

Nico Stehr

## **A World Made of Knowledge \***

### **Overview**

New social realities require a new perspective. In advanced societies, the capacity of the individual to say no has increased considerably. At the same time, the ability of the large social institutions that have significantly shaped the nature of the twentieth century to get things done has diminished in the last couple of decades. Or, appropriating Adolp Lowe's (1971:563) astute insights, we are witnessing a change from social realities in which "things" at last from the point of view of most individuals simple "happened" to a social world in which more and more things are "made" to happen. In this contribution, these new realities are described as representing the emergence of advanced societies as knowledge societies.

I will describe some of these transformations that constitute a real and unprecedented gain from the perspective of the individual and small groups but also what may be described as a rise in the fragility of society. The stress on rights and the growing ability to assert and claim such rights is one of the salient manifestations of the transformations I examine. The same developments are responsible for a crisis in mastering, planning and managing common problems and for a decline in the sense of individual responsibilities. However, there is a trade-off; the decline in the steering capacity of large social institutions and their growing difficulty to impose their will on society leads to a rise of the importance and efficacy of civil society.

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First, I will refer to the concept of knowledge societies and examine the notion of knowledge. I propose to define knowledge as a capacity to act. I will describe the reasons for the importance of scientific knowledge as one among various forms of knowledge in advanced societies. I also examine the limits to the power of scientific knowledge as well as the emergence of the fastest growing segment of the labor force, namely knowledge-based occupations. The transformation of modern societies into knowledge manifests itself most importantly in the sphere of economic activities. I therefore describe some of the features of the changing economy before turning to those consequences of the advancing “knowledgeability” of actors in modern society that give rise to the growing fragility of modern society.

### **Introduction**

John Stuart Mill, in The Spirit of the Age (1831), published after his return to England from France, where he had encountered the political thinking of the Saint-Simonians and of the early Comte, affirms his conviction that the intellectual accomplishments of his own age make social progress somehow inevitable. But progress in the improvement of social conditions is not, Mill argues, the outcome of an “increase in wisdom” or of the collective accomplishments of science. It is rather linked to a general diffusion of knowledge.

Mill’s observations in the mid-nineteenth century, a period he regarded as an age of moral and political transition, and in particular his expectation that increased individual choice (and hence emancipation from “custom”) will result from a broad diffusion of knowledge and education, strongly resonates with the notion of present-day

society -- the social structure that is emerging as industrial society gives way -- as a “knowledge society”.

The foundation for the transformation of modern societies into knowledge societies is to a significant extent also based, as was the case for industrial society, on changes in the structure of the economies of advanced societies. Economic capital -- or, more precisely, the source of economic growth and value-adding activities -- increasingly relies on knowledge. The transformation of the structures of the modern economy by knowledge as a productive force constitutes the “material” basis and justification for designating advanced modern society as a “knowledge society”. The significance of knowledge grows in all spheres of life and in all social institutions of modern society.

### **I. Objections**

The term ‘knowledge society’ is a broad historical concept. Its capacity and vigor are linked to its intellectual scope. Aside from the claim that there are much more appropriate conceptual labels to describe modern society, there are at least two not entirely unrelated and apparently powerful objections to the term ‘knowledge society’. The most frequently heard reproach is that of historical repetition. The skeptics quickly and with great conviction offer the observation that we have always lived in knowledge societies. The term and the theoretical platform ‘knowledge society’ is not new; nor does it afford, as a result, any fresh insights into the architecture of present-day social systems and its forms of life. The rise of past civilizations, for example, those of the Aztecs, the Romans and the Chinese, was always also a matter of their superior knowledge and information technology. Power and authority, even in historical societies, was never merely a process based on physical superiority alone. Or at an even more elementary level, knowledge is an essential characteristic of all forms of human activity

and therefore a kind of anthropological constant. The second objection, as a rule, refers to the concept of knowledge, which is seen as too problematic, too ill-defined, perhaps as too ambivalent and contradictory to allow the construction of a theory of society. Knowledge is an essentially contested term. It is therefore doubtful whether it can become a foundation stone for the analysis of social conduct.

