I.

Forty years ago, Europe was quite different from what it is today.¹ Not only was half the continent in the grip of communism; large parts of southern Europe, including Spain, Portugal, and Greece, were just shaking off the remnants of their authoritarian regimes. The standard of living there was low, and the agrarian sector still dominated the economy. On the other hand, countries like West Germany, the United Kingdom, Belgium, and the Netherlands, as well as large parts of France, Italy, and Scandinavia, were fully fledged industrial societies with around fifty per cent of the workforce employed in the industrial sector. Coal was still a fairly important source of energy, even though the irreversible decline of the mining industry had already become obvious. Oil was cheap and abundant, although the first oil crisis in 1973 temporarily caused a sharp rise in prices and gave a sure indication of the fact that the oil reserves were not infinite.²

The Europe of the 1970s was still separated by many frontiers, and it was not so easy to travel from one country to another. We do not need to speak of the Iron Curtain that continued to cut through the heart of Europe and prohibited the freedom of movement in Eastern Europe. Even within Western Europe border controls were normal and often time-consuming, even though compulsory visas had been abolished by the end of the 1950s. It was still difficult to move from one European country to another in order to settle down, work or study abroad. Applicants had to meet many requirements and qualifications, and bureaucratic proceedings were complex and sometimes insurmountable. Finally, travel was expensive and — as far as air travel is concerned — often a luxury.

Computers did exist in the 1970s but they were huge machines that were operated by specialists in closed laboratories. And computers did not affect everyday life at all. Even secretaries still used rather old-fashioned typewriters when writing their bosses’ letters.

¹ This article is a revised and annotated version of the Annual Lecture I was invited to give at the German Historical Institute in Washington, 13 November 2014.

It would be easy to extend this list of differences between Europe in the 1970s and today. Instead, this paper will focus on the most important underlying change: the change in economic structures and the accompanying changes in the working world. In this respect, the 1980s are a crucial period not only for the western part of Europe but also for its eastern countries and their eroding communist regimes. This is the decade when traditional and familiar forms of the economy and the workplace began to enter their irreversible and partly fatal crisis. In Great Britain, the miners and printers, who had once been the spearhead of trade union power, fought their last battles against the Thatcher government and against people like Robert Maxwell, the famous British press tsar and ruthless modernizer of the print industry. It was a futile battle. The acceleration of technological change, the economic slump, and growing international competition combined to turn the last big fight of the British trade unions into a huge defeat.3

By 1989 less than 5,000 miners were going to work in south Wales — where 250,000 pitmen had once earned their living.4

In a like manner, the Western European textile industry collapsed. During the 1980s, the last big textile plants were closed down, while at the same time steel workers in Germany and elsewhere fought for the bare survival of their factories.5 These examples could easily be extended: with great vehemence, international market forces continued their relentless drive and this vehemence could not be changed by any instrument of economic or social policy. Even in West Germany, where industrial corporations were quick to adapt themselves to the new conditions by means of rationalization and innovation, more than two million industrial jobs were lost between 1973 and 1984.6

On the other hand, the 1980s also witnessed the emergence of manifold forms of new modernity. Nothing short of a revolution was taking place in computer technology and communications media, such as laser and satellite. Technological innovations paved the way for new productivity in the service sector, beginning with new media and the development of a digital finance industry. This made possible a huge, albeit partial, economic dynamic and created new opportunities for the future. Thus, the 1980s were a period when, “after the boom”,7 open economic, social, and cultural contradictions clashed.

Several developments, whose origins dated back at least a decade, were converging. The sharp rise in oil prices in 1973 and again in 1979 had left its mark on the world economy. In all Western industrial states, rationalization measures and job cuts in the industrial

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4 Ibid., 475.


6 Ibid., p. 239.

sector were the consequence. “Stagflation” and high unemployment rates constituted a kind of crisis experience that was completely new for the postwar era. Moreover, the highly visible trend towards the internationalization of the world economy was calling into question traditional securities and markets. Western Europe and the United States were facing the challenges coming from Japan and, increasingly, from the so-called “four Asian tigers”, namely Hong Kong, South Korea, Singapore, and Taiwan. At the same time, still in the shadow zone of world history, but with revolutionary consequences in the long term, China, under its great reformer Deng Xiaoping, embarked on the path to modernization. Thus, already in the 1980s, the profile of a new axis of globalization, ranging from North America via Europe to north-east Asia, became visible.

