

Going to the future

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Abstract

Every society has its institutions for reflection. When societies go through major changes those institutions change too. Industrialization brought us science, replacing the religion of traditional societies. Moving into the information society, we may expect a new institution for reflection to replace science. And, looking around, there seems to be such an institution in the making, combining the methods of an archaeology of the future with the more general ideas of a science of the artificial, an institution for reflecting on our social possibility space as part of a more deliberate effort to design our future.

INTRODUCTION

The nineteenth century is often described as a century looking very much into the *past*. After the turmoil of the French Revolution and the Napoleonic wars, the intellectual stage for the new century was set by the Vienna conference in 1815 - it was to begin as a century of restoration. History, as a subject matter, as an emerging academic discipline, and as a general intellectual orientation, dominated intellectual and cultural life. Nations were born seeking their identity in a glorious past. People went looking for their roots. The nineteenth century was a century of Hegelian idealism, romantic nationalism, philology, hermeneutics, historical geology, and theories of evolution and revolution.

One explanation for this preoccupation with the past and with history can, of course, be found in the powerful changes brought about by the beginnings of industrialization. The political and intellectual elite of the nineteenth century mainly feared these changes. It took a century for that elite to be replaced by the moderns, to be replaced by an intellectual and political elite saying yes to industrialization, saying yes to modernization and change. Thus, the twentieth

century is very much a century of the *present*. Historical roots give way to social reform, spiritual values are replaced by material welfare. Hermeneutics and philology make room for social science and structural analysis. The twentieth century is a modern century.

If we continue this somewhat whimsical, broad brush, world historical exercise, what can we do but expect the twenty-first century to be a century of the *future*? Having moved from reactionary avoidance reactions, to industrial change, to a positive preoccupation with the facts and values of modern life, we will move, again, to a future oriented interest in the possibility space of social design. In the beginning of yet another technological revolution, brought on by information technology, the intellectual elite is not responding with rejection but with enthusiasm, and media are filled with speculations about information society and cyberspace. People are beginning to realize that they can just as well look for their identity in the future as in the past. The future is on everybody's lips and there are reasons to believe that this is not just a passing fad. Here, I want to give some of those reasons as well as contribute to a discussion of how that interest in the future ought to be implemented.

THE FUTURE IS NOT A FAD

The nineteenth century interest in history was an interest in the big picture, in world historical trends, mythical pasts, and heroic deeds. It was an interest in history as edifying fiction rather than factual book-keeping. It took an elevated view with ideal, spiritual subjects such as heroes, nations, elites, classes, and cultures as the agents of history. The twentieth century is dominated by a down-to-earth, material interest in facts and figures. History is replaced by science and, instead of elaborating our mythical past, we subject the minutiae of our everyday present to close and careful scrutiny. Historical storytellers have been replaced by statistical bureaucrats.

Our interest in the future is again redirecting our attention from facts to interpretation. Even if that interest began, in the 1960s, with an interest in facts about natural resources, global warming, and the like, and certainly to some extent will continue to focus on such facts, there has been a growing attention to the social changes designated by our entering the era of postindustrialism. Interest in the social changes going on today tends to focus on the role of information technology both in the automation of industrial production and as the dominating technology of postindustrial society.

With advancing automation made possible by information technology, fewer and fewer people will find work in the factories of the industrial era. When this leads to unemployment people begin to worry. Soon they realize that automation ought to make us all richer, of course, since it means that a small percent of us can produce the food and goods for all of us. One farmer today can produce more food than a hundred farmers did a hundred years ago. Industrialization has made us wealthy - at least in the sense of giving us an abundance of material goods.

Industrialization made us focus on the production of goods, and it made the factory a model for social organization. For a while yet, we will continue to focus on material goods, and we will use the resources set free by automation in

developing, marketing, and selling goods and in managing the factory organizations. But, as automation continues, our focus will shift, as it once did from farms to factories, from factories to services, and we will begin to think more creatively about the organization of our everyday lives. Instead of modelling services on the way goods are produced in factories, we will begin to experiment with more human-oriented ways of organizing education, care, entertainment, travel, living, and life in general.

