The Second Prague Workshop on Futures Studies Methodology

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Introduction

In September 2004, The First Prague Workshop on Future Studies Methodology brought together about 25 scholars from seven European countries. The resulting volume comprised twelve contributions.¹

In October 2005, 55 scholars from ten European countries, Azerbaijan and the USA met at The Second Prague Workshop on Future Studies Methodology. The workshop was a joint venture of the Center for Social and Economic Strategies, Charles University Prague, the Civic Futurological Society (Czech Republic) and the European Millennium Project Initiative (Central European Node). It was organized along with the Eight Futurological Colloquium “Designing the Future in Europe ’05”.² The intent was to put together specialists considering various aspects of our common European future with colleagues with methodological bias in order to confront their cognitive approaches and styles in the most productive way. The participants were exposed to methodological experiments stemming from the pool of heuristic methods in order to understand better the future challenges of the enlarged European Union – and to build effective links between foresighting and political practice.

Proceedings from the second workshop are published in this volume in three thematic clusters. The first group of contributions (Potůček, Nikolajew, Suša, Veselý - Kalous, Mannermaa, Grote, and Frič), applies various forecasting methods to better understand the future challenges of Europe and the world. The second cluster of papers (Aaltonen, Bishop, Van Steenbergen, and Mettler) deals with the position, role, and functions of futures studies in the cognitive process. The last group (Kaskinen – Ahlquist – Kinnunnen, Da Costa – Boden – Friedewald, Szél, Van Leemput, and Van Leemput – Goots) presents innovations in futures studies methodology.

As the first workshop, also this event was supported by the Grant Agency of the Czech Republic’s Project No. 403/03/0109, “Systematic Development of Forecasting Methodology”. It made it possible to support the spirit of mutual understanding and increased the existing potential of productive collaboration between the futurologists from the “Old” and “New” Europe. I would like to thank all participants for their ideas, time and devotion once again. Even though this particular research project ends up at the end of 2005, I do hope that the atmosphere of mutual trust, the build-up intellectual and social capital, will emanate in events of similar content and format in the future. The Center of Social and Economic Strategies, Charles University Prague will do its best to participate in such initiatives, or to take the lead again.

Martin Potůček

This paper has been drafted to stimulate the further expert discussion about the future of European integration, and by doing so to fine-tune the conceptual premises and the composition of relevant topics for such a dispute. The method chosen for this purpose was the Futures Wheel, developed by Glenn (2003) as one of the methods used in forward studies. The original text and scheme were presented to the participants of the Second Prague Workshop on Future Studies Methodology, October 20, 2005, as an instrument to structure such a discussion. Three issues were discussed, ordered along the time scale: A - Historical cleavages; B – Current impact; C – Future consequences. At the end of the exposition of each issue, questions were proposed for further discussion (see Methodological appendix). The outcomes of the discussion were reflected in the updated present wording and in the scheme of Futures Wheel on European Integration (see Graph 1).

There is considerable space for continuous further elaboration of the methodological approach as such, and the subject matter in particular.2

1  This is an updated version of the draft paper that was submitted at the Second Prague Workshop on Future Studies Methodology, October 20, 2005. I would like to thank my colleagues from CESES, especially Vladimír Benáček, Zuzana Drhová, Jiří Musil and Martin Nekola, for valuable comments on the draft of this paper. My thanks go also all those who engaged in the workshop discussion, for their contribution to this updated version.

2  Comments and suggestions are welcome and should be sent to the author, CESES UK FSV, Celetná 20, 116 36 Prague 1, Czech Republic, potucek@fsv.cuni.cz
Quo Vadis, Europe?
The European integration project is at stake.

A. Future Consequences

Pressures of Globalization

Knowledge-Driven Europe

Environmental Challenge

Social Cohesion and the European Social Model

European Economic Competitiveness

Further Enlargements

Deficit of Strong Vision and Commonly Shared Values

Is the Lisbon strategy feasible?

B. Current Impact

The EU after the French and Dutch referendums

Ageing and Immigration

“Old” versus “New” Europe

European versus Global Security

Ethnic and National versus European Identities

Need of European Governance versus Absence of European Political Space

C. Historical Cleavages

Path Dependency
A - Historical cleavages

“Old Europe” versus “New Europe”

Diversity is the necessary condition of choice and ultimately also of selection of the best solutions. Diversity is quite enormous in Europe. The European Union policy instruments such as the open method of coordination or benchmarking actually bet on diversity and reap handsome revenues. The sluggishness with which the desired goals are reached, and sometimes even the inability to reach rational solutions, is anathema to this approach. However, the windows of opportunity will close, often for good, without a swift response to problems. The culture and civilization gap between the old and new Member States, or more precisely between the countries which have or have not experienced Communism, is still a gaping wound. (Musil 1994, Schöpflin 2000) Two to three generations spent in a totalitarian system have made indelible marks on popular thinking and the behavioural codes of institutions to the degree where the rational integration efforts of the political and administrative elites of Brussels, which implicitly presume an internal identification of the actors with the standards of a democratically governed, market-economy country, inevitably clash in the post-Communist countries with misunderstanding, opportunism or even purposeful resistance. The differences between the former East and West Germany, fifteen years after that country’s reunification, may serve as a showcase example.

Ethnic and national identities versus European identities

For the European political representations, ethnic and national identities have always been a tough nut to crack. While Western Europe managed to gradually come as one, states went on disintegrating in Central and Eastern Europe (Soviet Union, Czechoslovakia, Yugoslavia). Ethnic communities and national societies took different times in history to emancipate and this renders the enlargement process appreciably more difficult. Thus, the Czechs and Slovaks were given less than 12 years to navigate – each nation on a boat of its own nation-state – from a single federal republic to the safe haven of the European Union. This is not to say they did not have this wish – but they had little time to savour psychologically their respective national emancipations in full. Today, nationally-oriented politicians put their stakes on the emotional deprivation rampant in the new Member States. Ethnicity further complicates the smooth building up the European identity, both in the “old” and “new” Europe. The hybridization of cultures may make integration kit even more porous… On the other hand most of the educated young Europeans who were given a chance to grasp the nature of the EU institutions or to study and work in various European countries are gradually enhancing their European identities. However, they still account for but a tiny fraction of Europe’s population; and it may take a few decades to spread the sense of belonging to Europe. Politically then, national egoism will (paradoxically) continue to apply as a pronounced and often remarkably limiting factor of European integration.

European security versus global security

The major part of the European Union’s security has traditionally relied on transatlantic ties as embodied by NATO. At the same time, there have been protracted discussions about structures that could give momentum to establishing genuine institutional and military structures within the EU. Up until now, there have been neither clear political nor robust and effective defense capacities that could be called, de iure et de facto, “European”. Should they be established in order to get rid of the apparent transatlantic asymmetry of power? Or, alternatively,
is there a feasible option to construct a sort of symbiosis between the American and European security umbrellas?

**Need for European governance versus the absence of European political space**

Europe is the cradle of democracy. Europe gave birth to Enlightenment – the Age of Reason. After the unsuccessful communist experiment in the East, public administration even there has been returned into the hands of citizens and their political representatives. It goes without saying that the capacity and actual level of civil participation in the decision-making processes whose outcomes affect the citizen does differ from one country to another. However, with the significant exception of Belarus, there has been no country left in Europe where the institutes of representative democracy, and more or less free media, are not functioning. What Europe is lacking painfully, though, is a shared European political space. Democratic deficits in the decisions of the European Union bodies are accompanied by a type of political communication severely limited by the boundaries of national states. European political parties are miscarriages that command virtually no political import outside the limits of the European Parliament. The European political initiatives that try to overcome these barriers are hardly being heard by the domestic political elites.

The demise of Czechoslovakia graphically demonstrates that a decades-long existence of two peoples in a single state may not lead to the formation of a single political space: the political representations and parties formed in the wake of the Velvet Revolution in 1989 were geared towards either the Czech or Slovak society – the Civic Forum in Bohemia and Moravia and Public against Violence in Slovakia. Even the surviving “internationalist” Communist Party of Czechoslovakia split in two; whereas meagre efforts to export new political entities into each other’s part of the federation all failed very soon. The non-existence of a single political space subsequently made it easier for the legitimate national representations to carry out “velvet devolution”. Tensions and centrifugal tendencies are apparent even in some old member States (Belgium, Spain, and United Kingdom) although they have not come to fruition.

**B - Current Impact**

**The European integration project is at stake**

Europe is a textbook example of the gap between opportunities and imperilled development. There arguably is no other continent with a vaster cultural heritage – and this same heritage is often a burden and limitation where it should really stand in good stead. Europe is rich – yet many of its inhabitants are reduced to a life in less than dignified conditions. The ideas nurtured by Europe’s pioneers and thinkers make life easier for millions but at the same time their ideas have exposed Europe (and the whole world) to two devastating wars, the Holocaust, and ethnic cleansing. The European unification project is a unique experiment but it has begun to devour itself by virtue of its success that actually impedes swift responses to changing conditions.

The contemporary Europe is not being bypassed by the most serious destabilizing trend of the modern civilization whereby profit wins over social and environmental considerations and mammoth multinational companies command more power than political establishments. Social inequalities are growing politically explosive while the by-products of economic activities pose an increasing threat to both the biosphere in general and human health in particular.
**Deficit of strong vision and commonly shared values**

The European Union cannot survive without a robust vision of its future, and without concordant values followed by most of its inhabitants. Unity in diversity is a very nice slogan. Spiritually, the plurality of religious denominations (namely Catholicism, Protestantism, Islam, Judaism, scientism and atheism) has been the reservoir of choice and stimuli of innovation in Europe. Politically then, this plurality may be seen as a weakness in the period we are approaching – the period of battlefield of cultures and ideas. Will the general values of humanity, civil, political and social rights and sustainable development be strong enough to resist the pressure of loosely regulated processes of globalization?

**Ageing and immigration**

Greying Europe along with the political instability outside the EU will trigger the influx of immigrants from the poorer parts of the world. This process has the potential to widen the already existing cleavages, namely the gaps between the European identity vis-à-vis ethnic and national identities.

**Further enlargements**

There exist plans for EU enlargement further to the southeast. Some are nearing their fulfilment (Bulgaria, Romania); others are foreseen for the next decade (Croatia, Turkey). Yet there are clear signs that even the present enlargement has not been fully digested either in the “Old” or the “New” Europe. There is a clear cleavage between the attitudes of political and economic elites of the Member States and candidate countries on one hand and the majority of people of the present Member States on the other.

**C - Future consequences**

As the failure of the Constitution for Europe referendums in France and The Netherlands has created a developmental threshold, only a fuzzy idea today about the Europe of 2015 or 2025. The future of Europe will be co-determined by its historical legacies and will have to deal with its burdens as well as its assets and potentials. What will ultimately prevail in the future?

The only political program for the future (at least formally) approved by all Member States is the Lisbon Strategy. It consists of its economic, social, ecological and knowledge pillars – and hopes to develop all of them into a desired harmonious blend. The reality is rough in the middle of its implementation period: there are strong trade-offs between these pillars, and the desirable synergy between them is hard to identify, prove and implement.

Let us consider all four pillars one by one and to test the sustainability and the implementation potential of the Lisbon Strategy as a whole.

**Social cohesion and the European social model**

Europe is the cradle of modern social security systems. Despite the technical differences in the functioning of these systems in individual countries, the unquestionable presence of these systems in the process of building and maintaining the legitimacy of the social system and the capitalist way of production remains a strong common feature of both the old and the new Member States. (Dahrendorf 1985) However, the Welfare States are exposed to the enormous pressure of economic globalization which the national political representations find ever more
difficult to challenge. Nonetheless, not even the European Union has managed to find an effective tool with which to counterbalance the market in the social sphere in a manner similar to that applied in the golden era of the national welfare states in the 1960s and 70s. Just how toothless the European Union is, was amply revealed during the reforms of social security systems in the post-Communist countries when the EU withdrew from the operations theatre for the benefit of institutions such as the World Bank or the International Monetary Fund, which often implemented reforms inspired by limited neo-liberal prescriptions stemming from the early nineties’ Washington Consensus. These reforms undermine the very foundations of what has come to be known as the European social model. The European Union has allowed an alien element to creep in through its backdoor that may further deepen the politically explosive social differences among and within its Member States. Yet in spite of all these problems, Europe still is the main source of experience, models and instructions on tackling the social question. However, things will not get any better without redistribution on the European level much as they won’t without redistribution on the national levels. (Potůček 2004)

Knowledge-driven Europe

The support for student and teacher exchange schemes, especially at university level (Tem- pus, Erasmus, Socrates, Marie Curie Chairs, etc.) is one of the most successful European Union programs. These swap schemes are exceptionally valuable long-term investments in the education and political ripening of new generations of erudite Europeans. But if one looks at the capacities, notably the standards of university education, one cannot but envy the head start the Americans enjoy over Europe. Nor should one ignore the rocket start of Southeast Asia (namely India, Taiwan, South Korea, Malaysia and China). The simplified 1990s’ reform formulae have eroded the knowledge potentials and institutional infrastructures of the post-Communist countries and the process was frequently irreversible. It will do no good just to marvel at the glorious past of the European universities which are slumping into average today. All the more so as Europe’s demonstrable slump in education goes hand in hand with similar handicaps in research, development and innovation.