If we look, then, at European history since the 1980s, we observe that the political caesura of 1989 was embedded in a huge, revolutionary, and global technological and economic development. The new information and communication technologies (ICT) changed the world. An irresistible technical acceleration first caught hold of the developed countries of the West and Japan, and then, since the millennium, the whole world. The extent and impact of this development amounted to a kind of “third industrial revolution.” The personal computer dramatically changed working environments as well as everyday life and leisure habits. The World Wide Web, which was introduced in 1995, further accelerated this development. It now became possible to transmit information and data more or less immediately and all over the world. In fact, by the beginning of the twenty-first century it had become technically irrelevant whether an office worker worked in Europe, North America or Asia.

It was in this context that Western European governments and, increasingly, the European Commission began searching for strategies for how to overcome the endemic crisis caused by large structural changes, technical innovation, and intensified international competition. Already during the 1980s, but above all during the 1990s, when multinational corporations began relocating their production to low-wage countries, Western European labor markets as well as working conditions had been coming under increasing pressure. Millions of industrial jobs were lost without full compensation in the service sector. While the welfare state came under fire, Western European societies faced increasing tendencies towards social polarization and exclusion. Since the mid-1980s, Western European governments
developed a strategy to cope with these challenges through market liberalization, including privatization and a liberalization of the labor market, as well as educational reforms. Additionally, there was an increasingly intensive liberalization of international trade and finance, while in Europe itself a single market was formed. Thus, the globalization of the 1980s and 1990s was by no means an uncontrolled process, which engulfed the Western world, as it were, like a natural disaster. On the contrary, states and governments contributed actively to it, because they thought they could best combat the economic crisis and unemployment by means of economic liberalization and market-oriented policies. Through liberalization, deregulation, and privatization, the Western governments enhanced the power of the market and enlarged the international room for maneuver for the great international banks and multinational corporations. The underlying idea was to accelerate the ongoing structural change and to transform industrial societies, which relied heavily on manual labor, into modern service societies.8

In this strategy, knowledge became a transformational resource. On a continent that is chronically short of key raw materials but in possession of an impressive educational tradition, this idea was particularly tempting. Knowledge was to become an important productive force, alongside capital and labor, and might even supersede them as the decisive motor of economic productivity. Thus, the concept of a European “knowledge society” became an integrative, cross-sector strategy for mobilizing European cultural resources, modernizing the European economy, and enhancing Europe’s competitiveness in the world.

Three elements dominated in this discourse. First, there was science. In the last forty years, science has increasingly left the ivory tower and continuously extended its social function. The neologism “scientification” betrays the progress made by science-based knowledge. Science has, indeed, permeated almost all areas of life. This is even true for the private sphere. Consider, for example, the human body as an object of science, the healthcare industry, and the many science-based solutions offered for almost all psychological problems and personal stress factors. Second, science has promoted technology. There are several “new technologies” that have gained momentum since the 1980s. The most important are, of course, the information and communication technologies or ICTs, which have contributed to the far-reaching changes that we have experienced during the last

8 For the larger context, see Andreas Wirsching, Der Preis der Freiheit: Geschichte Europas in unserer Zeit (Munich, 2012), 226-266.
thirty years. In this respect, the “knowledge society” is the legitimate successor to what was called the “information society” in the 1980s, that is, a society that is economically increasingly dependent on information technology and culturally ever more influenced by those technologies. Indeed, technology and above all ICTs have transformed the everyday lives of Europeans in a way that may truly be called the Third Industrial Revolution.

This is why, third, the concept of the knowledge society has required the transformation of education. In the face of the modern, knowledge-based economy’s ever increasing needs, education has had to be developed in two ways: governments and public actors have had to improve education systems, and individuals have also had to rise to the challenge by working to enhance their knowledge and their ability to act successfully in the labor market.

In the following pages, I will discuss the assumption that this European concept of “knowledge” has not only been very influential at a political level but has also strongly contributed to the transformation of European societies since the 1980s. First, I will concentrate on the intellectual origins of this knowledge concept (II); second, on the efforts to implement it politically (III); and, third, I will consider some of its problems and highly ambivalent consequences (IV).