Even if industrialization was clearly seen by nineteenth century utopians as a means of achieving paradise on earth, an existence of leisure with machines doing most of the work, unemployment is a nightmare to our politicians today, rather than the reward for a work well done. It takes a while to recognize paradise for what it is. And when we do, we realize, of course, that there is work left to be done. For the hard-working farmer, leisure is the same as paradise, but we moderns would of course get nervous very quickly there on the meadows of heaven - is there nothing to do here? The farmer could not imagine the amount and variety of goods that a modern person would bring on a trip to heaven. Nor could he imagine the amount and variety of services - entertainment - needed in paradise.

The recently growing interest in the future began as a defensive reaction to apocalyptic warnings about atomic wars, chemical pollution, and nuclear meltdowns. Even if this interest has to a large extent been reactionary in the way it has expressed itself, in attempts to stop or abandon certain technologies, it has also led to a more constructive interest in scenarios of the future. Even if 'sustainable growth' is not itself a particularly creative view of the future, the discussion of material resources, uses of technology, and environmental hazards, has slowly turned people's attention to the possibility space of the future.

With information technology this defensive interest to 'save the future' has begun to be combined with a more optimistic interest in how to shape the future. Riding on a wave of interest in information technology, busily trying to contribute to that wave, futurists of all sorts easily make their fortune in media today, predicting and preaching the blessings of information society. Such discussions of trends and details of information society often seem to be interpretations of the use of information technology, reminiscent of the way archaeologists try to reconstruct the past from the artifacts found. I therefore use the term 'future archaeology' to characterize such attempts at investigating the future, and I think it is possible to make that occupation at least as academically respectable as archaeology itself.

ARCHAEOLOGY OF THE FUTURE

Archaeologists have to do their cultural studies solely on the basis of material artifacts, and a haphazard collection of remnants at that. This does not mean that they cannot draw on ethnographical studies of cultures still using those artifacts, in their attempts at interpretation, nor that they cannot make use of experimental methods in actually trying to recreate the details of ancient artifact use. And yet, whatever they are able to say about the cultures they study, they rely on a material conception of what a society is. To archaeology, a society is a technology, a way of organizing the use of that technology, and ideas about, or derived from, the

technology and its use. There is a lot speaking in favour of this definition, and it is not as narrow as one might first think.

Like other historical disciplines, archaeology was established in the nineteenth century (Trigger, 1990). In the twentieth century, it has become a major industry, called in to check for ancient dwellings whenever industrialization wants to perform major surgery on the landscape. Sometimes its perspective is applied to the present, as in material culture theory, an approach to social and cultural studies that looks carefully at the material infrastructures of contemporary life. Having moved archaeology from the past to the present, it becomes easier to get used to the idea of an archaeology of the future. Similarly, having moved ethnography from the exotic tropics to our everyday neighbourhood, it will not be too difficult to conceive of an ethnography of the future.

An archaeology of the future is just as scientifically respectable as an archaeology of the past or present. The artifacts that we bring back from the future are really no less, or more, reliable as data than those we dig out of our past. When I hold up the new net computer and begin to expound on the kind of everyday habits of a culture dominated by this sort of technology, I am really in a much better situation than the traditional archaeologist. I cannot tell, until there are more models on the market and the sales are beginning to take off, that the net computer will ever play an important role in shaping our everyday existence. But neither can the traditional archaeologist. Finding an artifact is one thing, determining that it once played an important role is a completely different matter.