Veselý – Kalous (2005) suggest that the commonly used term European knowledge society be replaced by a more comprehensive notion of “knowledge-driven Europe”, promoting learning, creativity, innovation etc. Europe continues to provide a worthy development potential which, if fostered and utilized, may yet bring out its fruits in season. But still, is the current streamlining of European support for education, research and development able to meet the future challenges? They do not see any clear trend towards more and better education in Europe (ibid.). There are at least two other fields that are underrepresented there. First, they call for an intensification of the knowledge processes crossing all societal subsystems – not only economy and technology, but also social structure, culture and polity. Second, there is a deficit of necessary knowledge for sound governance, based on proper, evidence-based analyses and forecasts.

Environmental challenge

The European Union has done a lot to enhance environmental awareness and responsibility within the Member States as well as on the global scene. Further improvements are necessary, they will take time and require heavy investments – namely in the new Member States. Nonetheless, the major space for real improvements that could have enormous positive impact on the European environment lie outside its own operational space. The fate of the Kyoto Protocol is
proof of both the mutual dependence of environmental policies all over the world and the inability of the world powers to reach consensus on dealing with them in an effective way.

**European economic competitiveness**

There is an ambitious goal expressed in the Lisbon Strategy: to make the European economy the most competitive in the world around 2010. However, the European economy of 2005 is still far from that owing to its slow economic growth, persistently high unemployment rates, and uncertainties about its prospects vis-à-vis the potentially damaging competition of the U.S.A., China, and the Asian Tigers.

**Instead of conclusion: The relevance of strategic governance**

Whether the European Union can meet the challenges it is facing will depend largely on the quality of strategic governance whose present form throughout the world is at sharp variance with the needs of development. (Dror 2001) The “New” Europe performs considerably less well compared to the “Old” one in this respect. (Potůček ed. 2004) Not unimportant aspect of it will be the renewed political leadership, the emergence of new, strong, competent, charismatic European statesmen.

The future European strategic governance will have to cope with the increasing inconsistency: as the economic and politico-administrative borders tend to lose their relevance, the value orientations and societal behavioural patterns - and the cultural borders induced by them – will be much less permeable. Achieving dynamic balance between equity, competitiveness and environmental sensitiveness will persist as a crucial problem of effective steering long after 2010, too. The EU will be able to cope with all these challenges only if it understands them better and enhances its governance accordingly.

**Methodological appendix**

The Futures Wheel is a way of organizing thinking and questioning about the future - a kind of structured brainstorming. The name of a trend or event is written in the middle of a piece of paper, and small spokes are drawn wheel-like from the centre. (Glenn 2003) In the original approach, primary impacts or consequences are written at the end of each spoke. Next, the secondary impacts of each primary impact form a second ring of the wheel. This ripple effect continues until a useful picture of the implications of the event or trend is clear. For the purpose of this experiment, a specific version of the method was used where analysis goes along the time axis in three steps from the past (A – Historical cleavages) through the present situation (B – Current impact) to the potential futures (C – Future consequences).

The workshop participants were asked five questions associated with each of the three above-mentioned steps:
The brainstorming discussion steered by the author took about 90 minutes. About 15 experts were actively involved and the author received one additional written comment. The discussion did not challenge the overall format and structure of the originally suggested Futures Wheel on European Integration. Nevertheless, several issues not mentioned in the draft version of the text and the graph, namely the problems of ethnic identities, of ageing and immigration, and of the deficit of strong vision and commonly shared values, were raised during the discussion. Several other issues were thoroughly discussed, especially the role of religion and the concept, content and functions of the European knowledge society. The content of the discussion was reflected both in the text and the graph of the updated version of the paper.

**Bibliography**

Europe – Laboratory of Sustainable Development?

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1. Europe at the Crossroads

Europe is enlargening, Europe is going East, Europe is looking for its new position in the world, Europe is willing to update its relationship with America, Europe is debating about its future and has to respond to challenges of globalization. Europe has to fight against growing radicalization of its societies (democratic voting for ultra rights in Austria, Italy and now in France. Who next?). Europe is ... It seems that Europe is overwhelmed by so many ambitions. Is there a new sense of mission in this jumble of developments, which could provide cohesion and future direction?

Two factors have been responsible for the present situation.

Post War Development

was characterized by East-West conflict with special emphasis on the post war Europe. United and prosperous Western Europe was in the interest of the US and enhanced. There asserted itself a certain division of roles: Western Europe had to care for its well-being challenging Eastern Europe under sway of the Soviet Union with its way of life. America provided umbrella of protection. Dependent and prosperous Western Europe was important part of architecture in the global play dominated by East-West conflict. „America in, Russia out, Germany down“ were the elements of this European architecture, at least in British spelling. America needed Europe and Europe needed America was the basis of a new post war friendship. For while Europe contracted to Western Europe and lost not only colonies but also its leading role in the world, these were America and the Soviet Union who had saying.

The East-West conflict is over.
The world has changed profoundly without becoming a safer place. Other threats are emerging, new conflicts lurking. Future to be shaped under impacts of globalization and environment degradation advances to a crucial issue to cope with. That poses demand for new architectures, security systems and adjustment of roles. European development as it was laid down in post war period needs thorough updating. Facing this challenge another factor, history of Europe, is beginning to be of greater importance.

**Volcanic Nature of European Development**

Thinking of Europe, not a very large or populated area, is traditionally thinking over part of the world where quarrelling and continuous warfare took place. A place that could inspire such brilliant thinkers as „natural law“ philosopher Hobbes to speak of a „war of every man against every man“ or such infamous persons as Hitler to write „My struggle“ („Mein Kampf“). Then war and struggling seem to be very natural in European understanding of driving forces of development (even with regard to carefully elaborated codes and rituals of warfare). And if wars of states against states were not enough, revolutions and civil wars had been unleashed. Two great (global) revolutions, French and October ones, had unprecedented bloody tolls. Two times Europe succeeded in binding and funnelling diversity of hostilities along world wars (previously unthinkable). It was the first and the second effort of globalization of war within a time span of less than 30 years. Exhausted by previous and afraid of possible coming wars Europe drew one conclusion-enough is enough.
Another historic lesson was that military power doesn’t bring desired results, neither for winners nor for losers. The only thing that happened were sufferings. Nonetheless, Europe still remains volcanic. It’s on the back burner and at fringes where enough doesn’t seem to be enough. And it looks as territorial disputes of the past are giving place to ethnical squabbling to uphold volcanic nature of further European development.

This was the genuine European invention to introduce ethnical or racial problems into the menu of conflicts (“blood and soil” as emblem of ethnical cleansing to justify any kind of brutality exerted in modern times). Ethnical and racial conflicts are historically relatively new as the divide was usually linked to religion (like conflicts between Hindus and Muslims in India, or e.g. prosecution of Jews in Europe ceased each time as a Jew let convert himself to Christianity). It were not ethnicity or race, which counted, but belonging to a main religion.

Indeed, it was a volcanic terrain, which brought about European culture with a flurry of contradicting values. To accommodate them one had to be creative and innovative.

2. European Values

European values were mainly formed under the impact of Christianity. They enclosed the meanings of integrity, identity, sovereignty, independence and dominance, justice and self-interest, human rights and longing for law and order, curiosity and parochialism, individualism and solidarity, inclusiveness and exclusiveness of “others“ as most cultivated European values to be fought for or against. One attempt to express them in brief was exposed during French revolution: „Liberté, Égalité, Fraternité,“ to close great European transformations under impacts of Reformation, Renaissance and Enlightenment. The implementation of contending values turned up to be a confusing matter as genuine interests of many actors collided. Nonetheless, the finalization of European values underwent important modifications to receive the status of Western values to be globally spread and respected.

Who belongs to Europe, who is European, who shares Western values and who is alien to them and should be ostracized? All are the subjects of vivid debates with no end in sight. And
new agenda of this debate is emerging in Europe, questioning whether European and Western values are indeed identical?

3. European Actors

It was very difficult in the past to speak about Europe with one voice. For it was each time the diversity of actors with various interests and with specific selection and respect for values. It was rather equilibrium of competing forces, balance of power politics (the European version of „checks and balances“) which helped to keep this diversity at bay. On the other hand shines the picture of one big European family comprising Empress Victoria of England, Nicholas II of Russia, Wilhelm II of Germany and other royal houses in Europe, hence, symbolizing interconnectedness. (It didn’t prevent them from falling on one another destroying what was called the „belle époque“, and for many, their own existence.) Quarrels and struggling have been interwoven in such a way, that if seen with the eyes of an alien from outer space, they seemed to be occurring within one great European family.

This dialectic nature of European values and diversity of actors brought about creativity and innovativeness, which were historically unique.

4. Innovativeness

And Darwinian world of Europe, the volcanic nature of its existence released enormous forces of innovativeness turning the world each time in something new (also to surprise of the creators of all those changes). The changes were tremendous, and went out of control. Every effort to restore the previous state failed (e.g. attempt of restoration after French revolution, pretence of return to previous normality after the world wars, steps of restoration of pre-communism world after the collapse of communism). Each time the world became completely different compared with what it once was. The European history is an excellent subject of hermeneutics as it’s full of contradictions, uneasiness and unexpected results. But it created specific environment for innovativeness:

- **Europe was especially industrious in new technologies and invented:**
  - Modern science
  - Railroad and automobile
  - Cinema and radio
  - Dynamite and discovered radioactivity
  - Etc.

  Europe actually invented technical civilization we now call “Americanization” meaning the quintessence of European culture scaled up by America to become global.

- **But Europe invented more. It invented main directions of global social development routes**
  - Capitalism and its adversary Marxism, and welfare state to reconcile technical opportunities with European social values. Europe invented welfare state, which tamed capitalism and showed itself more attractive than radical communist visions.
  - It put forward human rights and democracy but invented at the same time colonialism. The legacy of colonialism reminds of Europe’s past with quarrels and wars in the former colonies. It seems as the spectre of Europe of the past continues to haunt outside Europe.
  - **More recently, yet not properly appreciated, Europe started to invent something very important-sustainable development, a new historical direction of taming the global self-destruction by vicious circle.** The vicious circle, which is formed through present forms
of interaction of economic growth, demographic explosion and environment degradation. Sustainable development marks the route to step out from this vicious circle. Moreover it seems that different to other parts of the globe (still completely blinded by marvels of high-tech’s) its innovative forces are in defiance of mainstreams tending to increasingly work toward social innovations, hence, leaving pure technical tracks to others.

Europe? Rule the world again? This time through social innovations? Or?

5. Europe – Island of Prosperity, Designer of “Fortress of Europe” or Global Inventor of Sustainable Futures?

Maybe for the first time in history Europe is becoming a comfortable place to live. It combines rather elevated living standard with life quality, which comprises environment and social security, law and order with human rights. For the first time people don’t flee Europe but rather take every pain to enter it. An island of prosperity in a stormy world haunted by waves of globalization? Is it possible for the „old“ Europe to retire to enjoy comfortable life in a „splendid isolation“ after the continent had invented capitalism and ubiquitous technical civilization and helped to enforce them worldwide?

If not, what about historical perspective of supporting the world to become a comfortable place for all to live, too? At present it looks as Europe is pursuing objectives which are directed toward building a „fortress of Europe“, curiously enough, to be fenced against the ROW through the “second best” solutions: EU as evolving to the second best United States, € to the second best $, high-tech’s with the second best space research, creation of the second best military power, etc.

“Fortress of Europe” to be carefully defended against aliens from the “Rest of the World” (ROW)? It may be one vision. Who is European (e.g. belonging to the island of prosperity)? Where the borderline of Europe should be drawn? Forgotten should be the times as Europe was opened to ROW and magnet for especially young “aliens”. Hemingway wrote his books living in Montmartre in Paris. People of arts and science from the whole world were contributing to the fame of Europe. On the other hand, Europeans were swarming out in every direction curious to explore the ROW. To work toward closeness of European society, now, is an unhappy future vision of all possible.

6. Europe and America

Relationship between Europe and America evolves to a central issue. One facet of this relationship in hindsight may be crucial for future:

**Europe invented railroad, America built railroads** across continent and organized around them elements of global culture (including introduction of time zones).

**Europe invented automobile, Henry Ford reinvented it again and with it scale economies.** The automobile became a commodity everybody could afford. As a result, it profoundly changed the world (we can call it “before and after the automobile”).
Europe invented cinema but America responded with Hollywood enabling cinema to shape the global culture.

Europe discovered radioactivity, America built atomic bomb.

Etc.

With regard to technologies Europe was experimenting, America was especially successful in scaling up of experiments.

Though in the social area this division of labor was less obvious: Of course, Europe invented capitalism, America scaled it up to globalization. It became its truest perpetuator and policeman
defending globalization of capitalism. At the same time it acquiesced in the welfare state as far as it can’t be avoided (at least as rhetoric against it). Ironically, it is not enthusiastic about it, but practicing the welfare state since introduction of the “New Deal” by Franklin Delano Roosevelt, and in the tendency with growing consistency.

Can we conclude: In the global distribution of labor Europe was traditionally more inclined to take on the role of laboratory, America was especially successful in scaling up of the results. That is how division of labor between two worked in the past.

But what about future? Though present trends rather point to the role of Europe as becoming the “second best” America, a junior partner. But what about sustainable development, another great European innovative start up? What about its scaling up with new emerging markets, new economic growth and new job opportunities? Isn’t it a good job for America? Could that be a new division of labor and a basis for new friendship in the future?