II.

The idea of knowledge as a transformational resource is a very interesting example of a transatlantic discourse to which European and North American actors contributed simultaneously. Most key advocates of the concept were European-born, but they found a larger audience in the U.S., and they were more successful there than in Europe. In the end, however, Europeans took up the concept as a program for modernization. At the same time, and in the context of neo-liberalism and the growing power of consulting firms, this program could easily — but inadequately — be described as a kind of economic “Americanization.”

Already in the 1950s, some observers had predicted the transition from industrial to postindustrial (or service) societies. Starting with Jean Fourastié’s (overly) optimistic forecast, these studies agreed on the expectation of higher productivity, higher levels of education, the humanization of work, and a flourishing culture. As early as 1959 Peter F. Drucker, the Austrian-born leading theorist of management,
predicted the rise of a new class of “knowledge workers.”

In the following decades, Drucker described the concept more precisely. His ideal type of the knowledge worker was, in fact, the historical successor of the white collar worker. Drucker’s knowledge worker had at his or her disposal an advanced education as well as great spatial and professional flexibility; he or she could swiftly change jobs and employers and was able to repeatedly acquire highly specialized knowledge. Therefore, the knowledge worker could act in complete autonomy on the labor market and choose among many different career options. In the end, power in the workplace would shift from bosses to knowledge workers. As Drucker himself formulated in 1999: “More and more people in the workforce — and most knowledge workers — will have to manage themselves. They will have to place themselves where they can make the greatest contribution; they will have to learn to develop themselves. They will have to learn to stay young and mentally alive during a fifty-year working life. They will have to learn how and when to change what they do, how they do it and when they do it.”

This analysis was immensely influential. By the time of his death in 2005, Drucker had published thirty-nine books, which have been translated into more than thirty languages. Most receptive to his concepts was, of course, the consulting sector. Drucker himself entered into a long and successful consulting career and worked with major corporations like General Electric, Coca Cola, and many others. For the mission statement of consulting firms like McKinsey, Boston Consulting, and many others, Drucker’s credo of self-management, individual creativity, lifelong learning and flexibility on the job market has become a sort of modernization mantra since the late 1980s.

Ironically, the concept converged nicely with some late Marxist positions. While Drucker primarily addressed the economic world, the American social scientist Daniel Bell adopted a similar analysis. Bell’s immensely influential book on the “coming of the post-industrial society” was published in 1973. Here, the future postindustrial society is driven by knowledge and science-based innovations. Accordingly, the new society would doubtless be a “knowledge society.” Knowledge would be the decisive innovation factor, fundamentally transforming the nature of work and production. Bell did not conceal his assumption that this new society would probably require significant adjustments by workers as well as create new pressures to conform. But this prospect could also be seen in an optimistic way: in an increasingly
computer-based knowledge society, a new labor force would be able to meet these requirements by means of more intensive vocational training and higher levels of education.\textsuperscript{12}

In his social forecasting, Bell predicted greater prosperity within a technologically advanced economy. Thus, he led the way in transforming Marxist humanistic ideals into an optimistic (or even utopian) analysis of the future postindustrial society. Others, like the Polish Marxist Adam Schaff or the Austrian-French philosopher André Gorz, followed this path as well. Future society, based on self-sustained growth, prosperity, and leisure, would offer everyone unprecedented possibilities for personal development. It was in this sense that Adam Schaff wrote in 1985 on behalf of the Club of Rome: “The universal man is universally educated; that is why he is able to change his profession and to change his position in the social division of labor. So far, this kind of man has only been utopian. But today this man is beginning to become a reality. To some extent, he is becoming a necessity. Continuous education and ever more efficient information technologies will realize this ideal.”\textsuperscript{13}

An underlying assumption here was the idea of social mobility or even social egalitarianism. Peter Drucker’s model of the knowledge worker suggested continuous upward social movement driven by knowledge. “In the knowledge society,” he wrote in 1994, “for the first time in history, the possibility of leadership will be open to all.”\textsuperscript{14}

Others, like Manuel Castells — a Spanish-born social scientist, a former Marxist, and the author of the highly influential book \textit{The Information Age} — predicted the rise of a “network society.” By this he meant an emancipatory society that has been changed forever by new information and communication technologies. The basis of such a society is the direct interaction between the net and the individual, bypassing traditional seats of power like the patriarchal family and the nation state. Thus, according to Castells, the network society is an open structure and in itself quite different from a society based on classes or social strata.