Ethnography, except to the extent that it really is archaeology, cannot really claim to study the future in a scientific way. Relying on interviews and detailed behavioural observations, as it does, it finds it difficult to do empirical studies of the future. But that is not really important, I would argue, since nothing says that an interest in the future needs scientific respectability in order to be cognitively interesting. All we need is an understanding of knowledge that is such that it does not reflexively identify knowledge with scientific knowledge - as if most of us did not learn more about life from novels than from the social sciences. Let me quickly give the outlines of such a conception of knowledge.

SCIENCE AND TECHNOLOGY

Information technology is today changing both public debate, business strategies, and political agenda by increasing our interest in the future. This may prove to be a fad, but it is hard to avoid the feeling that, if so, it is a fad that will last for a while. One indication of this is the way information technology has changed the relations between science and the rest of society. Academic research is now becoming integrated with the rest of society in a way reminiscent of the situation in countries at war. Information technology has managed to mobilize the scientific community in a major social change effort. There is no question any longer but that science has to participate actively in designing the future information society. In this way, science changes its fundamental knowledge interest and begins to change into an institution for reflections on the future.

There is a more powerful reason to believe that there is an institution for reflections on the future in the making, however, and that is a reason grounded in

the general role and nature of technology. In the industrial age, technology is understood as applied natural science. There are objections to this view, certainly, pointing to the way the evolution of technology, including major technological innovations, tends to go on independently of mainstream natural science research. And yet, with the increasing cognitive content of an increasingly complex technology, the view that technology is applied natural science tends to grow stronger. I believe that this view can explain our strange tendency to take technological evolution as somehow pre-determined.

Ever since natural scientists were geographical discoverers, we have had a view of science as developing by struggling through the jungle of the unknown, collecting facts and charting the territory. Reaching a hill, the view will clear and the mighty scientist will discern another hill, defining new challenges, new problems to be solved. There is no direction to science other than that given by the territory, and the way those hills look when glimpsed from afar. Some scientists may prefer to follow rivers, others to climb mountains, others again to venture out on the oceans, but it is the nature of the terrain that gives true, objective science its direction. When technology is viewed as applied science, as the material spelling out or implementation of scientific findings, then there is no direction to technology either, except that given by the territory of the unknown. So, we will get atom bombs and laser guns, gene-manipulated tomatoes and Formula One automobiles, six-lane highways and cross mountain-bike knee-protection gear, rather than solar energy plants and artificial limbs, ecological cultivation and electric automobiles, meeting places and comfortable shoes, just because those things were there in the terrain and those other things were not.

Rubbish! If anything, science is applied technology rather than the other way around. Technology provides the instruments, the ships, telescopes, thermometers, and computers, needed for the expeditions and the nature of the instruments will give the expeditions their general direction as well as determine what can be discovered. Technology will also provide science with its subject matter, producing in chemical laboratories, accelerators, and on the workbench, the very nature to be investigated. Once it is clearly seen how the evolution of science and technology are human enterprises, it becomes obvious that scientists and innovators can no longer hide behind such a silly view that they only go where the terrain takes them.

When scientists, innovators and engineers begin to really see that they shape the world for all of us to live in, they will of course take an interest in questions concerning what that world should be like. It is a little strange that it has taken them so long to realize this. Humanists, artists, and politicians who have virtually no impact on the shaping of our world worry about its direction, while the engineers who are busily building seem content not to think globally at all. But that is changing now when science and technology are becoming so obviously oriented towards designing an artificial world rather than discovering the natural. One way to describe this is to say, with Herbert Simon (1969), that the natural sciences make way for the sciences of the artificial.

The modern world is an artificial world, Simon says, but modern science is a science of nature. Something is wrong. When we realize that the world we live in is an artificial world, a world of human creation, made up of artifacts of all kinds, becoming ever more complex and intertwined, our attention will shift from

studying nature to contributing to the design of artifacts. In the natural sciences we want to find out what the world is like while in the artificial we are interested in what could possibly be and how to make it so. Artifacts inspire us to improvements. Our interest in how they are made is guided by our interest in making them ourselves, and making them better. Rather than turning to the natural sciences for legitimacy and status, disciplines like engineering, economics, and, more generally, the social sciences, should develop their own identity as design-oriented knowledge disciplines (Dahlbom and Mathiassen 1993, 1997).