7. Europe as Laboratory

Sustainable development as positive futures is still to be invented. It’s more than Kyoto Protocol or other measures to protect pieces of environment. It’s a big complex of technological and social innovations. To appreciate the significance the sequence of civilizations should be drawn upon:

**Hunter and gatherer**,  
**Agrarian and industrial societies**  
**Sustainable development as a new global civilization effort.**

There are a lot of technical inventions on the route to sustainable development waiting for their practical application (like renewables in energy supply, energy saving car, fuel cell etc.) There are more potential technological breakthroughs in the pipeline. Others are still to be made. And new pioneers in various countries, among them in America, are elaborating on them. It’s not the technology per se which counts. There is lack of appropriate social innovations to form social and economic context, which permits their proper embedment. Moreover, the social innovations have to pass over the state of ideas and to enter the phase of experimenting. This was the role of Europe in the past (e.g. to unleash movement for women’s rights in Scandinavia in order to enable female American astronaut to later fly in the outer space).

The move to sustainable development is more than inventing technical gadgets. To bind both, technological and social innovativeness within the move to sustainable development, a frequent change of direction is necessary. Europe exercised that in the past. As all previous civilizations were elaborating on improving cart and horse Europe invented automobile. As the whole world was perfecting painting Europe developed photography and cinema. In the untethered rule of invisible hand of markets Europe introduced social innovations to constrain their acting against people. Europe is trying now to introduce sustainability in the process of globalization. America can join this process with its unique scaling up capabilities, building mainstreams and opening up new markets and job opportunities. The basis for the relationship between two will be again: Europe needs America and America needs Europe to develop positive global futures.

America is too big to leave mainstreams in order to experiment in the laboratory of combined technological and social innovations. Europe can do that. If it manages to preserve its cultural diversity, individualistic spirit of innovativeness. If it succeeds in turning the former volcanic terrain of quarrelling and struggling into that of Leviathan competition ground for new ideas. In that capacity it should remain opened to the world, so that every talented man or woman from all over the world can become “European”.
It should become more meritocratic, less culturally homogenous, less hierarchically structured, less bureaucratic, i.e. less of what may be depicted as European “Soviet Union”, another experiment in bigness and in race for becoming the “second best” America. The Soviet Union imploded due to its immobility and conservatism, due to failure to master innovations it pretended to better master as great historical task. It’s up to Europe to build up its own future together with the ROW.
Approaching Futures, Learning to Live in a Global Cosmopolis: Information, Citizenship and Global Cosmopolitanism

Oleg Suša

Introduction

Contemporary globalization of social life is characterized by growing interdependency. This means that approaching futures and creative human learning also consists of information about risks and consequences of social interaction within global arena. We learn about new global problems and, through this learning, we are confronted with the chance of becoming the global, world citizens. As the recipients of certain, still growing, amount of knowledge about increasingly global world, we are, time to time, exposed to various definitions of global agenda and urged to participate in the global responsibility or to act as the responsible global citizens.

Global agenda and cosmopolitanism

In local and national societal contexts, many citizens participate in political and social movements. Social movements also operate at a global level. Global movements are concerned with global and local processes of change and their impacts, their political agenda deals with questions such as how governments can best co-operate to counter global environmental degradation or deal with the economic insecurities resulting from the volatile global money markets. We speak about the global agenda. Planetary biosphere provides the most obvious example of the shared global nature of many problems. Growing environmental problems „are connecting lives of people in very different societies..it is ultimately impossible to hide oneself away from these phenomena altogether“ (Yearley, 1996:28).

Problems of common interest provide new foci of identity and collaboration between citizens of distant countries. That means thinking about ourselves collectively while identifying with all humanity, growing multicultural awareness, the empowerment of selfaware social actors, the broadening of identities. For instance more people articulate strong conviction that everyone has certain rights as a human being. They express moral outrage, when these rights are being violated and demand them to be universally protected. This involves a clear break with even the recent past. For example – existing model of dominance-dependence interrelationship is challenged by choice and an ambition of sharing the governance of our planet. Nations and cultures are more willing to recognize and accept cultural diversity, and increasingly regard co-operation around a set of shared values and structures as possible, necessary and desirable (Perlmutter, 1991:898, Cohen-Kennedy, 2000:36).
Subjective force of reflexive individualization is also very important for critical assessment of social action and its wider social conditions. This widening of reflexivity is partly linked to the development of mass education and the wide dissemination not just of scientific knowledge but of the principle of doubt on which scientific method is build. These have provided such keys to citizen empowerment as access to specialised systems of expertise, professional training and the means to acquire various kinds of lay expertise. Suitably armed, reflexive citizens may challenge the truth claims put forward by governments, corporations and the scientific community itself.

The tendency to criticize powerful institutions is often paralleled by the intense disillusionment with the consequences of modernity and material progress together with the unchecked powers of military, technological and scientific institutions – which now seem to threaten the viability of the planetary biosphere. We live surrounded with vast new risks (Beck, 1992). Our lives became more insecure, we have more freedoms and more personal responsibilities for managing our lives while engaging in the critical appraisal of established institutions because our survival and that of our planet depends on this. The capacity for reflexivity has also increased among the most disadvantaged citizens in many developing countries, because spheres of global are not so remote to most humans. Citizens everywhere are challenging the state power and forging links with their counterparts in other countries. This is so partly because of realization that governments are often ineffective in the face of „currency crises, pollution disasters, terrorist attacks, ozone depletion and a host of other problems that transcend national boundaries“ (Rosenau, 1990:337).

Global information media remind us of growing transnational interdependency. Transnational power base of non-state organizations and increasingly inter-connected global citizens networks is taking shape. Many of those involved are highly critical of the established order with potential for the formation of effective global alliances from below between various groups who seek alternative futures of more democratic, responsible, fair, just or more egalitarian world order. Globalization from above is confronted with globalization from below.

Our allegiance to the particular, local cultures in which most of humans remain rooted are altered by comparisons („relativisations“, Robertson, 1992:29) with and understandings of other cultures: we need to judge and decide on how we feel about other cultures in the light of our participation in the global, particular and local. There is an increase in the interpenetration of the local and the global by each other. People can respond to the reality by selection, adaptation or resistance. In the selection there is often a borrowing or modification of global by its contact with the local (Robertson depicts this process as „glocalization“). Adaptation enables to participate in the global and the local simultaneously, while growing knowledge of the global may serve to intensify feeling of loyalty to the local. Knowledge of the global brings also a resistance to it which can be eventual result of negative impacts of the global on the local.

**Information society**

Interdependencies and interconnections bind localities, countries, companies, social movements, professional and other groups, as well as individual citizens, into an ever more dense network of transnational exchanges and memberships or participations and affiliations. These networks transcend territorial borders, rupture cultural and economic self-sufficiency. Knowledge and information are key drivers of these global networks and main factors of participation empowering: the power of knowledge flows „takes precedence over the flows of power“(Castells, 1996:469). Information technical media as Internet introduce participation in
horizontal politics of „globalized space“ (Rosenau, 1998:46). Networks of globalized space enable people to share perspectives, provide information and mobilize resources or create non-territorial or virtual communities that can be alternative political spaces constraining hierarchical organizations of a „real“ world politics. On the other side, large numbers of people still do not have access to computer networks, and are dependent on information provided by news media – press and mostly TV.

**Strategic power of the global media**

The media are organizations that specialize in the communication of ideas, information and images of our environment, our communities and ourselves. The media also project images about „the others“ and their communities. The media are doing all sorts of other things than „PURE“ reporting the news neutrally, whether the wider effects are intentional or unintentional. Messages carry the values of the news organization that produces it by the length, position in press page or place in the television running order. Decision-making forms are part of the media’s agenda-setting role, whereby they play a significant part in reflecting and shaping public debate. Important is also role of the gate-keeping process by which decisions are taken as to which news stories are chosen and which discarded.

Global media can shape, distort or undermine the global cosmopolitan citizenship with the same power of influence as they are currently serving to the TNCs through advertising and consumerist campaigns (big corporations are spending over half as much per capita to create corporation-friendly consumers as the world spends on public education (Korten, 1995). The media can conflate fact and fiction, reason and emotion. Large media corporations may contrive to use this facility to project images and ideas to their own interest rather than to the national or international – or – cosmopolitan interest of the global responsible citizenship. Some corporations have achieved a near monopolistic, complex and overlapping control of newspapers, film archives, television networks, radio stations and satellites. The integration of the programming, production, marketing and broadcasting functions in the hands of a small number of media corporations is also increasingly evident. And the combined ownership of different media gives such corporations a global reach that is sometimes seen as threatening democracy, diversity and freedom of expression. The media giants are often able to influence business, international agencies and national governments. The dominance of several big western news agencies means that news stories from many parts of the world either are not broadcast, or are trivial, misleading and ethnocentric. Those who own the means of communications can link together vast audiences and potentially feed them with similar and selective messages.

**Conclusion**

Media giants, software companies and business interests are now trying to control Internet and commercialize virtual information global spaces (Sassen 1999, Castells, 1996:331-2). Will this space be successful in escaping the global power of media corporations? Mass communications media do not lead to multicultural understanding and mutual respect for other peoples: the need to annex the media to consumerism leads to an appropriation of other cultures in the interest of greater profits (Cairncross, 1997:4). This is a double-edged feature of global cosmopolitan openness of the information society culture. Media have a relatively independent life, where message is significantly changed through the medium of communication and it gives special power to the technology and to those who own it, understand it and work with it. We have to learn carefully what media are telling to us and what they are not telling us. Are they distorting
the democratic political order, destroying all other ideas and ways of life than those amenable to the free market for goods and ideas (Herman and Mc Chesney, 1997)? What are the real chances for greater public or civic cosmopolitan democratic accountability of the global mediated communication when media are increasingly a private enterprise? The dilemma increases: do media serve to the private interest or to the public interest including participation on the global responsibility through learning to become cosmopolitan citizens?

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Creating Knowledge Society in EU: The Art of Asking Right Questions

Arnošt Veselý, Jaroslav Kalous

1. Introduction

This paper is an attempt to answer questions raised during the methodological experiment that was part of 2nd Prague Workshop on Future Studies Methodology. The experiment was only one part of the whole discussion on the future of Europe (see Potůček 2005 in this volume). The aim of the experiment was to facilitate creative discussion on various aspects of building knowledge society in Europe. Given the limited time, they were not – with the exception of brainstorming – fully employed (see Appendix 1). Nevertheless, many interesting and creative ideas were proposed anyway. **The most valuable result of workshop, however, seems to be clarification of questions that should be asked when talking about creating knowledge society in EU.** It has become clear during the workshop that widely popular idea of European knowledge society is based upon an ambiguous and unclear concept.

It is generally accepted that rightly put questions are (more) than half of the answer. The authors and chairs of the experiment initially stated three questions. They were proved relevant. Other important questions, however, emerged. To sum it up, the questions that should be asked are as follows (first three questions have been asked at the beginning of workshop):

- What does the concept of knowledge society really mean?
- Why is it claimed that knowledge is so important?
- What are the barriers to creating knowledge society in Europe?
- What could be the consequences and implications of creating European knowledge society?
- What aspects of knowledge society are autonomous trends and what are goals we strive to achieve?
- What is knowledge for? What kind of knowledge society in Europe we really want?
- In what respects differ European knowledge society from knowledge society elsewhere (USA, Japan, etc.)?

Below we will try to specify these question a bit more and give at least tentative answers to some of them. For the coherence sake, we group these questions into four subchapters. First, we briefly outline the history of the concept and its current meaning. Second, we summarize various aspects that are believed to be the core of emerging knowledge society. Third, we ask whether the term “knowledge” is really what we are talking about or whether other terms (such as know-how, wisdom or creativity) should be used instead. Fourth, we ask what the barriers on the road towards European knowledge society are. This part also necessarily distinguishes between “autonomous trends” and “paths to achieve goals”. It also examines whether the situation of
Europe differs from situation of other countries and regions that set knowledge society as their goal. The arguments presented below are those of authors. In many cases, however, they were heavily inspired by ideas developed during the workshop. The responsibility is, of course, only on the side of authors.

2. What does the concept of knowledge society really mean?

There is no coherent definition, let alone theoretical concept, of knowledge-society. Nouns, adjectives and verbs often seem to have been somewhat carelessly drawn out of the bag containing “society”, “economy”, “age” or “learning”, “information”, “network” and “knowledge”. In the other bag devoted to policy responses we find “flexibility”, “innovation”, “learning”, “capability”, “creativity”, “competence” and many other positively loaded terms. Verbs also have their place in this lexicon: we may live in knowledge-based or knowledge-driven economy (Lindley 2002: 97). The combinations of these words are countless. Nowadays the most prominent terms seem to be “knowledge society” (Stehr 1994), “knowledge-based economy” (OECD 1996), “knowledge-driven economy” (European Commission 2000), “learning society” (Smith 2000), “learning economy” (Lundvall 2000), “knowledge economy” (Houghton and Sheehan 2000), or “network society” (Castells 1996). Some terms that once had been very popular have been refuted as quickly as they gained wide popularity. It seems to be the case for “information society” (Masuda 1980) or “new economy” (Stiroh 1999).

The term knowledge society is invoked for various purposes. First and perhaps foremost, it is used in terms of a normative vision that nations should aspire to fulfill. There is a growing number of strategies for knowledge-society, and even greater for knowledge-driven economy. Second, knowledge society is employed as a metaphor, rather than a clear concept, under which various topics may be examined. Only for third, knowledge society is applied as a theoretical concept with an ambition to analyze the society in which we live, or we are going to live. In many documents and papers, the distinction among these three usages is blurred. It is not often clear whether the author puts forward an analysis of current state and trends, forecasts changes in the future or propose a vision that should be followed.