We can thus see how the discourse on knowledge was strongly characterized by the interpenetration of consulting expertise, technological enthusiasm, and late Marxist ideas about humanistic socialism and the humanization of work that were already flourishing during the 1970s. Added to that in the 1990s was European governments’

\textsuperscript{12} Daniel Bell, \textit{The Coming of Post-Industrial Society: A Venture in Social Forecasting} (New York, 1973), 24-33, 143 f., 423.


search for an adequate globalization strategy. There was probably no place in the world where this blend of heterogeneous ideas exerted more influence than in Europe.

III.

By the end of the 1990s, a large majority of European political actors had enthusiastically accepted the paradigm of “knowledge” and the “knowledge society.” Advised by social scientists, economists, and practical advocates of the concept such as Manuel Castells, Anthony Giddens, the Portuguese economist Maria Joao Rodrigues, and the German politician and consultant Thomas Mirow, the European Union (EU) made the language of the knowledge society the basis of its political agenda. A society based on knowledge was supposed to enhance Europe’s cultural and economic power, secure Europe’s place in the world, and ensure Europe’s future. In 2000, the so-called Lisbon strategy was adopted, which aimed to make “Europe, by 2010, the most competitive and the most dynamic knowledge-based economy in the world.” Under the subtitle “An information society for all” the Presidency Conclusions proclaimed: “The shift to a digital, knowledge-based economy, prompted by new goods and services, will be a powerful engine for growth, competitiveness and jobs. In addition, it will be capable of improving citizens’ quality of life and the environment.” Thus, technological, economic, competitive aspects as well as notions of personal well-being and the “good life” were included in the new strategy.

The Lisbon strategy was developed by a small EU network of leading politicians and experts, “a new kind of alliance between the intellectual community and the political community,” as Maria Rodrigues put it. Whereas the dominant part among the scientific experts was played by economists, the politicians involved were mostly Social Democrats and had a technological and technocratic outlook. The knowledge society envisioned by this group was not confined to an increased commitment to research and development. The European Union linked its ideas and programs for research and development to the imperative of economic competitiveness. Thus, in 2004 the “Lisbon Strategy for Growth and Employment” described the European knowledge society in the following manner:

It covers every aspect of the contemporary economy where knowledge is at the heart of value added — from high-tech manufacturing and ICTs through knowledge intensive
services to the overtly creative industries such as the media and architecture. Up to 30% of the working population are estimated in future to be working directly in the production and diffusion of knowledge in the manufacturing, service, financial and creative industries alike. A large proportion of the rest of the workforce will need to be no less agile and knowledge-based if it is to exploit the new trends. Europe can thus build on its generally strong commitment to create a knowledge society to win potential world leadership.\(^\text{19}\)

In order to implement the idea of knowledge as a transformational resource, the European Union developed a new sort of governance: The so called “open method of coordination” introduced in 2000 sought to overcome the EU’s rather cumbersome political procedures. The new system was to provide a framework in which the EU would provide impulses, set benchmarks, and control the process of implementation, whereas the member states and their governments were supposed to implement the targets set by the European Council and the Commission.

In order to see how this might have worked in practice, one can look at the relationship between the June 2003 economic policy guidelines of the European Council\(^\text{20}\) and Chancellor Gerhard Schröder’s government declaration in the German Bundestag shortly afterwards, on July 3, 2003.\(^\text{21}\) Among other points, the European guidelines recommended making the tax and benefits system more employment-friendly, and reducing “tax and benefit disincentives to supply and demand for low-paid labor.” Schröder promised lower taxes to unburden citizens and employers “dramatically,” and from 2004 the top income-tax rate was lowered to a historic 45 per cent.

