

Politics + Science = Futures Studies?

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The eternal truth of the future cannot, of course, be the goal of futures studies. Future is full of surprises, uncertainty, trends and trend breaks, irrationality and rationality, and it is changing and escaping from our hands as time goes by. It is also the result of actions made by innumerable more or less powerful actors. In this article, the author describes the general features of futures studies, especially in its impact on societal development and decision making. The aim is also to show that the change in societal development has brought new challenges to the theoretical and methodological aspects of futures studies. Finally, the author discusses the problem of linking scenarios of the future to social and political decision making.

FUTURES STUDIES: A FORM OF SCIENCE AND ART

Futures studies as a research area is understood in this article as follows: A futures study has a certain interest of knowledge of the future in the sense that, on the basis of the study of the present and the past, one is presenting well-argued assessments of the future.¹ The purpose of these arguments is to offer a basis for societal-planning and decision-making activities as well as for the more general citizens' discussions and activities that are taking place at present.

There is an empirical element of futures studies at present. It is studied from a multi-disciplinary viewpoint with the aim of building well-founded development paths on the basis of theoretical and empirical research. It is not justifiable to consider futures studies as a discipline. It is, however, an area of study with some characteristic features and a domain of competence of its own. These features include a clearly future-oriented interest of knowledge, a special way of defining problems in its study, and a research methodology that is partly its own.

The interest of knowledge in futures studies is especially interesting when thinking of societal and political planning and decision making. One way to categorize the interest of knowledge is to use Jurgen Habermas's categories: technical, hermeneutic, and emancipatory.

Technical interest of knowledge in futures studies means the attempt to find invariances and to create explanations and forecasts based on regularities in the development. Furthermore, it is the attempt to practice rational planning, decision making, and control.

Futures studies that are characterized by a *hermeneutic interest of knowledge* aim at better communication and understanding between people in order to make joint activity

possible. The prime purpose is not to develop methods and to present quantitative forecasts but to create subjective understanding of social reality.

By *emancipatory interest of knowledge* in futures studies, I mean an attempt to establish a theoretical basis for creating images of the future from alternative subjective and objective premises by using both theoretical and empirical studies. Forecasts on objective possibilities are supplemented with studies concerning subjective premises and possibilities, to strengthen or weaken them. "Probable" development is only a reference alternative and an object for criticism.

Although all three interests of knowledge in futures studies are needed, the emancipatory interest is to me the most important one. An emancipatory study does not simply study probable developments or increase common understanding but searches for deviating alternatives and criticizes even strongly dominant beliefs to give space to new ideas.²

Futures studies should be seen as a conceptually broader idea than forecasting attempts within one discipline. For example, forecasts made in the fields of technology can be seen as inputs for the large-scale scenarios constructed in futures studies. Futures studies has a methodological domain of competence of its own in its construction of *futuribles* (possible futures), using forecasts made in different disciplines, as well as statistics and surveys, as its inputs.

Futures studies has become an ever more important area of study over the past 30 years. This is due, on one hand, to the inherent future-orientation of all human activities and, on the other, to recent developments in highly developed societies. Rapid technological, economic, and political changes with unpredictable discontinuities; increased complexity in societal processes; humanity's increasing ability to make decisions with a long-range and large-scale impact on nature; and humanity's own living conditions have all led to an increased need for well-argued assessments of the future based on the systematic study of present and past phenomena, that is, futures studies.

TURBULENCE CREATES NEW METHODOLOGICAL CHALLENGES

It can be maintained that at the moment humanity lives in a period of transition—a transition from local to global; from monocultural to multicultural; from simple to complex; from a fragmented, mechanistic, linear, and sectoral Newtonian understanding to a systemic, holistic, self-organizing, nonlinear, and evolutionary Prigoginean understanding; from unsustainable to sustainable; from industrial technologies to information and biotechnologies; from industrial societies to something new. It means that old values, ways of thinking, socioeconomic organizations, institutions, ways to work and act, and power relationships are breaking down in such a way that new dominating solutions have not yet been born, and perhaps never will be. The future is possibly a mosaic-like combination of different communities and societies, values, ways of living, religions, and cultures. Transition is a creative process that can produce not only collapses and threats but also many interesting and challenging solutions to live and act in the society of the future.