The first objection is fair but hardly decisive. Knowledge has indeed always played an important role in human relations. This, therefore, is not at issue. What needs to be asked is why the role of knowledge has recently, that is in advanced modern societies, emerged as constitutive and increasingly displaced and modified those factors that have until now been basic to social existence. The material foundation of social action is being displaced by a symbolic foundation. Capital largely deposed land during the industrial revolution; today knowledge diminishes the significance of both factors. Constitutive for social integration and not only for the creation of new economic value is knowledge.

It is surprising – in light of the lively critique of the alleged redundancy, as well as the incoherence, of the term ‘knowledge’ – that knowledge and technological change continue to constitute the Achilles’ heel of contemporary economic theory. In economic discourse, knowledge is at best a residual category and therefore an almost invisible component of production, investment decisions and the value corporations represent. Knowledge is made up of more or less ‘qualitative’ constituents. Qualitative components have hardly been specified successfully within economic reasoning. These elements of economic actions remain elusive.

What is today typically declared to be a taken-for-granted category of economic conduct remains widely invisible in economic discourse. Despite the fact that there have also been societies in the past based on knowledge-intensive action, the idea that modern society is increasingly a knowledge society is meaningful and has practical

relevance. It is as meaningful to refer to modern society as a knowledge society as it was to refer to 'industrial societies', even though there had been past social systems that were based on the work of 'machines'.

## **II. Loss of political power through knowledge**

The social order that is looming on our horizon is based on knowledge. There is nothing new about the fact that our society is about to undergo a rapid transformation: in the past, periods of accelerated social change have been common enough occurrences. What is new here is both the nature of and the driving force behind these social, economic and cultural changes. For if knowledge is not just a constitutive feature of our modern economy but a basic organizational principle of the way we run our lives, then it is justifiable to talk about our living in a knowledge society. This means nothing more and nothing less than that we organize our social reality on the basis of our knowledge.

In the 1950's the German sociologist Helmut Schelsky sketched out his version of a nightmare: the use of electronic calculating machines raises the specter of the totalitarian state, he claimed. "Such a government machine can demand absolute obedience, since it will be able to predict and plan the future with perfect reliability," he prophesied, and "in the face of technically guaranteed truth, all opposition is irrational." Half a century later the American entrepreneur and futurologist Bill Joy is warning us of a development that possesses similarly nightmarish characteristics: his greatest fear is that nanotechnology might start to evolve independently of its human creators. This and other technologies of the future could put the human race on the endangered species list, he claims. Schelsky's prediction was right in line with the zeitgeist prevailing in the middle of the last century – and as Joy's admonitions show, this zeitgeist is showing no

signs of ageing. This phenomenon is the result of a symptomatic overestimation of the power of modern knowledge and technology. Yet paradoxically it is precisely knowledge and technology that are perhaps the most significant sources of the open, indeterminate society that is growing up around us today. Despite all pessimistic predictions we now find ourselves witnessing the end of the hegemony of such monolithic institutions as the state, the church and the military. The conduct of the latter's representatives betrays a growing skepticism as to their continuing capacity to regulate social conditions: controlling, planning and predicting social conditions are becoming increasingly more difficult. Society has become more "fragile". Yet it is neither globalization nor the economization of social relations that is responsible for this state of affairs but the loss of political power through knowledge. The age of industrialism is coming to an end; the skills and expertise that were necessary to maintain the social order of industrialism are losing their efficacy. The social order that is looming on our horizon is based on knowledge.

### **III. Knowledge about knowledge**

One can define knowledge as "the capacity to act", as the potential to "start something going". In other words, knowledge is a model for not of reality and knowledge is and becomes "human sensuous activity, practice" (Karl Marx).