The guidelines also recommended making sure that “wage-bargaining systems allow wages to reflect productivity, taking into account productivity differences across skills and local labor market conditions.” According to Schröder, “a turnaround of thinking is taking place. Germans are ready to accept changes. Here, I include explicitly the trade unions . . . Their members want to be the actors of change not its victims let alone its brakemen.” Furthermore, the guidelines recommended reviewing “labor market regulations, notably by relaxing overly restrictive employment protection legislation”, thereby facilitating “labor mobility” and ensuring “efficient active labor market policies”. Schröder, for his part, referred to the so-called Hartz-Reforms


\(^{21}\) Deutscher Bundestag, 15th Wahlperiode, 56th Sitzung, 3 July 2003, pp. 4584-4585.
through which the low-income sector had already generated increased employment opportunities by facilitating the use of “temp work” organized by temporary staffing firms and by introducing start-up grants to help the unemployed become self-employed — the so-called “Ich-AG’s”. Thus, Schröder was optimistic that he had shaped a “labor market that is much more open and flexible than has been the case for decades.”22

These examples demonstrate the close relationship between the European Union’s concept of the knowledge society and the German social and economic reforms in the era of the red-green coalition under Gerhard Schröder and Joschka Fischer.23 Further research would certainly reveal more examples of such an interrelationship between European guidelines and national policies.

The issue of education offers a further example. As a concomitant of market liberalization, education became a key arena for Europe’s political efforts to address the exigencies of globalization through the notion of the knowledge society. A UNESCO report of 2005 characterized education as the “cornerstone of human security and knowledge societies.”24 As early as during the 1980s, the main challenge for the discourse on education came from the dynamic process of internationalization that was connected to the accelerated development of new information technologies. Parallel to these developments, a tendency to discuss new technologies of the social began to spread. Many observers and consultants coming from business and technical milieus began demanding concrete educational policy measures. The challenge of the new technologies demanded new requirements for the education and training of men. If, in fact, one could not evade the new technologies, it seemed necessary to adjust human beings to the new technologies: to modernize their habits, capabilities, and working techniques in order to achieve a new, progressive and growth-oriented “man-machine-system.”25

New technologies brought advantages such as the “humanization of work” — a much discussed theme in the 1970s — but what was now badly needed was the optimization of the “man-machine-interface” in the process of production. This was above all a cultural and educational problem. Technological progress itself required the integration of working people into new, more flexible professional organizations. Against that backdrop, political advisors were speaking of a “new crisis of education.” In the face of explosive technological development, the traditional educational system had, from this point of view,
definitely lost its legitimacy. In the “humanely computerized society” the educational system required a complete overhaul. Appropriate education could only mean educating and qualifying people for their life in a world structured by information technology.26

Any such educational program implied a rather severe process of adjustment even though it seemed to be softened by the promise of a new workplace culture. New semantic strategies placed emphasis on individual and communicative qualities. “Creativity”, “communication skills,” and the “ability to work in a team” became much discussed key qualifications. Again, the influence of consulting is highly visible here. The acquisition of these competencies, however, was imposed more and more on individuals and education systems. In a large-scale 1987 advertising campaign, for instance, the German Post Office announced that: “Further training becomes the motor of economic development”; and: “The ability to use the modern information and communication technology creatively becomes increasingly important.”27 Thus, the industrial society needed to be complemented by a “learning society,” because capital as the dominant productive force was being replaced by knowledge and creativity.28

There is probably no political sector in the history of recent European integration that has undergone more significant changes than education policy. At the beginning of the 1980s, the educational aims of the European Community still corresponded to the mission statement of the “Europe of citizens.” Education was considered a complement to strengthening the democratic consciousness of European citizens. By the end of the 1990s, however, education had become more or less completely an instrument for European globalization strategies. Thus, education formed a key element of the Lisbon strategy. “Europe’s education and training systems,” the European Council postulated in 2000, “need to adapt both to the demands of the knowledge society and to the need for an improved level and quality of employment.”29 Accordingly, the High Level Group of the EU, chaired by Wim Kok, demanded in 2004 that workers be able “constantly to acquire and renew skills” and be trained “to make moving from job to job as easy as possible.”30

The individual’s employability on the market became the central target of education, and it was in this context that the European Commission set up a highly sophisticated benchmarking system. National educational institutions were expected to orient their policies towards this target: from primary schools all the way to higher


27 Advertisement in Manager-Magazin (Nov. 1987), 140 f. See also Bundespostministerium, Chance und Herausforderung der Telekommunikation in den 90er Jahren (Bonn, 1987).