ARTIFICIAL SCIENCE

Simon's own view of the sciences of the artificial are strangely conservative. With an extremely general notion of design, Simon turns his design-oriented science of the artificial into a general theory of problem-solving, adhering to the values of traditional empirical science, rather than following up on his very radical introduction. My own view of the sciences of the artificial is, in comparison, much more radical, even if I would argue that it only draws out the implications of Simon's initial identification of the nature of the world we live in and how to study it.

The sciences of the artificial are design-oriented. Such disciplines will strike a balance between traditional scientific values such as essential truth, documentation, objectivity, and the use of method, on the one hand, and values of engineering such as complexity, success, engagement, and the use of heuristics, on the other. Exactly how such a compromise between truth and successful implementation will turn out will vary, but the result will be very different from traditional science, or so I would argue.

I imagine a situation in which ideas of design, the difference between usefulness and functionality, and the normativity of research and engineering, are appreciated; a situation in which an essence-oriented and idealizing, objective natural science, to which human beings are human factors, no longer serves as the foundation for engineering, but is replaced by an artificial science with an interest in accidents and achievements, in local design principles as well as general laws, heuristics as well as methods, with an engaged appreciation of the complex, tinkering, interaction between human beings and technology.

The scientific attitude to nature objectifies nature, leaving behind the close interaction between humans and nature typical of life in traditional society. As long as you experience yourself as one with the world when you are engaged in it, your research will be biased by paying particular attention to what is useful. Science becomes possible when you can make a clear distinction between yourself and the object you are investigating. The scientific attitude is one of objective detachment. As a neutral observer of events you minimize the risk of being prejudiced by your interests. Generalizing from science, we have adopted such an objective attitude to our environment, nature and artifacts. We are alienated from them. It is one of the aims of an artificial science to restore the interactive engagement that has only been suppressed, between people and their environment, artifacts and nature.

In the artificial sciences we will also supplement the standard conception of engineering with, what Lévi-Strauss (1966) calls *bricolage*, or tinkering, when it

comes to both the production and use of technology. Tinkering is what we do when we interact with artifacts, when we are active rather than passive, tinkering is different from use. As an alternative to functionalistic engineering, to functionalism, tinkering rejects the very simple notion of functioning as an analysis of technology use, in favour of a view of our interaction with technology as complex, changing, and practically unpredictable unless we can assume a substantial cultural homogeneity.

The metaphor of tinkering describes a position that strikes a compromise between the different approaches to the social study of technology. Tinkering expresses well how what we do with an artifact draws on and is supported by our previous experience with artifacts. Technology is a social, cultural phenomenon. The process of technology design is a complex dialectic process involving engineers, users, and artifacts, their backgrounds and culture, negotiating, learning, constructing and reconstructing, designing and cultivating, tinkering and decorating.

FROM SCIENCE TO FICTION

To be a *bricoleur* is to have imagination. Imagination, our capacity to think about what is absent or does not exist and to think what we perceive as being different from or more than what we see, is 'an essential and transcendental condition of consciousness', to speak with Jean-Paul Sartre (1940, chapter 5). It is our capacity to dream of things that never were that makes us human. It both introduces 'negation' and 'lack' into the world - and with lack 'values' - and is the very foundation of human freedom. It is imagination, the capacity to see the world as it is not but as it could be, that makes it possible for us to change the world. Imagination gives us alternatives and makes us see the lack in the world as it is. The world will always be lacking as long as we remain human. Human consciousness is by its very essence an 'unhappy consciousness'. It is from that unhappiness that human beings draw their strength to act, to change the world, to design a better world. And it is that unhappiness that is the *raison d'être* for the sciences of the artificial.