I find it probable that during the next few decades we will see powerful trends and turbulent phenomena. These will have an impact on our societal structures and policies, on the ways we as citizens comprehend the world around us, and in the deepest sense, on our values and also on the ways we understand the concepts of development and progress.

Industrial growth is based on the exploitation of nature in humanity's attempt to create material growth, and this exploitation is approved by industrial economic units and by traditional political parties. They have a common value system in respect to the general Western idea of progress, that is, that progress almost always equals growth. In the course of the decline of the old industrial society, the value system of these institutions is falling into problems, as are the institutions themselves. Instead of the old homogeneous idea of saying that progress equals growth, we may see many different ideas of progress in the future.

Real development in culture and in society in general needs the special form of order called chaos. Chaos is actually like an energy bomb, often necessarily needed to establish something new. The collapse of the socialist bloc is perhaps the best contemporary example of a situation in which gradual changes were no longer fruitful or even possible. The socialist system had to be torn down and driven into chaos so that a new and better one could be born. Those societies obviously did not have the potential to develop gradually.

Globalization is not only a technological or economic process. Its cultural implications can hardly be exaggerated. Cultural coherence, multiculturalism, and tolerance of difference will be ever more important issues to be learned. Multiculturalism in its different forms will increase in the future. So far, for example, Finland has been an extremely homogeneous country. The share of foreigners has been less than 1%. This figure will surely increase in the future.

At best, the globalization process offers us better possibilities to learn from different cultures and to live peacefully in a global multicultural community. Conflicts between cultures are naturally possible, too. I believe that the more we have physical and immaterial interactions (e.g., using the Internet), the more we will develop mutual understanding and respect toward other cultures. A real society of citizenship is possible. This is clearly a learning process for all peoples and cultures.

EVOLUTIONARY PERSPECTIVE IN FUTURES STUDIES

These powerful evolutionary phenomena in the world lead us to reconsider the basic premises of futures studies, too. Many of the studies in the futures field have been based on Newtonian ideas, which state that the world is nothing but a mechanism, basically a clockwork entity with a constant structure. According to Ilya Prigogine (1985), this way of thinking, however, is not enough to help us to comprehend the realities of the world and how they are changing.

During the past 10 years or so, several future-oriented researchers (associated with, e.g., the United Nations University) have been interested in what could be called complexity or evolutionary studies. These involve trying to understand the transformational dynamics of a society in a way that considers chaos as a normal phenomenon in natural and societal development.³

Natural systems—within which we can also include human societies—are essentially systems existing in states of thermodynamic nonequilibrium with nonlinear interactions and strongly differentiated inner structures. The stationary stable states of systems like these can become unstable due to local fluctuations in the system or fluctuations coming from outside into the system. When these fluctuations are strengthened above a specific threshold value, the system can shift to a new dynamic stable state that can be

qualitatively totally different from the previous state. Prigogine calls the break between the two states a "bifurcation" and terms the new state "dissipative structures" (Prigogine & Stengers, 1984). Using Kuhn's terminology, a bifurcation is a paradigm shift, whereas the dynamic stable periods between bifurcations mean living inside one paradigm.

One should be careful when applying the ideas from studies of complex nonlinear systems and from what has generally been called chaos theory to human and social contexts. These are more like hypothetical metaphors than verified facts. On the other hand, it should be remembered that the mainstream social sciences also use metaphors that are taken from the Newtonian paradigm (Mannermaa, 1991).

FUTURES STUDIES VERSUS SOCIETAL DECISION MAKING

The World Futures Studies Federation arranged its 11th world conference on futures studies in 1990 with the theme "Linking Present Decisions to Long-Range Visions" (see Mannermaa, 1992b). As such, this shows how important linking is in futures studies. And, it is not only important, but also highly problematic. There are missing links in the chain from general scenarios to concrete political decision making.