30 European Commission, Facing the Challenge, 31.
education, for which “employability” now became the leitmotif in line with the “Bologna process,” which had been adopted in 1999. European bureaucracy aimed at a strong and complete chain of “reliable and responsive lifelong learning systems.” Together with active labor market policies, these were supposed to help people “cope with rapid change, unemployment spells and transitions to new jobs.” Since then, all European countries have implemented far-reaching reforms of their education systems — reforms that are continuously guided by European benchmarks and supervised by European institutions.

IV.

The question of how the concepts of “knowledge” and the “knowledge society” were implemented politically requires more research, making this a productive field for new research projects. Any project of this kind, however, would need to consider the problems and ambiguities of the concepts. To put it briefly, the main problem of these concepts lies in the way in which they target the individual. Efforts to improve the competitiveness of the European economy have caused immense changes in labor markets and working conditions. The concept of knowledge as a transformational resource is about providing the ways and means for individual adjustments to changes in the job market. There has been a clear shift from collective responsibility for work and labor markets to individual responsibility. If working conditions are increasingly shaped by new technologies, and labor markets are made increasingly flexible, workers will need to improve their occupational knowledge and skills. In the knowledge society, the individual is responsible for his or her own competitiveness in the labor market. The individual has to invest in his or her own areas of expertise in order to secure and maintain employability. Consequently, the individual is also liable for the wrong choices he or she has made and, consequently for any deficiencies in his or her employability.

If one compares the optimistic forecasting of the 1960s, 1970s, and even 1980s with today’s realities, the result will be disillusionment. It has often been observed that the exigencies of changing labor markets present the danger of giving rise to new forms of social polarization and exclusion. Those who are not capable of meeting the new requirements of flexibility, creativity, and better education risk being left behind on the job market. Social scientists, therefore, were quick to point to the growing trends of social marginalization.
and social inequality. They warned about a purely “negative individualism” that would cause new and profound vulnerabilities in the market. Increased flexibility and the fragmentation of the labor market would cause decreasing job security and insecure breadwinning options. While the EU and the OECD hoped for “more and better jobs,” sceptics predicted an increase in “bad jobs.”

Thus the problematic aspects of the “knowledge society” concept cannot be ignored. Undoubtedly, the concept entails a technocratic tendency, the threat of social engineering, and the subordination of the education system to a narrow business logic. As such, the knowledge society may also appear as a kind of ideological tool invented to accelerate and legitimize ongoing structural changes and adjustments. Such modifications are also rather useful for those businesses that profit from globalization and technological change. Behind the language of the “knowledge society” we find, of course, specific interests of capital utilization. The Association of Bavarian Entrepreneurs, for example, has recently put it this way: “Universities and polytechnics are responsible for the employability of their students. That is why we demand from all programs of study that they enable students to acquire practical experience.”

To put it more pointedly, three seemingly improbable bedfellows conspired to produce the new language of the knowledge society: utopian late Marxist thought, the more worldly interests of shareholder capitalism, and political preoccupations with how to cope with globalization. In Europe, this discourse has created a social and economic climate in which education runs the risk of becoming the plaything of a strategy for technocratic modernization — or globalization. Thus, what Dominique Pestre has called “today’s financial-industrial-academic complex” requires a good deal of scepticism.

Europe is facing several great dilemmas, which the debate on the European knowledge society throws into sharp relief. These dilemmas stem from the awareness of at least three recent developments that call into question any purely optimistic vision of making Europe fit for globalization with knowledge.

First, the age of utopia sketched by such different authors as Daniel Bell, Peter F. Drucker, Adam Schaff, and Manuel Castells is gone. Today, Europeans have to admit that, as a general benchmark for labor markets, the vision of the highly educated and well-trained sovereign of his or her own professional biography has proven
unrealistic. Instead of minimizing socio-cultural differences, the new global science-based knowledge and digital economies risk reinforcing old divisions and creating new ones. If the promise of increasing prosperity for all and future collective well-being long characterized the European narrative after the Second World War, it has apparently lost its spell.