By stressing the importance of imagination, the artificial sciences will make explicit the important role played by fiction in our search for knowledge. For what is it we do when we draw up a design document, be it for an electrical installation, an information infrastructure, an organization, or a research project? We produce fiction. We use our experience and imagination to describe something that does not (yet) exist. The only principal difference between such design fiction and literary fiction is that our ambition normally is to turn our design fiction into fact. Design is future-oriented. And yet much design fiction is produced more in order to examine what is possible than in order to actually have it implemented. Thus, design is an important element in planning, decision-making, learning, and most other cognitive activities.

With an explicit appreciation of the artificial sciences, design will be understood as an important scientific method, but if design is taken seriously enough then this will introduce a new scientific orientation. Our traditional understanding of science can be saved, in the way suggested by Simon, by viewing

design as a method to investigate the boundaries of the possible. Thus, the possible is only the other side of the real. But my suggestion is, contrary to Simon, that we take artificial science to aim at examining the possible, in its own right, rather than as a means to determining what is real. Then we are interested in what is within the space of possibilities, rather than in the boundaries of that space, and design will introduce fiction as a major product of science, in addition to truth. But then, perhaps, we will prefer not to call such a design-oriented research, with fiction as its product, *science* after all. Perhaps, we will prefer to reserve the term 'science' for research into facts and truth, rather than into fiction and possibilities. Or, perhaps, we will say it is exactly because artificial science is interested in fiction rather than in truth that we call it 'artificial'? For what are artifacts when compared to nature, if not fictive (products of imagination)?

RELIGION, SCIENCE, AND FUTURE

Art, politics, religion, philosophy, science, sports, and entertainment are examples of ideology producing institutions. Louis Althusser used to expand on Marx's idea that to each major economic system there is a corresponding, dominating ideological institution. Thus, in a feudal society, religion is the institution for reflection, while in industrial capitalism it is science. Using such a simplified account, we might well wonder, as we enter the information age, what will replace science as the dominating institution for reflection. There are, of course, several possibilities.

Institutions of reflection are servants of the institutions of action. In the twentieth century, politicians and business executives, generals and healers, have turned to science for support and advice. But science is severely inadequate in this role. The specialization of the sciences makes it difficult to use their advice in real life, complex situations. The sciences do not help you with a longer perspective on your actions. Science tells you what the world is like, it is up to you to draw the consequences for how to build a new world. As long as this is being done with the ideologies of the nineteenth century, there is at least some general advice on what to do. But when those ideologies lose their applicability and credibility, you really have very little use for science.

The idea of social engineering, particularly the experimental, piecemeal version, advocated by Popper (1961) is the idea of using science as a basis for political reform. But, piecemeal engineering presupposes that the fundamental structure is alright and relatively stable. In a time when the foundation of society is undergoing revolutionary change, piecemeal engineering seems like a waste of time. When industrial society is changing into a service society, when factories cease to be the model for rational, human activity, be it information work, education, care, or entertainment, society will begin to change in so radical a fashion that piecemeal engineering becomes hopelessly inadequate. Instead of scientifically informed, social engineering making sure to have adequate information about the current situation in society, we will have to use methods like future archaeology and the ideas of artificial science to develop a more future-oriented examination of the space of social possibilities.

People have always created institutions for reflection. Farmers have their religion and industrialists have their science. We can understand how these institutions develop and why they do what they do. We can study how reflection in such institutions stagnates and becomes bureaucratic. And, we can see that today it is time to create a new such institution, an institution for reflection on the future, a sort of seminar of the future - but how we best go about creating such an institution is not so easy to see.

When Auguste Comte wanted to turn science into the institution for reflection of modern society, he tried to market science as the new religion, even building a church for it. Perhaps, we should market the future as the new science, as a combination of artificial science and archaeology of the future?

