, the United States should be supportive, but not lead the way. If NATO has any residual utility to the United States, it could be undermined quickly by a United States asserting its national interests as the most powerful military member of the alliance.

• With respect to economic assistance for the Soviet Union, U.S. initiatives should be guided by discrimination between temporary structural problems and endemic cultural problems. Humanitarian aid of all kinds — food, medical supplies, etc. — should be provided quickly wherever they may be needed to offset dislocations caused by the reformation of the Soviet political and economic systems. The Russian society should not be punished beyond humanitarian bounds by its own efforts to create a more open and free society. At the same time, however, the economic strength of the Russian society cannot be insured by economic aid alone. Where the culture, not the government, impedes economic development, the only enduring solution lies in the transfer of information, not capital. It is in the interest of the United States to see that the Russian society has the greatest possible access to the worldwide information nets — that the Russian people know what is going on in the world around them and how other societies live and deal with their problems. Thus, while American business may or
may not have an interest in investments or building plants in
the Soviet Union, the American government should be pursuing
policies that will ensure a better informed Russian society
through the modernization of all public communications —
especially telephone and television networks.

- The same conditions hold in regard to Eastern Europe, only with
greater force due to the greater influence the West will have
there. Although direct material aid is important in the short
term, the greatest leverage for economic assistance will be
from the introduction of information infrastructure and the
promotion of information industries such as education and
services promoting efficient businesses and markets. The
political ends of the West may best be served by taking
whatever steps are available to ensure the continued free flow
of information across borders.

The information revolution now underway has transformed the world;
but the final form of that world is not entirely clear. It may or may
not turn out be a more peaceful or kinder world. Violence organized by
the nation-states may decline; yet factional violence of all kinds may
increase. Not all of the effects of this revolution will be welcomed;
certainly not all of the information available will be uplifting to
those watching or listening. What seems clear to us is that the world
has shrunk to a global village or community where many voices can be
heard and where information is abundant, both for the first time. The
United States has been the leader and role model in this revolution, in
its culture and its commerce. It remains to be seen whether its
government and policies will serve and support that cultural and
commercial leadership or will, as the relative powers of the nation-
state decline worldwide, try to conserve those powers as long as
possible.

The European publics appear to have made their strategic choices —
to join the emerging world community and to share in its prosperity,
seeking self-governance rather than nationalism, and eschewing
militarism. Having shown the way, the American people may now have to
goad their own governing elites into making the same strategic choices.

More than 30 years ago, in commenting on Henry Kissinger's *Nuclear
Weapons and Foreign Policy*, Robert Oppenheimer saw the shadows of what
we can now see so much more clearly:

Of course Kissinger is right in conceiving the problems of
policy planning and strategy in terms of national power, in
rough analogy to the national struggles of the 19th century;
yet I have the impression that there are deep things abroad in
the world, which in time are going to turn the flank of all
struggles so conceived. This will not happen today, nor
easily as long as Soviet power continues great and unaltered;
but nevertheless I think in time the transnational communities
in our culture will begin to play a prominent part in the
political structure of the world, and even affect the exercise
of power by the states.¹⁶

¹⁶J. Robert Oppenheimer in a letter to Atomic Energy Commissioner
Gordon Dean, dated May 16, 1957, as quoted by Richard Rhodes, *The Making