Thus scientific or technical knowledge is primarily nothing other than the ability to act. The privileged status of scientific and technical knowledge in modern society is derived not from the fact that scientific discoveries are generally considered to be credible, objective, in conformity with reality, or even indisputable, but from the fact that this form of knowledge, more than any other, incessantly creates new opportunities for action. These opportunities may be appropriated either by private individuals, or corporations, or the state – although frequently such appropriation is only temporary.

In addition, scientific discoveries do not usually live up to the reputation of infallibility they possess: they are very often disputed, and despite its social standing scientific knowledge is almost always questionable. For this very reason it is continually losing, at least temporarily, its practical relevance. Scientific interpretations must come to a “conclusion” – only then do they have any practical value. In our modern society, this task of bringing trains of thought to a conclusion and rendering scientific insights “useful” is carried out by “knowledge workers”.

What is new about this development is not the creation of work based on knowledge – there have always been “experts” throughout history. What is new is the large number of professions that involve working with knowledge. At the same time the number of jobs that demand low cognitive skills is rapidly declining, resulting in less and less people being involved in the manufacture and distribution of material goods.

#### **IV. Living in knowledge societies**

This trend towards the development of fragile social systems is clearly the result of an (uneven) extension of individuals’ capacity for action in modern societies. The power of large institutions is being increasingly undermined and replaced by small groups with a growing capacity for action. Using the term “fragility” to designate this state of affairs is intended to underline the fact that not only has the capacity of supposedly powerful institutions to “control” society declined but so has their capacity to predict social developments. But what has caused society’s centre of gravity to shift in this way? What forms is this development taking, and what consequences will it have? I believe that these social changes are coming about because knowledge is no longer simply a means of accessing, of unlocking, the world’s secrets but itself represents a

world in the process of coming into being – a world in which in all spheres of endeavor knowledge is increasingly becoming both the basis and the guiding principle of human activity. In other words, we now organize our reality based on the knowledge we possess. Of course, since time immemorial knowledge has played an important role in human society: all interpersonal relationships are based on the principle that people possess knowledge about each other. And political power has never been based purely on physical force; it has always relied in part on superior knowledge. After all, social reproduction is not just a physical process but also – always – a cultural process: in other words, it implies the reproduction of knowledge. In this sense one can also consider past social structures as early forms of “knowledge societies”. Take, for instance, early Jewish society that was structured according to the religious and legal knowledge embodied in the Torah, or ancient Egypt, in which religious and astronomical knowledge, as well as agricultural knowledge, was the basis of power and the organizational principle of society. The rise of entire civilizations such as the Aztec, Roman and Chinese empires, was based in the final analysis on their superior knowledge or information technologies. Even back then, political power was never simply a case of physical dominance. Consequently, knowledge is a universal, anthropological characteristic of the human race.

Thus knowledge societies arise not as the result of simple, one-dimensional processes of social change. Their creation does not follow any single, easily recognizable pattern of development. Although modern developments in communication and transportation technology have brought people closer together, regions, cities and villages are still by and large isolated from each other. The world may be opening up, and the circulation of fashions, goods and people becoming more intense, but differing convictions as to what is “sacred” still create insurmountable barriers to communication. The meanings of such concepts as “time” and “place” are undergoing transformation,



but borders separating people continue to be objects of intense respect and even celebration. Though fascinated by globalization, we also live in an age obsessed by identity and ethnicity. The trend towards the global “simultaneity” of events is accompanied by a territorialization of sensibilities and a regionalization of conflicts.