In 1980s and 1990s the attention focused upon the economic role of knowledge, and the concept of “knowledge-based economy” or “knowledge-driven economy” boomed. In 1990s the concept of knowledge entered policy arena and immediately placed the highest rank in policy agenda. National and global strategies on “knowledge-economy” or “knowledge society” proliferated enormously. One is even tempted to call the late 1990s as the new gold-fever, indeed knowledge was quite often taken as a newly invented source or commodity that would change our future as the gold, coal or petroleum did. Knowledge-economy or knowledge society has come to supra-national organizations agenda too. OECD issued Knowledge-Based Economy (1996). In 1997 the Commission of the European Union stated in its communication Towards a Europe of Knowledge how the union was “now entering the knowledge society” (European Commission 2001). The World Bank took knowledge in present-day societies as a central theme of 1998 World Development Report with the title Knowledge for Development (World Bank 1998). Recently the United Nations also began to comment on the similar concept of a knowledge-based global economy (UN 2000).

1 The authors would like to thank all participants for their intellectual contributions and warm atmosphere they helped to create.
Though the strategies were usually termed with “economy” instead of “society”, it must be acknowledged, however, that these concepts have usually gone far beyond conventional economic borders. For instance, the World Bank defined four pillars of a knowledge-based economy as follows (Dahlman 2001: 6):

- An economic and institutional regime that provides incentives for the efficient use of existing knowledge, the creation of new knowledge, and entrepreneurship.
- An educated and skilled populace that can create and use knowledge.
- A dynamic information infrastructure that can facilitate the effective communication, dissemination, and processing of information.
- An effective innovation system comprising a network of firms, research centers, universities, think tanks, consultants, and other organizations that can tap into the growing stock of global knowledge, assimilate and adapt it to local needs, and create new knowledge or technologies.

3. Why is it claimed that knowledge is so important?

Policy views and strategies outstripped analytical and theoretical ones. Only very recently social scientists reflected current development and tried to make deeper sense to policy view that often lacked theoretical foundations (see Stehr 1994, 2001, Evers 2000, Krohn 2000, Hakapää 2002). What are the claimed characteristics of emerging knowledge society?

Changes in technology

Perhaps the most visible aspect of “knowledge revolution” is ICT revolution. Moore’s law describes the tremendous rate at which computer technologies have been advancing. Firms, organizations and individuals take advantage of the consequent micro-processor performance increase. ICT investments (telecom equipment, hardware and software) as a proportion of Gross Domestic Product (GDP) have increased by 16% in the period 1992-1997 in the OECD countries, at the expanse of physical and other capital (European Commission 2000: 12). The costs of information transmission have fallen dramatically. In the last twenty five years the costs of transmitting one trillion of bits has fallen from $150 000 to 20 cents (Dahlman 2001: 30). Consequently, digitization and informatization increased the availability of information and knowledge and speeded access to them. The Internet profoundly exemplified these changes. While in 1989 there were 159 000 Internet hosts worldwide, ten years later it was already 43 millions and the number is growing substantially every year (Houghton and Sheenan 2000: 2). ICT developments have also affected many aspects of the knowledge production and distribution chain. ICT enabled real-time communication among knowledge producers thousands miles away. It also allowed speedy operations that would otherwise require work of many people for a long time.

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2 Moore’s law states that the density of transistors on an integrated circuit will double every 18 months. This has been very robust since first stated in 1965, but further, the micro-processor performance has also tended to progress at the same rate.
Changes in economy

The increasing role of knowledge in economy has several aspects. First, there is the increasing number of products that are relatively modest in materials but require an extensive “know how“. The pricing of new products is no longer determined by the material and labor value but by the knowledge required for the manufacturing of a particular product. The largest expense is therefore the investment into the acquirement of knowledge and not into the purchase of materials or human labor. The price of a product is thus more and more determined by the nature of knowledge necessary for the production of a particular product. Thanks to intensive usage of ICT and Internet in economy, every potential customer may in a second compare an offer worldwide. Firms have an easy access to competitors’ offers. It reduces profit and deepens competition. Consequently, every organization – not only private ones but also universities, hospitals etc. – will be forced to be globally competitive.

Changes in labor force structure

Thanks to technological changes it is now possible to produce the same total commodity volume of goods using one third of the labor force only against what was necessary in 1950s (Offe 2000). Higher productivity leads to declining demands for labor, especially in agriculture and industry. Manufacturing has traveled a long way down the same road. Since the Second World War, manufacturing output in the developed world has probably tripled in volume, but inflation-adjusted manufacturing prices have fallen steadily, demonstrating increasing productivity (Drucker 2001: 4). Detailed analysis usually confirms a true upskilling process (Berman 1997). Those studies suggest that employment shifts within industries, as opposed to between industries, represent a real change towards higher skills requirements. This reflects a rather generalized upskilling process occurring within each industry rather than solely a shift from sectors characterized by low-skilled activities to sectors characterized by more skilled activities.

The nature of employment is going to transform dramatically. The number of temporary and part-time jobs is increasing. By the mid-1990s, flexible work organization practices had been adopted by around a quarter of all enterprises in OECD countries (OECD 2000:7). It is also clear that during one’s lifetime, one will go through a number of jobs and also through several professions (some of which may not even exist today).

Changes in organizations and management

Many management principles still valid in the 1970’s have been turned upside down. The idea of the maximum integration of a company with the aim to reduce transaction costs and the idea of lifelong allegiance to a company needs to be regarded as outdated. One reason is that the knowledge needed for any activity has become highly specialized and rapidly deteriorates. It is therefore increasingly expensive to have competent labor force for all tasks under “one roof”. Second reason is obvious and already mentioned – communication costs have come down so fast as to become insignificant (Drucker 2001: 15). Consequently, development and growth of companies is increasingly taking place not inside but through partnership, joint ventures, alliances and know-how agreements. Outsourcing is already understood as a normal aspect of company life.
4. Knowledge society, really?

As become clear during the course of workshop, the definition of knowledge society and explicit listing of its pillars, does not make the concept any more clearer. It was stressed several times that the driving force is not knowledge as such but rather information or know-how (analytical question). Similarly, it was asked whether knowledge society should be really our aim (normative question). It was proposed we should focus upon creating “wisdom society” instead. By the same token, it was suggested that knowledge is used for various purposes. It is not only economic asset but is worthy on its own. Thus, it seems useful to open the question what is knowledge and what it is for.

The term knowledge (as diverse as it is) is often treated as a black box allowing only broad generalizations and not more supported discussion. There are many possible knowledge definitions. For instance Suurla et al. (2002: 38) suggest: “Knowledge can be defined as the sum total of the information, principles and experience required to solve a problem, to make decisions, and to actively manage and carry out tasks.” For our purposes, we will consider knowledge as the most general “umbrella” term containing practical skills, capabilities, information or competencies that “empowers its possessors with the capacity for intellectual or physical action” (David and Foray 2002: 12). Knowledge is doubtlessly a multidimensional concept. In our opinion, we may find at least seven dimensions in which knowledge may be classified (see Table 1).
Elaborated discussion on the various types of knowledge can be found elsewhere (Veselý 2003). On this occasion, we would like to mention only two knowledge dimensions. First, consider the hierarchy of the following terms: data, information, knowledge understanding and wisdom (see Suurla et. al. 2002, Bellinger et. al. 2002).

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Source: (Veselý, 2003)
**Data** refers to codes, signs and signals that do not necessarily have any significance as such. Data are understood as raw material without meaning of itself. **Information** consists of data with a meaning or an interpretation. This “meaning” can be useful but does not have to be. Through learning and adoption, information can be partly changed into **knowledge**. Knowledge is the appropriate collection of information, such that it’s intent is to be useful. Information will not become knowledge until the individual in question has processed it into an integral part of his or her personal knowledge structure. **Understanding** is a cognitive and analytical process by which Knowledge becomes understanding through experience. I can take knowledge and synthesize new knowledge from the previously held knowledge. **Wisdom** refers to metacognition, which people use to create new knowledge with their previous knowledge, experience and understanding as the basis.. Unlike the previous four levels, it asks questions to which there is no (easily-achievable) answer, and in some cases, to which there can be no humanly-known answer period.

We can also classify knowledge according to domain in which it is mostly applied or intelligence in which it is manifested. Gurvitch (1971) distinguished the following knowledge types: the perceptual world (time, space) knowledge, knowledge of we and other, common-sense knowledge, technical knowledge, political knowledge, scientific knowledge philosophical knowledge. A different typology is found in the Gardner (1983) theory of multiple intelligences.

Combining various dimensions, one can create composite taxonomies of knowledge. One often cited typology was suggested by Lundvall and Johnson (1994) who distinguished between four different kinds of knowledge needed for learning economy: know-what, know-why, know-how and know-who. **Know-what** refers to knowledge about “facts”. How many people live in New York, what the ingredients in pancakes are and when the battle of Waterloo took place are examples of this kind of knowledge. Here, knowledge is close to what is normally called information – it can be broken down into bits. **Know-why** refers to knowledge about principles and laws of motion in nature, in the human mind and in society. This kind of knowledge is
extremely important for technological development in certain science-based areas such as the chemical and electric/electronic industries. Access to this kind of knowledge will often make advances in technology more rapid and reduce the frequency of errors in procedures that involve trial and error. **Know-how** refers to skills, i.e. the ability to do something. It may relate to the skills of production workers but it plays a key role in many other economic activities. It is misleading, Lundvall and Johnson argue, to characterize know-why as science-related and know-how as practical. In everyday life, when interpreting what is happening around us, we apply models of causality that have very little to do with science (but classified as know-why). On the other hand, skill formation among scientists (know-how) is called for special attention. **Know-who** involves information about who knows what and who knows how to do what. But it also involves the ability to co-operate and communicate with different kinds of people and experts.

What follows is that knowledge has many dimensions and many societal and individual functions. **One of the reason why the term knowledge society is so popular is that seems to have incredible multiplicative effect.** It is believed that it can be at the same time productive economic force and source of individual happiness. It is, of course, great oversimplification. There are various types of knowledge (in a broad sense) that can be easily contradictory. We can, for instance, enhance volume of our economically useful “know-how” (and thus become more competitive) and at the same time pay less attention to “know-why” (and thus for instance not improve our understanding of the world we live in). Generally speaking, in a very long run there seems to convergence of various types of knowledge (e.g. for know-how it is important to know-why), but in present everyday life there are many conflicts. For example, the question is to what extent should be European higher education vocational that is led by present labor marker demands as opposed to strengthening basic scientific research.

In our opinion, any single term cannot fully capture neither the transformation we are witnessing, nor the vision we should follow. The term itself is not that important anyway. But two aspects seem to be clear. First, **the term knowledge is appealing only if taken with its many meaning and dimensions.** Second, we do not aim at creating any static society, but want to facilitate certain processes regarding knowledge (specifically: learning, knowledge production, knowledge diffusion, knowledge application, knowledge management, innovation). What is the feature calling for explicit attention is a multifold intensification of these knowledge processes crossing all societal subsystems – not only economy and technology, but also social structure, culture and polity. We should justifiably speak of “society of intensive knowledge processes.” For practical reason, **we suggest to speak of knowledge-driven Europe.** This general term includes promoting learning, creativity, innovation etc. The basic advantage, we hope, is that it enables operationalization but at the same remains sufficiently broad retaining distinct aspects of knowledge (as opposed e.g. to knowledge economy). We think that this suggestion is very much in accordance with the ideas proposed during the workshop.

### 5. Barriers and implications in Europe: Does it differ from elsewhere?

The last set of questions concerned barriers Europe faces when creating knowledge society (in a broad sense outlined above). Not surprisingly, it was suggested that the biggest obstacle is the term itself. If we do not know what we exactly want, we can hardly hope to get there (and know the impediments Europe has to overcome). Moreover, **we have to distinguish between more or less autonomous trends and states of future that could be achieved only if we make a great deal of effort and invest a lot of resources.**
For the sake of clarity, two aspects of knowledge society – information infrastructure and education – could be contrasted. Information infrastructure is likely to keep rapid development rapidly further and further even without some major policy change. It is not to say, that there are not any concrete obstacles in improving European information infrastructure. Neither, we claim it is simple and completely autonomous trend. It is only suggested that there are several driving forces (mostly of market nature) that force both individuals and companies to invest more and more into new ICT. Improving education, in contrast, is much complicated case. It has a decisively qualitative aspect, and it takes decades before we will get known whether our decisions were right or not. It has been pointed out many times that educational systems of many European countries prefer information (“know-what”) over competencies (“know-how” and “know-why”). Yet, re-structuring of current European educational systems would need extraordinary resources and political agreement. Put it simply, we do not see any clear trend towards more and better education.

The question “to what extent it is a trend and to what extent it is vision” should be linked to another question: How does European way towards knowledge society differ from other ways (most notably of USA)? Here we can draw upon some empirical evidence available. For example, World Bank Knowledge Assessment Matrix (KAM) comprises 80 variables\(^1\). They are listed below under the following seven functional cuts: Performance, Economic Incentive Regime, Governance, Innovation Systems, Education and Training, Information Infrastructure, and Gender Equity. In appendix, we show the graphs comparing Western Europe\(^4\) and USA.

It could be seen that Europe and USA is rather similar in terms of economic incentive regime and governance, but has different patterns of indicators of education, innovation and ICT. As for innovation, USA is ahead of Europe in almost all indicators, most notably number of patents, royalty and license fees payments, number of researchers in R&D, university-company research collaboration, availability of venture capital and total expenditure for R&D as % of GDP. Europe surpasses USA only in science & engineering enrolment ratio (% of tertiary level students). Even this indicator is problematic: it is likely that Europe will increase tertiary education enrolment especially in non-science & engineering subjects (and will follow the USA path in this respect). Thus, what seems to trouble Europe is not a lack of knowledge as such, but an inability to apply and commercialize it.