One way to categorize futures studies on a scientific and societal basis is presented in Table 1. A study can be scientifically credible or not. A scientifically credible futures study presents scenarios that are plausible, consistent, essential, holistic, and multidisciplinary, based on true statistical, survey, or another empirical material of the present, and so forth.⁴ Quite independently of its scientific credibility, a study may have a low or high impact on societal discussion, planning, and decision making. In this way, we can formulate four different types of futures studies.

High credibility-high impact. This should be the general goal of most futures studies; too often, this is not the case. As an example of a study of this type, Meadows, Meadows, Randers, and Behrens's (1972) *The Limits to Growth* should be mentioned. Although heavy criticism based on scientific arguments was raised against *The Limits to Growth*, it was a scientific enterprise using mathematical modeling, statistical data, and so forth. There was much more science in this work than in most scenario studies. At the same time, *The Limits to Growth* really had an impact on societal development. It brought about a global discussion of the ecological threats facing us in the next millennium, assuming that the present trends continue to exist as business as usual in the future. The report also presented alternatives that could help us to reach a state of sustainable development.⁵

High credibility-low impact. This is the fate of many academic futures studies. In the case of, for example, doctoral dissertations, this is quite understandable. The main purpose of these works is to train postgraduate students for competence in futures research, not to influence the world around the researcher. Unfortunately, there are also a lot of examples of futures studies that represent competent research and that are meant to have an impact on something but that have failed to do so. One of them was the *Global 2000 Report to the President* (1980). It was initiated by U.S. President Jimmy Carter. The purpose of this comprehensive and good study was to make conclusions about the continuation

TABLE 1: Credibility Versus Impact of Futures Studies

	<i>Low Credibility</i>	<i>High Credibility</i>
Low Impact	Not so successful studies	Most academic enterprises <i>Beyond the Limits</i> ^a
High Impact	Brundtland Commission ^b	<i>The Limits to Growth</i> ^c

a. Meadows, Meadows, and Randers (1992).

b. World Commission on Environment and Development (1987).

c. Meadows, Meadows, Randers, and Behrens (1972).

and consequences of the present population, resource, and environment trends. The message was alarming, but it was not heard because the next president and his administration did not like the results. *Beyond the Limits*—Meadows, Meadows, and Randers's (1992) follow-up study to *The Limits to Growth*—is, unfortunately, another example of this kind. Even though the database was better, the computers were much more sophisticated, and the message was as serious as 20 years earlier, *Beyond the Limits* was almost unnoticed. It was not a report to the Club of Rome like *The Limits to Growth* was, but the degeneration of the status of the Club of Rome may still have had an impact on the lack of success of Meadows et al.'s second report.

Low credibility-high impact. This is when politics is more at stake than science. The 1987 report of the World Commission on Environment and Development (the so-called Brundtland Commission), *Our Common Future*, is an example of a futures "study" that certainly does not represent Big Science (i.e., it is lacking in theory and methodology) but that has had a considerable impact on societal and governmental discussions and decisions (Mannermaa, 1992a). The commission launched the concept of sustainable development to the public. Since then, this concept has been a slogan similar to the idea of new international economic order from the 1970s. In principle, political parties' programs are also examples of futures statements that may have an impact (or not) on societal development. These are statements of desirable futures without even trying to be scientific studies. Fortunately (one might add), most of these belong to the category of low credibility-low impact.

FUTURES STUDIES AS LEARNING PROCESSES

You need a method! In earlier sections of this article, I wrote that the present turbulent situation creates new challenges for futures studies. This should be understood both from the point of view of science and methodology (credibility) and from the point of view of having an impact on the "right" actors.