Whatever way we choose, we need to create an institution for discussing the future, and I am not speaking about an institute for future studies at the margin of the scientific community, but about an institution that can take the place of science as we leave industrial society behind. But we have to be careful when criticizing institutions for reflection. Such criticism is often misinterpreted as an attack on reflection, when it is only the subject matter and objective of the reflection that is questioned. Religion gives us comfort and science gives us knowledge - and we need them both. But in a constantly changing society we also need ideas about where to go and how to get there, and such ideas we cannot find in either religion or science (or art for that matter).

Nor does politics seem such a good place for the kind of reflection on the future that I am asking for. In politics, the daily issues dominate, and the administrative competence needed by contemporary politicians does not seem to go well with ability and interest for reflection. The questions about our future are not such that one can answer them once and for all. Instead, they indicate major investigations into what is valuable and what is possible and what it takes to make the valuable possible.

Every day, we spend more time discussing what to have for dinner than discussing what the world should be like in fifty years. But perhaps we could spend at least two hours every Sunday on the future? Spend them in a sort of seminar for the future rather than in mass or in popular scientific lecture? Rather than going to church or a popular lecture on Sunday, we could be going to the 'Future'.

A TAXONOMY OF QUESTIONS

What then will we be doing in the 'Future'? Let me end by giving some examples of big questions about the role of technology in shaping our society, trying to formulate a relatively systematic agenda for an institution for reflections on the future. There are questions about the relations between our form of life and technology, about the role of change and stability in a good society, about the idea of progress, about complexity and an incomprehensible society, about the trade-offs between ethics and technology, about fundamental forms of social organization, about where to live and what to do in an affluent society, and so on. We can make a simple taxonomy to organize these questions into different categories.

General Questions

Some questions concern the more general phenomenon of technology and social change. A fundamental question is that of technology control. If technology is a major social change agent, how do we learn to control it? Technical evolution changes our lives. With machine technology we leave the country and move to the cities, to a life in the factories. With information technology we move again, from the cities to the net. Do we have to go where the technology is taking us? If we have carefully chosen a form of life, acquired habits with which we are happy, constructed institutions and organizations making a good life possible - why would we give them up just because a new technology was beckoning us to move on?

Another aspect of technology control concerns the very way that technology is developed in the midst of our societies. We have no reason to believe that technical evolution will slow down. We can expect further changes in our form of life. Perhaps we could make change itself a form of life? Turning life into an adventure, society into an experiment? But do we really want to live in society which is an online test site for new technology?

Making change itself our form of life would be to let the conditions of technical evolution rule our lives. But, even if we accept the fact that technology is a dominating framework in our form of life, we may still hesitate to fall flat on our faces in front of technology. We use technology for many purposes, but if we look at technology itself, its internal purpose is technical functionality, efficiency. And, it is efficiency that makes possible the amazing productivity of industrial societies. Technology makes us rich. No wonder efficiency becomes such an important value in modern societies. But, do we really want a society in which efficiency is the highest value?

With technical evolution, the world becomes more complex. Evolution is diversification and integration. People feel at home in a simple environment they shape themselves, but the technical evolution makes the world complex and strange. So, why do we continue to increase the complexity of our world? Are we thoughtless children with much too powerful tools? Or is the increasing complexity worth its price?

Such questions are all examples of how to handle the more general phenomenon of technology and social change. As such they presuppose an understanding of the powerful role played by technology as a social change agent, and they invite us to develop institutions for technology control, for democratic, professional, control of the evolution and diffusion of technology. They also invite us to question fundamental values, such as efficiency, complexity, and change, pressed upon us by technology.

Domain Questions

General questions concern the democratic control of technology as a social change agent. Domain questions go into the details in areas that change because of the use of new technology. All aspects of human life can come under the influence of technology, and the change can often be dramatic. To accept the new technology is

to accept the change, unless we take explicit measures to restrict the influence of the new technology. Let me give a few examples from different domains.