Education indicators prove what is known from empirical studies such as IALS or PISA. In general, secondary education seems to be better organized and produce better results in Europe, while USA is known especially for wide access to tertiary education and several dozens of world top universities. In this respect, the danger of brain-drain must be mentioned. As of ICT development, USA is again ahead of Europe in almost all indicators, most notably in E-government development, ICT expenditure as % of GDP, and computers per 1,000 people. As we have argued above, however, it is likely that ICT development will more or less converge.

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\(^4\) The region Western Europe includes following countries: Austria, Belgium, Cyprus, Denmark, Finland, Greece, Iceland, Ireland, Luxemburg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland. We must keep in mind the difference between World Bank classification of “Western Europe” and “EU”. No doubt, however, results for EU (including Czech Republic, Latvia, Slovakia etc.) would be much worse.
These empirical findings could be supplemented by results of workshop brainstorming. We asked in what respect the situation of Europe differs from the situation in USA and elsewhere. It was found that **many characteristics of emerging knowledge society are of general nature.** These includes following opportunities and threats: un-understandable world, change of role of teachers, new products, growth of lobbying, growth of higher education, changes in employment, new civilization diseases, differentiation of knowledge, many occupation become obsolete, loss of individual privacy, rise of bureaucracy and bureaucratization of science.

Perhaps, more interesting are points of (assumed) difference between Europe and USA. The participants of workshop reasoned that Europe is different in terms of faith and religion, family’s role in education, changes in consumption patterns and its own approach to creativity. Most strongly, however, **it was stressed that social cohesion is in Europe always a part of any concept of knowledge society, and this was also felt as it most comparative advantage.**

6. Conclusion: Paradoxes of creating knowledge society in Europe

We started the paper with premise that the first thing we need to do is to ask better questions. We have sketched possible answers to some of them, but it does not seem to clear the picture of the knowledge society vision. On the contrary, it makes the whole business even more complicated and opaque. But still we believe in asking many questions. Asking many and diverse questions is basic feature of dialog, and we know that only in dialog inherently multidimensional issues could be discussed.

**And creating “knowledge Europe” is by its very nature multidimensional vision. Or even more: it is a vision full of paradoxes.** By paradox we mean two or more statements that are seemingly contradictory and yet are all true. Paradox can – besides other – mean that the more of one positive aspect we produce (e.g. knowledge), the more of another negative aspect we get (e.g. decline in creativity). In contrast to common understanding, we do not think that emerging knowledge society is a kind of “utopian society” where all European aspirations get realized. Neither the trend towards knowledge society is automatic and autonomous. On the contrary, “knowledge society” can create as many problems and challenges as it solves. We believe that following European Commission statement is one sided: “This new society [knowledge society] presents great opportunities: it can mean new employment possibilities, more fulfilling jobs, new tools for education and training, easier access to public services, increased inclusion of disadvantaged people or regions.”

Consider for instance, the relationship between policy knowledge and our capacity to govern. We have more and more policy knowledge, but it could be argued that at the same we have less and less power to really implement desired policies. In strong contrast to 1960s pessimistic view on “technical state”, it is increasingly difficult for institutions and the state to “govern”: to impose their will, to give direction or determine the fate of individuals or institutions. As Stehr argues it is not because we do not live in knowledge society, but exactly because we do live in it:

“Modern societies are not politically fragile and socially volatile because they are “liberal democracies” but because they are knowledge-based societies” (Stehr 2002: 91). “The increase in the “knowledgeability” of actors and the decrease or static capacity to act of

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5 Note that we deliberately searched for diverse ideas and implications. The list is by no means a list of most important and consensually accepted items.
6 From EC Knowledge Society Homepage:
http://europa.eu.int/comm/employment_social/knowledge_society/index_en.htm
large collectivities have to be seen as complementary developments since the decline in the ability of large institutions to impose their will is linked to the enlargement of the capacity to act by individuals and small groups in society, for instance, in their capacity to say no or mobilize effective strategies of contention.” (Stehr 2000).

So the right question is not only: “How to produce more policy relevant knowledge?”, but also “Will it really help us to govern better?” There are many other examples of paradoxes that could be reached when we combine different types of questions. Every question should be accompanied by another: When we ask “How to be more innovative in Europe?”, we should also ask “How could we be more creative?”. Despite the superficial similarity, these questions are not the same. So far the attention on creating knowledge society in Europe focused upon the many answers of very few questions (“how to get there?”). Following the results of workshop, we strongly advocate investing more time and energy in asking more and better questions.

Bibliography


Appendix 1 - Methodology of the Experiment

The basic aim of the experiment was not so much to give definitive answers but rather to investigate and structure “the terrain of creating knowledge society in Europe”. It was also more about the process of creative collective thinking than coming into collective agreement. To reach this goal, several methodologies were considered before the workshop, including brainstorming, “intergalactic thinking” (Manohan 2002), synectics (Gordon 1961) and multiple perspective methodology (Linstone 1981).

The experiment consisted of two parts about ninety minutes each (first part was on Friday, second one on Saturday). During the first part it was revealed that for such a complex issue, version of structured of brainstorming will be the best choice of method. After brief introduction into the concept of knowledge society, there were three rounds of questions:

- What are the barriers to creating knowledge society in Europe?
- What could be the consequences and implications of creating European knowledge society?
- In what respects differ European knowledge society from knowledge society elsewhere (USA, Japan, etc.)?

The third question originated from the participants. Since we set as our basic goal facilitating unusual thinking about much debated topic, the method of intergalactic thinking was also introduced. Simply put, this method is based upon setting domains (“galaxies”) that are felt to be completely distinct from the discussed topic and then thinking about their possible connections. Usually, it is very easy to think of distinct galaxies and rather difficult to think about connecting these galaxies (note that it is a technique of creativity facilitation). To our surprise, the participants felt it the other way round: It was revealed difficult to think of domains or issues that are not linked to creating knowledge society in Europe. (Though there were several attempts to name distinct “galaxies”: for instance global warming). So the despite the method did not work as it had been assumed, it had unexpected positive consequences: it stimulated some of the best questions asked during the experiment.

Appendix 2 – Knowledge Assessment Matrix 2005

Variables of Economic Performance

![Diagram of Variables of Economic Performance](image)
Variables of Economic Regime

Governance

Innovation System
Note: All variables are standardized using all countries in datasets. In most cases 0 means “most negative” and 10 “most positive”. Europe means “Western Europe” (Austria, Belgium, Cyprus, Denmark, Finland, Greece, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland).

Definition of all variables, year of data collection and other information can be found at: http://info.worldbank.org/etools/kam2005/html/technical.htm
People tend to think that they are always living through an extraordinary time of significant and unexpected changes. Our time is no exception, and there may even be some grounds for claiming that people in Europe and elsewhere are experiencing great and even turbulent changes due to multiple factors. Technological developments, especially the rise and deepening of the information and communication technologies have already caused significant changes in the way we process and communicate information. Competitive advantages in the world economy are constantly changing because of global economic developments, like the China and India phenomena. Societal and demographic changes, like ageing of the European societies, add their inputs to the complex and turbulent situation in the world. And also the whole global political, environmental and security situation creates questions and uncertainty, when it comes to the prospects for the future.

One of the key issues related to the future(s) of Europe is the question of democracy. How do we choose decision-makers in the future, in the deepening Information society. What are the contents of concepts like citizen, civil society and democracy in the future? What are the roles of local, national, European and global levels in democratic processes, or is it even possible to make distinctions between them in the future? What impacts might the changing age structure in some countries have on democracy in the next decades? Do we have political parties in 2050, and if so, are they the same as nowadays? What about ideologies, do we wake up Adam Smith and Karl Marx, is something totally new coming up or will the disappearance of societal majorities disperse all ideological thinking, too? How is intelligent technology of the Information age being used in democracies in 2017 and 2107? What might mean the idea of virtual democracy? What will happen to the idea of global governance in the multicultural world, and in the turbulent challenges created by the so-called India/China and other global phenomena?

This paper is related to a futures study, which will be made for the Committee for the Future of the Parliament of Finland. The Parliament of Finland will be celebrating its 100th anniversary in 2006 and 2007 under the theme “The right to vote – trust in law. One hundred years of Finnish democracy”. Finland was the first country in the world, which gave full political rights to women in 1906.
Introduction: times of changes at a glance

The times they are a-changin’

-- Bob Dylan 1964

Today’s world is more complex than ever: more globalized and more technologically diffused. Economic inequalities in the world have probably never been so huge as they are at the moment, ranging from extreme poverty to incredible richness. Changes are rapid and often not trend-like. Instead of well-behaving predictable trends uncertainty, trendbreaks and even chaotic phenomena are labeling to the economic, political, societal, technological and ecological developments of the new Millennium.

Some technologically advanced countries are already living in the so called Information age. One can even speak of an embryonic period of transition from Information societies towards something new, possibly towards a society which might be called a Biosociety because of the increasing importance of such key technology clusters as biotechnologies, material technologies and nanotechnologies.

One of the greatest challenges facing us every day is the challenge of globalization. But what kind of globalization? The end of the evolutionary history of ideologies due to the victory of the Western system of market liberalism over the communism as Fukuyama maintained over ten years ago? Conflicts between different cultures, which were suggested by Samuel Huntington? Something else?

Globalization is actually the result of a logical process. The history of humankind shows that human systems have had the tendency to create new higher, technological, economic and sociopolitical system levels during the course of development. Higher levels in human systems possess for example longer geographical distances in their interactions. The development from self-sufficient village communities to city-states, to nation-states, to regional systems (Europe, North America, Pacific-Rim, etc.) and finally to an embryonic global system is a “natural” course of systemic development. Perhaps the most important single factor making this process possible has been technological development, and during the last decades especially the development of information and communication technologies. They have made it possible to operate truly globally in economy and other fields such widely, rapidly and effectively that it was simply impossible just a few decades ago.

In the Communist Manifesto from 1848 Karl Marx and Friedrich Engels wrote, how the world had changed. The medieval bourgeoisie had needed centuries in order to become united using their old channels of communication. Instead of that the proletarians of their time needed only a few years to do the same thanks to the railways, stated Marx and Engels proudly. Now, using Internet you need only a few hours to mobilize a global movement in order to e.g. arrange demonstrations against the American war politics.

It has been characteristic to this development from smaller system units to higher ones that the birth of a new system level has meant an increase in the complexity of the whole system. The world now is much more complex and more rapidly changing than it was 50 years ago. Also, the new, higher system level has had the tendency to delimit the autonomy of the levels below it. This is very much true e.g. concerning the relationships between the state and the municipalities in Finland. This has been aimed at also in the relationships between the European Union and its member countries using directives and other European level legislation.

1 (Marx – Engels, 1998)
At the same time the question of *democratic global governance* has come up – actually already for some decades ago in the discussions of futures researchers. In the past it has been thought that the idea of democracy is applicable to smaller units. *We are living in the middle of a period, where the issue of democratic global governance is really meaningful for the first time in the history of humankind.* In Economics “economies of scale” and “economies of scope” are old ideas, but in societal sphere and politics we are only now trying to learn, what kind of issues should be decided at the regional (like at the level of the European Union) and at the global levels, and what kind of democratic models and procedures should be developed for those purposes.

The idea of nation-states’ sovereignty isn’t enough anymore. Already now but even more so in the future new arenas and levels, where ideas and identities will be created and attached to, are emerging. They will have ever more supranational and even global dimensions. In an industrial, and even a partly agricultural society people regarded the sovereignty of the nation-states as a self-evident if not even sacred value. The dominating roles were played by traditional political parties, organizations of smokestack industries and their interest groups, trade unions, etc. These were born from the tensions between agricultural and industrial societies, countryside and cities, and labor and capital. They all belong more and more to history.

**From Industrial into Information into Biosocieties?**

Framework

In the Figure 1 below a very general evolutionary scheme of the ‘big waves of societal change’ is presented (modified from Oliver, 2003).

![Big waves of societal change](image)

*Figure 1 Big waves of societal change*

Names of the different eras in figure 1 are based on dominating or labelling technologies of that time. In this description of the big waves of development there are three especially important features to be notified. *First, pace of change in development is intensifying.* The agrarian age lasted for thousands of years with pretty stable technological base. Through technology-driven societal changes the western countries entered to the era of Industrial societies, which lasted only hundreds of years. Our time, the age of Information societies, may last just some decades. The debate on when the Industrial age ended and Information age started is more or less futile.
One can state that all societies have been Information societies, because humans have always needed information or knowledge in order to survive. Another ‘right’ answer is that we don’t even live in an age of information, at least not that of knowledge. “We have much less real useful knowledge than before, and instead of that huge amounts of information glut, reality tv, gossips, disinformation and other nonsense”, one could say. Based on technological changes, which is the logic in my framework, Manuel Castells’ answer is a good estimate: in the technologically most advanced societies the Information age started to replace the Industrial age, when silicon chips started to be used in information technology, i.e. in the seventies. In the scale of the big waves +/- 20 years from that estimate makes no difference.

Second important characteristic is tendency toward growth or rise of levels. In the vertical dimension globalization, GDP, complexity and pace of change are mentioned. You could add to them e.g. urbanization, which is a global phenomenon. This is not to say that they are deterministic phenomena (there probably are no deterministic developments in societal processes at all), but until now they have been strong tendencies. And even though there is no natural law against it, it is highly improbable that for example globalization would stop in the next month.