Second, this development is closely connected to the fact that Europeans are not alone in the world. Tendencies towards what may be called “knowledge societies” are global. To be sure, the gap between the richer regions of the world and those countries that continue to have little access to education and new ICTs is still growing. But it is also undeniable that the spread of ICT and education has accelerated significantly since the end of the 1990s. This is at least true for the so-called BRIC countries (Brazil, Russia, India, and China), which, together with the OECD countries, are the driving forces of globalization. In the case of China, everyone would agree that here is a giant of knowledge and power in the making. Thus, any concept of European knowledge societies is part of a much larger global process, in which the different world regions will have to define their place and interests.

Europe therefore needs to take into account its historical and cultural peculiarities when debating how to develop its own modern, knowledge-based economy and culture. And these European peculiarities are indeed highly visible. They come to a large extent from historical experience. Europe was the first continent to live with the dire consequences of a fully developed industrial society and unfettered scientific progress. The results of this experience with modernity were, to say the least, ambivalent. That is why Europeans display a certain uneasiness with regard to the interrelationship between science, society, and individual lives. Current examples include the still unresolved debates on genetically modified foods, pre-implantation diagnostics, and stem cell research. For this reason, the preoccupation of European governing elites with science and innovation risks coming into conflict with a rather innovation-averse European public. Technocratic visions and democratic answers might part ways.

This is all the more true for the question of social security. Compared to other world regions, Europe continues to derive a significant part of its identity from the idea of social welfare, which is to be implemented collectively. The tradition of the European welfare state has come under fire from both neoliberal policies and the idea of the

36 UNESCO, 31.
entrepreneurial self that is closely connected to the concept of a knowledge society.

On the other hand, there are powerful countervailing forces at work against these European traditions. No one can really doubt that there is a tough, economic necessity to cope with global competition, and that the danger of international investments in technology and science being transferred to other parts of the world is not a fantasy. In order to survive this competition, continuous technological progress, a highly trained workforce, and more flexible labor markets are, indeed, necessary and desirable. And it is equally true that “it will not be possible to progress simultaneously towards economic growth, social development and the protection of the environment without reliance on knowledge resources, scientific research and technical expertise.”

Facing this dilemma, Europe should not discard those traditions that are worth preserving. The organizational role of the democratic state, the principle of solidarity, a specific sense of social justice, and an education system aiming at the development of free personalities are crucial for these traditions. The challenge is to find a balance between economic imperatives and these traditions. European governing elites need to find a middle ground in accepting and even accelerating the necessary changes and implementing the concomitant reforms. The concept of the “knowledge society” can certainly contribute to this balance — as long as its inherent dangers of social engineering and technocratic approaches are discerned and, as far as possible, avoided.

The third and last dilemma that should be mentioned concerns the very nature of knowledge and science. Only in recent times have we learned that science and expert knowledge do not guarantee the right answers. Certainly, the total amount of knowledge has increased exponentially during the last three or four decades, and it continues to grow every day. But knowledge is accumulating at a much faster rate than the pace at which new information can be transformed into new concepts and theories. This is probably why there will always be uncertainty about making decisions based on science. The recent Euro crisis may be the best example. All of the knowledge accumulated by generations of economists and financial experts is of little help in finding the right answer. On the contrary, politicians and experts have discovered that they are facing genuinely political decisions. These have to be made without the reassurance of scientific exactitude and

37 Ibid., 142.
within a context that is determined by both global influences and inner European contradictions.

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It should have become clear that the concept of the “knowledge society” is both very promising and highly ambivalent. In Europe, the concept has fed on the dramatic global economic and technological changes that have occurred since the 1980s. For European governments and populations, the idea of promoting science and education has not only made sense but has been highly seductive. It seems to offer the most efficient strategy to cope with the crisis of the late 1970s, to face increasing competition, and to make the continent — so poor in natural resources — fit for the future. But the knowledge society concept also entails the dangers of technocratic rule, social engineering, and greater social polarization. This is all the more true if the concept of knowledge is exclusively understood in economic terms and is primarily applied in a functional way. But it makes little sense to relate knowledge, science, and education only to the economy, the labor market, and the employability of the individual. Knowledge, science, and education are always closely connected to cultural traditions and path dependencies. In this respect, Europe is much more than a big labor market. It needs to draw its strength not only from economic processes and their principles, but also from the development of personality, which must not be separated from the traditions of the Enlightenment, moral individuality, pure research, and the pursuit of knowledge for its own ends.

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