It was suggested that evolutionary perspective may serve as one of the new frameworks for futures studies. It helps to create and test scientific hypotheses in futures studies. But this should not be understood as the only possibility. During the years of my interest in futures studies, I have used several different methods such as quantitative time-series modeling, soft systems methodology, expert judgments (Delphi, cross-impact analysis), and different scenario and strategy approaches. I think that one should choose a method according to the topic and the purpose of the study. But, hopefully, one

does have *some* method if it is claimed that futures research is being done. Just writing about feelings may be nice, interesting, and therapeutic, but it is not research.

To me, the most interesting constructions of the future are multidisciplinary and evolutionary scenarios covering a wide range of cultural, economic, technological, and social issues. They can be produced either based on forecasts, Delphi estimations, qualitative trend analysis, and so forth (from the present to the future) or from a normative starting point ("This is how I'd like the world to be, and the next question is how do I get there"; from the future to the present). In the first case, the empirical material available gives some limitations to the method: The scenarios should be plausible in light of the material. In the latter case, the borderlines are given by the limits of one's imagination, not really by anything else.

I have tried to stress these lessons in my own teaching at the universities as well as in my consulting. The main topics to be covered in the teaching of futures studies are, to me, the following:

- the basic theories—ontological and epistemological questions dealing with the concepts of future and futures research, values and ethics in futures studies, and so forth;
- the evolutionary perspective, chaos theory, and societal processes;
- systems thinking and modeling, both quantitative world modeling and qualitative soft systems methodology;
- specific methods—time series, scenarios, (mega)trend analysis, strategies, expert methodologies (Delphi, etc.), and futures workshops;
- exemplars of significant futures studies (e.g., *The Limits to Growth*); and
- futures studies and societal decision making, popular movements and activism, political processes, and so forth.

Especially useful learning processes have been the following practices: I have asked students to write essays on various topics using systems thinking and the evolutionary perspective as their framework. Most of the students have been at the postgraduate level, and they have been experts in their own fields. Applying the evolutionary perspective to their fields has been rewarding both for them and for me. The irreversible nature of many societal processes, disequilibrium as a natural state of affairs, structural changes (chaos), as well as stable periods in the description of the societal development have proved to be especially useful metaphors in these studies.

High impact—on what? I regard it as a kind of a paradox that in the 1990s, in my own country—Finland—the official establishment has become more interested in futures studies than ever before. The government, the parliament, most ministries, and other authorities have produced futures and strategy reports. For the first time in Finland's history, the government gave a special futures report to the parliament in 1993, and it seems that this is becoming a regular practice. In 1993, the parliament established a special futures council, again something that had never before happened. It should be added that these phenomena are not related in any direct way to party politics.

This is very positive as such. I have been personally involved in much of this futures work for the government, the parliament, and the ministries. One can find real interest in futures thinking and studies in these institutions. I think that integrating futures thinking and studies into the traditional parliamentary processes is an important direction and a challenge for futurists, in a more general sense, in the future.

One rather good example is the Dutch model. There is a high-level futures studies organization called Scientific Council for Government Policy in the Netherlands. The council raises repeatedly important societal discussions with its studies of the main themes of the future. The parliament is even obliged to react to the reports of the council.

But one has to admit that the prevailing political culture in the Western countries is almost the opposite of the basic premises of futures studies: short range instead of long range, sectoral instead of multisectoral, simple instead of complex, no change instead of change, and so forth. In Finland, for example, the parliament cannot really discuss the futures reports. It is simply too demanding for most of the members of the parliament. They have no time or interest in reading heavy reports, and they do not see the importance and meaning of this discussion to their everyday work. They would rather discuss, for example, whether the shops are allowed to keep their doors open on Sundays. Everyone has an instant opinion on matters like this, and these are the topics through which they either win or lose voters.

The real paradox, however, lies in that it seems to me that the old establishment is not the main innovator and maker of the future. To me, it seems that especially in the highly developed Western countries, which are transforming themselves into the era of information, the main technological, economic, and social innovators are coming from the periphery of the societies. New Internet enterprises, small media and software companies, and new social movements outside the representative institutions will shape the development of the future.⁶ The Internet in itself is a marvelous example of how self-organizing processes are occurring all over the world very much independently of what parliamentary decisions and legislation might say. The Internet is a Wild West—good and bad.