Every new societal wave includes all the previous ones. This is the third and perhaps the most important feature in this evolutionary framework, and it has to do with the idea of emergence. Significant technological changes bring quite new emergent features to the society, in its economy, consumption patterns, etc. The company Microsoft is operating in an economic field, which the Industrial society of the sixties was simply lacking. Software business is clearly an emergent feature of the Information age. At the same time Information society includes the essential features of the Industrial society. We are actually more industrialized now than then, producing more industrial artefacts (cars, pins, airplanes, etc.) and doing it with increased productivity. We still have the most important features of needs satisfaction even from the age of the Agrarian societies: we do not eat information but meat and potatoes. We eat more and better food, some of us much more than our ancestors did in the Agrarian age.

**Information society**

As stated earlier societal development in several countries has led to the Information age, where the major driving forces are the development of ICT (information and communication technology) and the rapidly increasing use of new devices. Many of us already live in an Information and communication society. The concept refers to the dominating technology in a certain societal phase. Taking a bit more general view, the current phase in technologically developed Western countries has been named depending on the standpoint: Information society, communication, network or interference society, service society, third wave, society of meritocracy, knowledge-intensive society, learning society, etc. The Information society started, according to Manuel Castells, in 1970’s with the technological turning point triggered by microchips. At the same time information and knowledge came to represent the most essential elements both in production factors and products. The major issue in ICT is not the role of information and knowledge, but their self-cumulative nature and their use in the creation of understanding and in the development of ICT. The core of the Information society is formed by the technologies of information processing and communications: the logic of information technology is the basis for the development of the Information society.

The Information society includes both Agricultural and Industrial societies and also many new features like the increase of information, know-how and interlinkages, as well as the movement toward non-material issues, etc. It can be stated that the Information society is more complex
than the earlier societies, because of its emerging new features. This can be seen not only as a bare increase in complexity, but also through the emergence of new levels of operations; first of all, international cooperation is moving toward supranational and global activities. There are clearly both quantitative and qualitative aspects of these emergent processes.

According to Manuel Castells the first technological turning point was based on the inventions of steam engine and tools replacing manual work. From the viewpoint of e.g. transport a very great change came with railways using steam engines in locomotives. In communication technology a major impact came through the telegraph. The second technological turning point a hundred years later was started through development in electrical technology, combustion engines, chemicals, and iron technology. In transport a major effect was obtained through the introduction of cars, lorries and buses. In the communication sector some very influential inventions – telephone and radio – appeared. During these two phases new transport systems had great impacts on the development of the new Industrial society including the creation of wealth and changes in everyday life. (Let us remember that the whole idea and phenomenon of economic growth in terms of GNP is only 200 years old!)

The third technological turning point is based on the development of ICT triggered by the use of microchips. In the present-day societies changes in the ways of living and in business has been determined by ICT. Of course the old structures from the old Industrial age – in new forms – will still be used, and some of them are necessary also for the Information age, but they are no longer the driving forces of development.2

The primary driving force in the Information society until the new Millennium has been technology. The technological efficiency of computers has been improved, the size of mobile phones has decreased, network connections have improved etc. The development of content has been in a secondary role. Nowadays many experts think that the production of content will ever more be the primary driving force. The future will be featured by the applications and people’s needs. E.g. in the USA and in the Nordic countries it can be noticed that the applications are already the driving forces in the development of technology. People are expecting that technology will satisfy their needs and provide them with services. Consumers are not satisfied with e.g. buying only a mobile phone. They make buying decisions depending on the provided services; so technology as such will be an issue of second order. I have started to call this new phase of the Information society as Information society part two.

Biosociety? – a hypothesis

After the Information age, what will be next? My tentative hypothesis is a Biosociety. This idea, again, is based on the expected labeling technologies of the new era: biotechnologies, material and nanotechnologies. Or actually one should speak of Biosocieties; like there are different types of Information societies, there most probably will be several variations of Biosocieties.

As a concept, biotechnology is as wide as information and communication technology. Basically anything from the enhancement of detergents to medical diagnostics, gene therapies, modification of plants, cloning, etc. are considered to belong under the concept of biotechnology. Statistics Finland has defined biotechnology as:

The application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods

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and services. (Stat, 2002). So far the largest part of biotechnologies is formed by life sciences. For example approximately 80 percent of the resources given to biotechnologies by the EU goes to this area.

This new societal phase after the Information society is already in its embryonic state. Biosciences, biotechnology, gene therapy, etc. are gaining more and more influence in research, technology, everyday life and societal development. Within a decade or two it may make sense to speak of Biosocieties instead of Information societies in the technologically highly developed societies.

Biosociety is more complex, more advanced and more promising, it poses more threats and ethical issues than the Information society. It is important to note that the *Biosociety is a much more developed Information society than the one we are experiencing at the moment in the most developed Information societies like Finland*. The emergent nature of societal development is a reasonable hypothesis when considering the transformation of the Information societies into some forms of possible Biosocieties.

The Information society is an industrial, but also an Agrarian society. People do not eat information, but food. We are using industrial goods, too. In the similar way, a Biosociety will be a highly developed information, industrial and agrarian society, too. It can take different forms e.g. in the sense of the concept of democracy, private vs. public sectors, etc. But people still eat food, industrial artefacts are being produced and consumed, and there are huge amounts of information (knowledge, wisdom, entertainment, pure nonsense), which has nothing to do with biotechnology.

The qualitative emergent features of the Biosociety will most probably be related to our knowledge of genetic features of living beings, like plants, animals and of course human beings as one species of animals. They will also be related to how to use this knowledge in preventing and curing severe diseases, in manipulating the genetic code of living beings in e.g. producing genetically modified food (GMO), and maybe in altering physical and even mental attributes of human beings, and in industrial processes, too.3

**Freedom and democracy**

It should be obvious that the great changes in technology, economy and society shortly described above will have impacts on how we understand and practice democracy, and on the development of freedom and human rights globally. In an Information society the contents of democracy’s concept, its concrete models, societal tensions giving birth to popular movements and political parties, and technologies used are obviously not the same as those in an agrarian or industrial democracy. Not to mention the possible new phenomena and questions coming up in the Biosocieties.

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3 By Fusion society in the figure 1 I mean the possibility that in the future convergence of technologies may happen at a more general level than what has been thought of so far. Convergence in ICT means e.g. that instead of two devices for taking digital pictures (camera) and making telephone calls (cell phone) you have only one device; that tv and computer will be converged, etc. Instead of having separate technologies like mechanics and information processing and communication technologies there will be fusion technologies, which may have mechanics and information processing capabilities in them, which can communicate and which will have living biotechnological elements in them, nanotechnologies and human-designed new materials, too. Depending on the purpose of use different elements have varying emphases. Technological basis for this type of societies can be characterized as fusion technologies, so using logic adopted in this paper it will make sense to speak of Fusion societies, too.
Before going into the questions of democracy and the future, let’s take a look at the situation of freedom and democracy in the world at the moment. According to the *Freedom House* 4 89 countries out of 192 were estimated as being free, 54 partly free and 49 not free in 2004 (figure 2).

4 The main categories of civil liberties that Freedom House considered in assessing a country’s “Freedom” are the following: Freedom of Expression and Belief, Associational and Organizational Rights, Rule of Law, and Personal Autonomy and Individual Rights.

5 www.freedomhouse.org.

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**Figure 2 Freedom in the world 2004 (number of countries)**

Out of world’s population 44% (2,8 billions) lived in countries, which were considered to be free, 19% (1,2 billions) in partly free countries and 37% (2,4 billions) in countries, which were not free (figure 3).

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**Figure 3 Freedom in the world 2004 (population in billions)**

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Although almost half of the world population lived in free countries, more than one third (2.6 billions) were still deprived of most basic political rights and civil liberties in 2004.

During the last 30 years the number of free countries has increased from 41 in 1974 to 89 in 2004, i.e. more than doubled, when the total amount of countries at the same time has increased 26% from 152 to 192 (figure 4). During the same period the number of countries, which are estimated as being not free has decreased somewhat from 63 to 49.

![Freedom in the world 1974-2004 (number of countries)](image)

**Figure 4 Freedom in the world 1974-2004 (number of countries)**

Freedom House also found that the overall level of press freedom has decreased for the last three years, even though positive trends were observed in many regions of the world. In 2004, just 17% of the world’s population lived in countries enjoying a free press. UN electoral staff is helping conduct elections in 45 countries and human rights missions offer supervision and technical expertise in dozens of countries around the world. Since democracies tend not to fight each other, and since humanitarian crises are far more likely to occur within authoritarian regimes, the trend toward democracy could lead to a more peaceful future.6

**Redesigning democracy – some preliminary questions**

Wendel Bell analyses the present situation and future prospects of democracy interestingly in his paper *Futures for Democracy: The Long-Term Trend toward Increasing Social Scale.*7 According to Bell, if we look at the headlines, we may get the following images (or threats) of the future of democracy:

- **Gross and unjust socioeconomic inequalities, both within and between countries, and widespread poverty.** There are masses of people who perceive themselves to be unfairly treated by their own leaders, by the global system, by the rich states, by multinational corporations, or sometimes by international institutions.

- **The intrusion of economic power into the political process.** Such intrusion undermines the expectation that citizens ought to be relatively equal in their political resources.8 In the United States, for example, despite efforts to control campaign contributions, interests groups and lobbyists wield enormous power through their financial contributions to political campaigns. Sometimes, it is simple corruption: “People pay to play.”

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6 (Glenn – Gordon, 2005:18).
7 (Bell, 2005).
8 (Dahl, 1999:15).
• A failure of civic society. In some countries, there are feelings of powerlessness, lack of trust, cynicism, confusion and disorientation, and withdrawal of willingness to participate in the face of weak, ineffective, or corrupt political leaders and institutions. In others, the extreme polarization of political views contributes to a breakdown in civil discourse and refusal to compromise. On the international level, global actions are seldom grounded in a global civic society. Globalization is often not by agreement, but by unilateral actions, often by decisions of multinational corporations and the impersonal “market.” Moreover, when a superpower acts unilaterally, the stability of the international system itself is threatened. Domination and fragmentation result.

• The Revolt of Extremist Non-State Religious Groups. Some extremist religious groups, driven by their belief in divine and righteous mission, reject the secular world. Employing violence, such as we have recently witnessed in the case of al-Qaeda and other such groups, they are a constant threat to peace and security.

• The Rise of the New American Empire. The United States government as represented by the George W. Bush administration, largely under the influence of the New American Century group and largely justified by the “war on terror,” appears to some observers to be trying to dominate the world. Within the United States, attempts have been made to restrict public liberties, freedom and dissent, and some minorities have been harassed. Abroad, the United States bribes, threatens, and uses military force to control the actions of other governments and the major resources of the world – including oil in the Middle East.

• The Rise of Majoritarianism and “Direct Democracy.” Government by plebiscite, as we have seen recently in California, runs roughshod over minorities and individual rights. Instead of representative democracy that allows for the deliberations of informed leaders who at least sometimes do what is right for the country rather than catering to the self-interest of their constituents, direct democracy provides short-sighted responses to policy making. It threatens fairness, individual liberty, the protections of minorities, due process, the rule of law, and other features of democratic societies.

• The increasing complexities of public policies. Complexities impose obstacles to public understanding, while “institutions for facilitating such understanding – [such as] literacy, education, a free press, political campaigns, and others – no longer seem up to the task of public enlightenment”9,10

From the point of view of a futures researcher one can add several important questions related to the issue of democracy and the futures. One starting point is to note that the prevailing political culture in the Western countries (or in any societies) has many features, which are almost the opposites to the basic premises of futures-oriented thinking:

• short-range instead of long-range
• sectoral instead of multisectoral
• simple instead of complex
• no-change instead of change.

Is this something futures researchers and other people interested in futures should take as a ‘permanent’ state of affairs, and just be happy of the fact that more and more of the most important societal, economic and technological processes are taking place out of the reach of the political representative processes? Or should the models, technologies and practices

9 (Dahl, 1999:15).
10 (Bell, 2005).
of democracy be developed in such a way that democratic decision-making would be more future-oriented and capable of coping with phenomena of rapid changes and great complexity? Obviously this would be seen by many as the desirable direction in the future.

We shouldn’t look at the most obvious phenomena and headlines only. The preceding somewhat gloomy picture looks different, if we look at the long-term trends, as Bell suggests. According to Bell human society has increased in geographical and social scale, is still increasing, and is becoming a complex set of crisscrossing social networks many of which are global. In the particular case of governance, there are several long-term trends to be noted, says Bell:

- **The territorial jurisdiction of democratic governments has vastly increased in size.** From “about 500 BC to the seventeenth and eighteenth centuries, democratic and republican ideas and practices were generally thought to be applicable only to very small units, notable city-states”. Even in 1787 when the framers of the American Constitution assembled to design a democratic system for “a representative republic that would govern over a huge and indefinitely expanding territory,” many “of the delegates… were distinctly aware that what they were attempting contradicted prevailing wisdom”. New institutions, of course, were required: a legislature of elected representatives, political parties, multiplicity of associations (e.g., interest groups). Also required were changes in attitudes, beliefs, ethos, and political culture of citizens and leaders.

- **National democratic governments vastly increased the scope of their activities.** During the past century, democratic governments have expanded in the scope of the programs and policies they undertake, with a huge growth in government expenditures, transfers, revenues, regulations, and so on.