#### **IV. The social role of knowledge**

Nevertheless attempts to comprehend the social functions of modern science and technology have always come up against a dead end. Generally speaking, both conservative and liberal analyses of social processes conclude with somber prophecies of a world dominated by science and technology. This vision predicts not simply the destruction of humanity’s natural facilities, its emotional life, but also of its intellectual facilities and its capacity for exercising free will. Modern theories of history posit a reduction rather than a broadening of opportunities for development in today’s society. Yet if one is to start to understand the political, social and economic processes that are taking place today, then one must cast aside such clichés. For it is not the reduction of our capacity for action that is currently radically transforming the institutions of modern society but precisely a tremendous expansion of this capacity – while at the same time this expansion is generating a sensation of social stasis. Collective unease and obstacles to action are the flip side of individual restlessness in knowledge societies. Extending individual opportunities for action does not necessarily open the door to happiness – as shown by tourism, the burgeoning information media, and consumerism in general. In discourses generated by many politicians, theologians, philosophers and social scientists, the individual is posited as being a defenseless “victim” of powerful institutions. They argue that people lose the capacity for action in proportion as science

and technology triumph. It is often maintained that the latter actually reduce the capacity of the individual to participate in social processes, fostering isolation, invading people's privacy and generating a sense of helplessness.

## **V. The fragility of society**

Against this it can be argued that the processes triggered off by the growth of science and technology, which allegedly lead to more regimentation, in reality have precisely the opposite effect on our capacity for social action to that of reducing it. Rather, what is striking is the growing "fragility" of social structures. Modern societies are characterized above all by "self-generated" structures and the capacity to determine their futures themselves – and consequently by the potential for self-destruction. However, modern societies are not politically fragile and socially volatile because they are "liberal democracies" but because they are "knowledge-based" societies. Only knowledge is capable of increasing the democratic potential of liberal societies.

One peculiarity of the many and varied debates on the roles of knowledge, information, and technological know-how in our modern society is their one-sidedness. They mostly emphasize the problems caused by the individual's being cut off from specialist knowledge and technical competence – resulting in the individual's allegedly being forced into the role of "victim": exploited consumer, alienated tourist, incapacitated patient, bored school kid, or manipulated voter. The proponents of such a viewpoint also delight in exposing the "repressive" potential of the growth of scientific knowledge and the proliferation of technological artifacts – especially when the latter are exploited by such supposedly powerful entities as state and industry to exercise total social control. Yet dire prophecies that these entities would establish themselves in unassailable

positions of power have not been fulfilled. For too long, debate among social scientists on the social role of knowledge was centered on social class, the state, the professions and the sciences – a perspective that was often precisely determined by fear of an imminent concentration of power in the hands of one of these social groups. Yet an objective evaluation of the social role of knowledge must come to the conclusion that the spread of knowledge has not only brought with it “enormous” risks and uncertainty but also a “liberating capacity for action”.

## **VI. Uncertainty through knowledge**

But all this does not mean that from now on every consumer, patient and school kid will immediately be able to recognize, understand and control opportunities for action that come their way on an everyday basis. An increase in opportunities for social action should not be misconstrued as bringing with it the elimination of all risk, accident, and arbitrariness – in general of all circumstances over which the individual has little control. The flip side of emancipation through knowledge is the risks posed by the emancipatory potential of knowledge. The increasing spread of knowledge in society and the concomitant growth in opportunities for action also generate social uncertainty. For science cannot provide us with “truths”, only with more or less well-founded hypotheses and probabilities. Thus far from being a source of secure knowledge, of certainty, science is a source of uncertainty and thus of social and political problems. Knowledge societies of the future will be characterized by a wide range of imponderabilia, unexpected reversals and other unpleasant surprises. The increasing fragility of knowledge societies will generate new kinds of moral questions, as well as a questions as to who or what is responsible for our society’s oft cited political stagnation.

If knowledge is the main constitutive characteristic of modern society, then the production, reproduction, distribution and realization of knowledge cannot avoid becoming politicized. Thus one of the most important questions facing us in the next decade will be how to monitor and control knowledge. This will entail the development of a new branch of policy science: knowledge policy. Knowledge policy will regulate the rapidly growing volume of new knowledge in our society and influence its development.

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