I very much agree with Alvin Toffler who says that the decisive struggle today is between those who try to prop up and preserve industrial society (second wavers) and those who are ready to advance beyond it (third wavers). According to him, this is at the same time the superstruggle for tomorrow (Toffler & Toffler, 1994). Actually, I call this Battle 1, the battle between the future and the present. To me, it is quite clear who will win this battle.

Battle 2 is the battle between the forces of the future. In the Nordic countries, it seems that there are two basic scenarios and their supporting forces. Briefly, Scenario 1 is the transformation of the Nordic welfare society model for the globalizing information society, and Scenario 2 is the neo- or postliberalistic (or libertarian) model, where the prime movers of development are the market forces. The result of this battle is unclear to me, although Scenario 2 is in lead at the moment (Mannermaa, 1996b).

The history of ideologies, politics, and social movements has not ended; on the contrary, it has very much started. One of the most interesting and most neglected issues in futures studies is the question of what kind of societal and political forces will shape the future. The political map in the democratic Western countries was born in a primitive industrial society that was quite different from our present societies. The last significant new political movement of the industrial society was, I believe, the Green movement. Now it is one of the older ones. The new ones will be born from the tensions of the information age, such as globalization as a societal phenomenon, information as the key strategic resource (e.g., "Should it be socialized or not?"), the information society as a deep class society, and so forth.

My point as a futurist here is that these new self-organizing forces are at least as important, probably more important, actors of the future than the traditional institutions are.

And in this sense, they are the key topics, cooperators, and customers of futures studies, too.

The final truth of the societal context in which we as futurists practice our work in the future can be found on the front cover of the Beatles' album *Sgt. Peppers Lonely Hearts Club Band* from 1967. Take a look!

NOTES

1. In the English-language literature, *futures studies* is more often used than *futures research*. I prefer to use the latter concept when thinking about theoretically and methodologically sound research projects. *Futures studies* has, to me, a looser definition that covers a wide range of future-oriented projects, which may not be research oriented.

2. I have discussed the idea of interest of knowledge in futures studies versus social decision making more thoroughly in Mannermaa (1986).

3. The discussion of complexity initiated by Ilya Prigogine and continued by Peter Allen, Kenneth Boulding, Peter Checkland, Vilmos Csányi, Erich Jantsch, Ervin Laszlo, and many others belongs essentially to Warren Weaver's well-known domain of organized complexity and what Robert L. Flood calls the "homo sapiens line" (Flood, 1987; Laszlo, 1987; Mannermaa, 1991; United Nations University, 1985; Weaver, 1948). The concept of complexity, however, is itself very complex. Attempts to define it easily go around in circles: "Complexity is studying complex systems" (this problem has been discussed in, e.g., Ploman, 1984; Williams, 1985). It has sometimes been attached to us (researchers, people) and sometimes to reality (objects, things) (Flood, 1987). One way of clarifying it might be to divide it into ontological and semiotic complexity (Csányi, 1989). *Ontological complexity* means the inherent complexity of "reality" in natural processes (e.g., randomness in thermodynamic processes), in human beings, and in societies, as well as in the relationship between the researcher and the object of research. *Semiotic complexity*, on the other hand, refers to the complexity of the models that we have in our minds or that we have made (e.g., the length of a computer program).

4. I am not going into the details of the discussion about the scientific criteria of futures studies here. This discussion has been carried out in, for example, Bell (1997), Mannermaa (1991, 1996a), Masini (1993), Simmonds (1988), and Slaughter (1995, 1996).

5. The expression *sustainable development* as such became a part of the futures vocabulary only in 1987, when the Brundtland Commission presented its report (World Commission on Environment and Development, 1987).

6. Now, I am talking about innovations. The accumulation of capital, the trend toward huge units, which is happening around us, is another thing.

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