- **Democracy has become the prevailing form of legitimate government.** By 1999, for example, Dahl judges that 86 countries are democratic out of a total of about 192, vastly more than ever before in world history. Of course, the amount of democracy in a country is best measured by a continuum, not a dichotomy. Dahl requires, among other things, both free and fair elections and the protections of public liberties. Less stringent attempts to dichotomize polities may result in a somewhat larger number of “democracies,” perhaps as many as 121 [MM: cf. the estimates of Freedom House above].

- **There has been a great expansion in the definition of who is included as political equals and, thus, eligible to participate fully in the political process.** In the past there were restrictions on who was a member of the political community. Political participation was limited by birth place, religion, property ownership, gender, race, paying taxes, occupation, literacy, race, and age, among other things, to only a small minority of adults. Today, the norm has moved toward becoming more inclusive, including all adults – or at least all male adults — who are natural-born or naturalized citizens of a state.

One can point out several promising trends and possibilities, as well as problems, setbacks and even new threats, when it comes to the questions of democracy, freedom, human rights and other issues related to them at the moment. In what follows some of the plausible future(s) issues related to democracy as seen be the author of this paper will be taken up.

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11 (Dahl, 1999:3).
12 (Dahl, 1999:4).
13 (Dahl, 1999:6).
14 (Bell, 2005).
Democracy in the future cannot be what it used to be

There are many other important issues of democracy and futures in addition to those mentioned by Bell. Here are some of them:

1. The mega phenomena, which were described earlier in this paper are real. Changes between the importance of local, regional, supranational and global levels, and the whole process of globalization and technological development give new true meaning to the old talk about the need for democratic global governance – democratizing WTO, IMF, World Bank, G8,…. Will we see truly democratic global governance in the future? Or will there be several different cultural and/or economic blocks with their own models of governance, more or less democratic?

2. Technology of the digital age vs. democracy. ICT and other new technologies in elections (parliaments, councils, etc.), and in processes, where people create societal impacts as citizens in civic society, are only coming into use. In the Autumn of 2005 people in Estonia could vote using Internet in local elections. This will probably be routine procedure in technologically advanced countries like the Nordic countries in the future.

3. There are quite many unforeseen prospects in the increasing use of information and communication technologies in societal decision-making processes. It is possible that at the same time, when virtual democracy is being developed, the limits between different levels of operation – local, national, regional, global – start vanishing. Virtual governance doesn’t obey e.g. the boundaries of the nation-states. We may see virtual municipalities, virtual parliaments, virtual presidents, etc. Their defining borderlines do not follow any previously known geographical boundaries.

4. For decades it has been estimated that in the future we will see the importance of representative democracy decreasing, and that instead of it different forms of direct democracy will become stronger. Is it really happening? Will we see higher participation in existing societal movements, birth of new strong movements, stronger NGOs, rise of the third sector, etc.?

5. More direct democracy is usually considered as desirable, but there are also problems and threats related to it. In the future, for example, constantly recurring referenda will be technologically much easier to organize than at present. In principle, they could be arranged every day on whatever subject there might be on the political agenda, but does it make sense. Societal, economic and other issues and systems are getting evermore complex all the time. In referenda questions must be simple, while much of the increasing societal complexity cannot be put in the form of ‘yes’ and ‘no’ questions.

6. Accelerating speed of technological, economic and societal change, deepening division of expertise and labor, increasing complexity in different systems and threatening risk society are leading us further into the situation, where we should ask, what is the relationship of citizenship and democracy to the power of experts. How should expertise be ‘democratized’? Is it possible that meritocrats take over?

7. In the near future, 5 to 10 years from now on, the baby boomers in the western countries will be retiring, the X generation will be gaining more influence in the society and new generations (Y, Z,…) will be rising up. Baby boomers are emphasizing representative democracy, and they will probably be active voters, like elderly people in general. Younger generations may use new models for having societal impact, like Internet democracy and non-representative direct activities. What will happen, do we actively vote in 2030?
8. Industrial society was a *society of majorities*, but Information society consists of *minorities* only. The majorities, like homogeneous groups of blue-collar workers, disperse into small special tribes. How do we make democratic decisions in a *society of minorities*, and what will be the roles of representative and non-representative methods for having impacts in that kind of situations? Most of the existing party structure in the European countries was born in a society of majorities, and political parties more or less represent these majorities (like the labor parties and peasants parties). Rights of minorities will be among the major issues of democratic decision-making in the future. Tyranny of majority is possible, but hardly desirable. For example easy use of direct democracy in the form of numerous referenda sounds good, but it can lead to a kind of tyranny of simplistic majority thinking, which is not sensitive to the rights of the minorities.

9. The technologically most advanced countries in the world are already deeply experiencing the *Information age*, and we should be discussing the issues of democracy of the modern Information society – instead of that we have *political culture and structure of political parties, which was born in the agro-industrial society*. This situation cannot last forever. Will there be socialists, social democrats, conservatives, greens and other familiar politicians in 2057 and in 2107 is a real question.


11. *Democracy is a learning process.* The road from humble subjects into brave citizens is long and winding. Linked to it is ao. *parliamentary futures work*. As I noted earlier, there are contradictions between the basic ideas of futures thinking and parliamentary cultures. For example in the Parliament of Finland, there is a special *Committee for the Future* for enhancing parliamentary futures thinking. What are the models of the future in this respect?

12. *Weak signals, wild cards.* Embryonic Biosociety, fusion society – new models of democracy. It is obvious that new *societal tensions* of the eras of the Information age and Bio age will give birth to new societal groups, popular movements and possibly political parties. In the very long-run, in a Biosociety and after that, one may have to ask, for example, do the human clones have the same human rights as their parents and other people? How much genetic enhancement is allowed before a person is considered not to belong to the species called human beings? What is the definition of a human being in 2107? And what about the rights of ‘higher animals’ like dolphins and chimpanzees, and for example those of genetically enhanced gorillas? What we have learned from the *wild cards* is that we cannot foresee them, but it is almost certain that they will surprise us over and over again in the decades to come as they have always done.
Democratic visions for the future

As we saw earlier, during the last decades the number of free countries has more than doubled. According to Freedom House 2.8 billion people, 44 percent of the world’s population, is living in countries, which were considered to be free. The trend seems to be somewhat hopeful, but still 56 percent of the global human population lives in countries, which are only partly free (1.2 billions, 19%) or which are not free at all (2.4 billions, 37%). The 2005 State of the Future report summarizes one aspect of this issue well: “Although making development assistance dependent on progress toward democracy has helped in some countries, a genuine democracy is achieved when the people – not an external organization – get the government to be accountable to them.”

Wendell Bell seems to be optimistic concerning the question, will the trends toward increases in social scale, the spread of democracy, and inclusiveness continue: “Probably yes, because they express the collective learning experiences and evolution of millennia of social and political life.” According to Bell “The path toward a harmonious global society and moral community is well marked. Markers to create a global civil society include a set of shared values and norms of behavior based on them, values such as individual responsibility, treating others as we wish them to treat us, respect for life, treating all other people with dignity, solidarity and relatedness with other people of the world, equality between men and women, nonviolence, economic and social justice, peace and global order, nature-friendly ways of life, respect for human rights, safety and security, and tolerance and reconciliation, among other values.”

According to Bell such value judgments are not distinctively Islamic or Christian or Hindu, Asian or Western, African or Latin American. They are human values, reached, often independently, from a variety of different origins after millennia of human experience. Although humans may have adopted largely the same values, people generally limit the application of their values to members of their own groups. Most people, most of the time, for example, exclude from their community of concern other people who are ethnically, racially, socially or geographically distant from themselves.

Do we really have basically the same human values in every culture on the earth, remains, however, an open question as far as I have learnt from the value studies carried out widely by for example Ronald Inglehart et al. Tolerance toward the ‘others’, a kind of cultural competence, is one of the key issues, when it comes to the future of freedom and democracy globally. In 1993, the World Futures Studies Federation organized a world conference on the theme Coherence and Chaos in Our Uncommon Futures. The idea was to study the issue of whether there will be coherent (Western? Muslim?) global value system in the future, or will there be a more mosaic-like diversified variety of values or maybe tensions and even conflicts between different value systems. No common understanding of the main trends was reached, but most researchers seemed to think it at least desirable that in the future we will see multiplicity of cultures and value systems. Cultural diversity is at least as important for the future of human beings as is biodiversity to ecological sustainability.

*[15 (Glenn – Gordon, 2005:19).  
16 (Bell, 2005).  
17 (Bell, 2005).  
18 See e.g. (Inglehart – Baker, 2001).  
19 See (Mannermaa – Inayatullah – Slaughter, 1994).]
It seems to me that at dawn of the New Millennium the main scenario of the future contains roughly three major competing societal and economic models (or clusters of models) with different concepts of the idea of democracy and many other issues like the roles of private and public spheres of human endeavours. Very shortly, the neoliberal or libertarian model is at its strongest in the United States, but it has a lot of support everywhere. The basic starting point of neoliberalism is strong belief in individuality and in market forces as solutions to almost all of the human problems. Not only when it comes to the question of organizing the production of goods and private services, but markets are also considered to be the most effective way to take care of the societal services, like care-taking of the elderly. Taking care of a rich elderly lady may be a good business, true, and the poor ones do not interest a neoliberal person too much. In the USA the powerful New American Century movement in the background of the Bush administration adds value conservatism, religious fundamentalism, militarism and ultrapatriotism to the neoliberalistic thoughts. They seem to think that it is best not only for the Americans but for us all that the Americans unilaterally run the whole world. It should be remembered that at the moment one third of the global GNP comes from the USA, and half of the R&D and half of the military expenditures in the world are used in the US.

The second model (or models, there are variations of it) is Asian. In that model strong emphasis on collectivity is combined to the attempts to apply Western technologies and market forces. When Deng-Xiao Ping started opening the politics in China in the late 1970’s the communist leaders of China started to speak of a socialist commodity economy. China’s economy and usage of resources have been following a strong growth trend for more than twenty years. At the moment annual economic growth in China is almost ten percent. In the Asian model an individual is clearly subordinate to the collective system, which in China’s case means that human rights are not respected and dissidents are put into prisons. Now, it should be remembered that I am simplifying strongly, when speaking of Asian models. Singapore is different from China. But there are significant similarities, too.

The third model is the European model – or again: models. Although we are well aware of the fact that being European is different e.g. in the Nordic countries when compared to the Mediterranean countries or to the new member countries of the European Union, from the global perspective the Europeans do not differ that much from each other. E.g. respect for democracy, human rights and nature, market economy, and a kind of social solidarity, to me, are common European values, although there are big differences, too.

At the moment the European model is considered to be a loser model suffering from eurosclerosis, lack of dynamics and growth. The main dynamics are considered to be in the North (and to some degree South) America, and especially in the South-East Asia. The European Union is having difficulties after the Dutch and the French turned their backs to the EU project in their referenda. The age structure of Europe is turning into grey, and the question of Turkey, and other issues are seen as threats or at least big problems for the European future.

There is, however, no fatal reason to think that the European models could not be successful in the future. The European models at best have many strengths: respect for democracy, human beings and the nature, high-tech with high-touch, economic effectiveness, ecological sustainability, social justice and cultural creativity. They have all the potentials to create progress in broad sense, and instead of considering them as losers they could be seen as active and influential actors on the global agenda of the future.

In any case, what is needed is more discussion on positive visions of the future(s) concerning the issues of democracy, human rights and social justice. This kind of discussion is about values and human goals. Instead of value-rationality we have a lot of discussion having means-oriented
character; like the debate on international economic competitive advantages. It is important as such, but before you can say, who is best in international play, you should know the name of the game you are playing. And that has to do with goals and values.

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Future Scenarios for the European Union - Some Impressionistic Notes

Jürgen R. Grote

1. Introduction

The EU lacks a government in the traditional sense. Neither can it lean on a society that would wholeheartedly accept or support any further integration – including the institutions representing the system and concerned with its organizational reproduction. The only mechanism of societal order more or less fully developed within the EU’s socio-political space is the market.

This notwithstanding, the EU nevertheless controls an ever increasing fraction of national sectors and policy domains - with profound implications for the role of national governments and domestic decision-making. Moreover, its deliberations and regulations reach far into the societies of its member states – with profound implications for the framing of conditions under which domestic groups are operating and (re-) building their identities. The common market, finally, functions as a constraining and an enabling device for both public and private organizations alike.

This system has neither a centre nor can it lean on institutions of last resort able to adjudicate in cases of conflict between underlying logics, interests and concerns. It is populated by the most diverse types of actors spanning supranational, domestic and sub-national public institutions and private organizations. None of these embodies some intrinsic form of superiority or could claim to be more legitimate than the others. Hence, albeit nobody claims this to have reached the status of a theory proper, the system is frequently described in terms of multilevel governance (MLG). Since there are no matching examples in modern history for this sort of arrangement, it is possible to speak of a system *sui generis*.

The term governance presupposes that stability and system reproduction are arrived at by way of a fusion of different mechanisms of societal order such as the state, the market, the community or other devices (e.g. associations, movements, etc.). This, of course, is the case for most of the member states themselves – not only for the common resource pool the have created in form of the EU. The occurrence of an increasing number of state, market and community failures, accordingly, has let scholars of national politics to renounce referring to any single of these mechanisms as the one and only device for societal reproduction. That means, however, that if our countries are currently reformatting, if not loosing, some of the very institutional assets on which they rest such as, for instance, sovereign and legitimate political rule and control, then the EU can indeed be imagined as *an extreme manifestation of trends that are endemic to its member states*. This appears to be even more pronounced if we consider the levels of territorial complexity by which the system is bound together. Multilevel in MLG, indeed, refers to the fact that municipalities, regions, states and supranational authorities are
now combining in both the making and the implementation of policies of concern to, or under control of the European Union. Polycentrism and MLG together, then, determine the variable geometry of the EU’s present political system and justify the call for some kind of “territorial and functional partnership and subsidiarity” (Grote 1993) according to which some decisions need to be taken at one - the most appropriate - layer of territorial complexity (and not others), while probably being of concern to and therefore involving only some - the most appropriate - categories of actors (and not others). Which level and which actors will be the most appropriate is always context-specific, depends on the degree of integration within any particular policy domain and on the institutional clout of groups of public as well as the conflict potential and organizational resources of private actors.