Information technology gives us unbelievable possibilities for behavioral regulation with technology rather than with social norms. With a widespread use of this technology, we can look forward to a society in which human relations and norms have become technical. But, do we want such a society? Do we really want to substitute respect, solidarity, honesty, compassion, responsibility, and the like, for technology?

Information technology dissolves the boundaries of factories and lets the market into our organizations. Bureaucracies change into networks and marriages become affairs. A society that is like a cocktail party may have its advantages, but there is something to be said for commitments 'for better and for worse' as well. If information technology favours the market alternative that does not necessarily mean that we have to do so.

Just as we once left the farms in the country and moved to the factories of the city, information technology now makes us leave the city and move out on the net (Dahlbom and Janlert, 1995, 1996). In the country we worked on farms. Those farms were our homes, a base that we would always return to, a centre to our lives, providing us with roots. In the cities we work in factories and live in apartments. Even if we have tried to retain a home, apartments eventually become nothing but a place to sleep (and watch television), and no longer play the role of homes. In information land, we become even less dependent on a base, on a home. We can do whatever we want to do wherever we are, as long as we are logged in. So, perhaps we become nomads again, leaning our head on some anonymous pillow when the screen begins to flicker and we are overcome by fatigue. But, maybe we would like to have a home even in the future?

Institutional Questions

When there is a social revolution, the ruling order is questioned. What used to be disparate activities mix and dichotomies lose their power. Leaving the factories of industrial society behind, we begin to mix working hours and leisure, work and entertainment, public and private, children and adults, men and women. Boundaries move and dissolve, new ones come instead. The old order is disappearing, and a new one has to be created. But, even if we want this revolution to come, would it not be a good thing to be a bit better prepared for the different options available? How can we make ourselves prepared?

When we enter service society, working becomes talking. People in talk society want entertainment and variety in an increasingly hectic world. Zapping between stations, surfing on the net, and chatting in the bars, we realize ourselves at a quickening pace. But we seem to have drifted into this lifestyle without much conscious deliberation. Technology has made us rich. We can live in abundance, but we have only rudimentary ideas about how we would like to live, now that we do not really have to work. How could we form such ideas? How could we begin to seriously discuss designing the good life?

Science has nothing to say about the future. But if there is something to be known about the past, the future ought to be equally accessible. In order to turn the design of the future into a rational enterprise, we have to chart it, in order to

determine what our possibilities are. We need to develop an institution for studying the future.

A NOTE OF WARNING

Institutions for reflection have their dark sides. Bigotry and nuclear bombs are examples of such ill effects. What will be the ill effects of future? Directing human creativity into the design of possible worlds may end in horror, when experts on the future go on to implement their designs. We have seen some of this in the influence of the Bauhaus school in architecture on the design of the modern city. Creativity is by its very nature irresponsible, and I for one would prefer to live in a boring bureaucracy rather than to participate in the happenings of artists turned world designers.

One might object that such ill effects of possible world-making are encouraged by the choice of name for the new institution of reflection. Why call it 'future', if really what is meant is an institution for reflection on possible artificial worlds? Why talk of an 'archaeology of the future', when an 'archaeology of the possible' would be more apt? Why invite the misunderstanding that it is the future we are investigating, when really we are only trying to determine what our possibilities are? If we want to strike a blow for fiction as distinct from truth, why not choose a name that makes this clear? Why not use the very term 'fiction' when naming the new institution for reflection? From science to science fiction?

The answers to all these questions should be obvious. It is precisely because I want fiction to play an important role in shaping the future, rather than in just being a silly pastime, that I have chosen the name. It is because I want researchers and engineers to become aware of their responsibility that I want to remind them of the fact that they are busy shaping our future. If this has the effect that some of them become megalomaniac, and really get going, it is a price we have to pay, and a problem we have to deal with. Only when those who play such an important role in shaping our future understand that this is what they are doing, will our societies wake up from their technological somnambulism.

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