Would we accept the above, then the mapping of future scenarios becomes an almost insurmountable task – at least if we look at the format of the entire system and not just at some of its constituent parts. The sheer number of independent variables needed for that purpose would multiply to an extent making it unmanageable even for the most sophisticated software programme to processing the information and eventually calculating potential outcomes. Although statistical analysis may work out well for the study of some specific instances such as voting in the Council (Shapley-Shubik 1954; ?anzhaf 1965; Dubey/Shapley 1979; Johnston 1977) or decision-making under co-decisional, consultative and cooperative procedures (Tsebelis 2002), getting an overall picture of likely future outcomes for the system as a whole is clearly ruled out by these techniques. At the same time, the study of MLG absolutely calls for empirical substantiation if we do not wish to get lost in ever more nebulous assumptions about the shape of the elephant (Puchala 1972).1

When trying to evaluate the future prospects of the EU, we are caught it seems, in the trap of having to decide between long-established integration theories on the one hand and normative accounts of how the EU should be if it were to become a consolidated political system. By way of an impressionistic tour de force, both of these approaches shall briefly be described and discussed. I shall first introduce the two major theories and some of their more recent variants, shall then turn to politically informed or realist explanations and also consider bolder normative claims (Beck/ Grande). Finally, a particularly fresh and daring approach will be introduced that cannot easily be assigned to either of the previous accounts.

2. Established theories

Since its very beginning, European integration has always been viewed at from two major perspectives – supranationalism (based on neo-functionalist reasoning) and inter-governmentalism. Although, over the years, scholars belonging to either of these theoretical camps have slowly acknowledged the validity of parts of the insights of the opposite approach, the two factions continue to remain essentially divided. The major cleavages concern the description of the EU’s present status and of its likely future format, i.e. the question of whether integration can be understood as a kind of auto poetic or transformative process or not. Those

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1 “Several blind men approached an elephant and each touched the animal in an effort to discover what the beast looked like. Each blind man, however, touched a different part of the large animal, and each concluded that the elephant had the appearance of the art he had touched. Hence, the blind man who felt the animal’s trunk concluded that an elephant must be tall and slender, while the fellow who touched the beast’s ear concluded that an elephant must be oblong and flat. Others of course reached different conclusions. The total result was that no man arrived at a very accurate description of the elephant. Yet each man had gained enough evidence from his own experience to disbelieve his fellows and to maintain a lively debate about the nature of the beast” (Puchala 1972).
taking an affirmative stance (neo-functionalists) would argue that European institutions, once established by domestic authorities, would trigger a dynamic that slowly escapes the control of the latter and eventually self-transforms to become an entirely new political entity. Those denying this scenario would argue that the shape of integration, at least in the last instance, continues to be determined by the interests of domestic authorities to maintain their sovereignty and the control of the entire process.

Meanwhile, the two approaches have developed further and can be subdivided in rationalist-institutionalist versus constructivist-institutionalist functionalism and liberal versus realist intergovernmentalism. Yet, overall, their basic assumptions with respect to the present and the future state of European integration are not much different from their historic predecessors of the late 1950s and early 1960s. Empirical studies have shown that the validity of these approaches varies relative to the object under investigation. In some areas such as, for instance, European foreign and security policy, intergovernmentalists seem to fare better. At the same time, they cannot explain the overall dynamics of the process – in particular the type of deepening and widening of the EU that we are witnessing today. Rational functionalists, in turn, can rely on more sophisticated theoretical tools when it comes to explain the coming about of the Internal Market, of legal integration and of competence transfers to supranational institutions. Yet, they as well, and in particular their constructivist variant, face a number of problems with respect to an explanation of the lacking transfer of identities and preferences on the part of both European and domestic actors.

Considering what has been argued above with a view to MLG, governance scenarios probably more correspond to functionalist dynamics rather than to those of intergovernmental bargaining and negotiation. If we were to omit early functionalism’s spill-over-driven teleological expectations a propos a full-fledged supranational polity, this variant is likely to be more appropriate for coming to grips with the format of the overall system – especially if we consider that the very essentials of intergovernmentalism, i.e. the sovereign nation state, is itself in a process of re-formatting which may deprive it of the capacity to steer and control developments both within and beyond its borders.

3. Realist accounts

With reference to Occam ², Majone (2005) has suggested to abstain from introducing new terms unless they actually improve our understanding of the processes and phenomena under investigation. For him, both supranationalism and intergovernmentalism are such terms and, as we might add, MLG as well. The fact that they dominate political science discourses ever since the beginning of the integration process is said to be paradoxical. The alternative terms of federation and of confederation would not only be clearer and be longer established but a confederal tendency would indeed be embedded in the very institutional architecture designed by the early treaties establishing a European Coal and Steel Community and the EEC. Reviewing the history of the Treaties since Paris in 1951 and Rome in 1957 (SEA 1986; TEU 1992; Amsterdam 1997; Nice 2000), Majone is concerned with problems of democratic legitimacy and the role of nonmajoritarian institutions (i.e. independent regulatory authorities). Since these latter would assume a growing importance in all democratic countries, he asks, it would be hard to understand why their “legitimacy problem […] is felt to be more serious at the EU than at national levels” (ibid.: 37)?

² Pluralitas non est ponenda sine necessitate, i.e. given two equally predictive theories, choose the simpler or, closer to the original citation, pluralities ought not be supposed without necessity (William of Ockham; 1285–1349).
In a sense, this comes close to the point made above, namely that the EU is an extreme manifestation of trends – loss of legitimacy, declining voter turnout, state, market and community failures of different kinds, etc. - being endemic to its constituent units. Yet, Majone does not take the (functionalist) road to multilevel governance but rather turns to the fathers of the American Constitution to line out the EU’s confederal architecture. The democratic deficit, then, which troubles us at any level of territorial complexity, “[…] is the price we pay for pursuing regional economic integration while preserving the core of national sovereignty – in taxation, social security, foreign policy, defense – largely intact” (ibid.: 40). Economic and political integration move at different speeds and follow different principles and it has been this very disjunction of politics and economics which has made possible the type of market integration on which Europe ultimately rests. Most importantly, it prevented the emergence of majoritarian institutions at the European level. Since the great majority of European voters and their political leaders seem to support this type of status quo, “Europe’s democratic deficit is, paradoxically, democratically justified” (ibid.: 40) in the last instance.

Concluding, Majone describes the EU – and its future - in terms of a failed federation but underlines its strength, and historically unique character, of representing some kind of model confederation. It has succeeded where most confederations of the past have failed, namely “in integrating the economies of a group of advanced countries, by peaceful means and respecting their national sovereignty” (ibid.: 221). Precisely because of this, the EU would today be the leading model of the post-modern confederation designed to prepare the economies of its component polities to the challenges of globalization. “The truly historical significance of the EU is as the paradigm of post-modern confederation, not as a poor copy of one of the existing federal states” (ibid.).

Considering the latest European elections and the fact that popular hostility, disillusionment and scepticism are no longer a phenomenon limited to only a couple of member states, it may indeed be more realistic turning to the less ambitious (and less ambiguous) confederal analogy rather than to the “we-need-more-Europe” type of enterprise. The problem with this interpretation, however, lies with the fact that a properly functioning confederation would require the existence of the strong and stable nation state variety which is increasingly being undermined by internal (state failure and disintegrating societies) and external challenges (globalization) of various types. It is the project of political integration itself which, together with the internationalization of markets, weakens the capacity of the state to perform the tasks conferred on it by its confederal superstructure. Confederation, then, may be a viable solution would we only have to do with high politics. It is unlikely to suffice, however, in the real world of societal complexity where governments, markets, communities and corporate entities are enmeshed to an extent that neither of these mechanisms alone could reasonably claim to be able of supplying feasible solutions on their own.

4. Normative claims

While both established theories and more realist accounts of the type described above refrain from bold characterizations of the integration process, public opinion increasingly turns to more dramatic visions. Most of these, from my point of view, are unlikely to be realistic given the established track record of European integration. At least for the core of the system – and, like it or not, it is the economy, stupid! – a point of no return may indeed be reached so that some (political) “optimism of the will” is surely not unwarranted. Nevertheless, in a recent publication, a German sociologist (Ulrich Beck) and a German political scientist (Edgar
Grande) have embarked exactly on that type of (disastrous) scenario that sees the EU either collapsing altogether or marching towards a glorious future along the lines of what is called “cosmopolitism” (Beck/Grande 2004). In the last chapter of the book (“cosmopolitan visions for Europe”), three scenarios for the future of Europe are described.

The first is disintegration and decay (ibid.: 339). Disintegration comes about as a result of a growth in bilateral coalitions and regional regimes without any further move towards supranationalism (ibid.: 340). The East and Central European members could not be integrated economically and the EU would refrain from further steps towards positive integration. The logics of neo-liberal markets would undermine the transfer systems of the welfare state and promote those political forces interested in re-nationalizing politics. In part, disintegration would be supported by developments that already characterize the Union, namely its division into three competing camps in the area of foreign policies: a continental-European camp guided by France and Germany, a transatlantic camp guided by the UK and a neutral camp consisting of some smaller countries such as Finland, Austria and Sweden. The second scenario is stagnation.

The new member states would be fully integrated economically so that a functioning internal market could be sustained and further developed. Yet, due to increasing heterogeneity among the member states, the EU would be deprived of the capacity to push for more market-correcting policies. The system would thus vegetate in obscure neo-liberal stasis and would further decline by renouncing any political options and by its dubious democratic legitimacy.

This, the authors suggest, is calling for something completely new. “Europe cannot continue along the obsolete course of the past. Europe is changing and needs to change” (ibid.:339). The third scenario, accordingly, is the cosmopolitan one. Cosmopolitism for Europe entails full economic integration by liberating the project from its neo-liberal chains and, at the same time, endowing it with more capacities in the area of foreign and security policies such that it assumes the role of a second power centre on the global scale. One of the major tasks of that centre would be the integration of the US into a cosmopolitan world order based on mutual recognition and other-regardingness. A cosmopolitan Europe would rest on four pillows: first, an empowerment of European civil society; second, the transition towards a new, post-national model of democracy in which citizens really play an active role in EU decision-making; third, the introduction of a new, i.e. cosmopolitan approach to integration which would be characterized not by a harmonization of rules and regulations but, rather, by a recognition of (national) diversity; and, finally, an institutionalization of Europe as the driving force in a global cosmopolitanism and as full member of a transatlantic security community.

Compared to the other explanations referred to above, this may be a more desirable scenario but hardly takes account of the EU’s real problems. If the only alternative to wishful thinking would just be decay and stagnation, then there hardly is any room for the real world of integration which is not only more complex but, as underlined already in early Marxist accounts of the EEC, has established itself from its very beginnings in form of a permanent crisis process. As little attractive this may be for the devoted Europeanist, the image of a permanent crisis – which, in part, has always been solved so far – tends to reflect the situation more accurately than the end-of-the-world type of scenario envisaged by the cosmopolitan authors.
5. Cross-border arguments

While Majone explicitly avoids inflated (scientific) terms and makes use of more established political models, an integration scholar of the first hour (Schmitter 1969) has recently turned to medieval vocabulary to help imagining the future of the European Union. Re-reading the founding documents, just as Majone, and in particular, focussing on the Maastricht Treaty, Schmitter argues that we are probably witnessing something quite novel which cannot be imagined by reference to established theories or terminology. Maastricht would open the way for “the institutionalization of diversity” – i.e. for a multitude of relatively independent European arrangements with distinct statutes, functions, resources and memberships, not coordinated by a single central organization and operating under different decision-rules (Schmitter 1993:127). Although having worked at the forefront of early neo-functionalist theory, Schmitter today is more cautious with respect to predicting the future. Maastricht would have changed the trajectory of political integration and would open up “[…] a range of possible […] outcomes that were not previously apparent to or desired by either national or supranational actors. Instead of a coherent system of checks and balances long awaited by Euro-federalists, it could encourage the development of a hybrid arrangement for presences and absences in which member states, specific industrial sectors, subnational polities and supranational organizations will be able initially to pick and chose the obligations they prefer and only later discover which are compatible with each other” (ibid.: 130).

This comes very close indeed to what we have termed MLG in the beginning of this paper. The advantage of Schmitter’s scenario is that he allows for more complexity at both the input and the output side of European integration. The number of independent and of dependent variables clearly needs to be increased. Inserting economic and societal actors such as firms, associations, movement and the like, he not only considers other than purely public agencies, as in Majone’s confederal model, but also comes to conclusions which, albeit not necessarily conforming to Occam’s razor, may be more accurate than previous thinking about functionalist-federal and intergovernmentalist-confederal solutions. Overall, Schmitter’s account of Europe’s future can be said to be the most elaborate but also the least determinate of the versions presented in this paper.

While Majone had pointed to the importance of the disjuncture of politics and economics, Schmitter turns to the dissociation between authoritative allocations, territorial constituencies and functional competences. Especially since Maastricht, these increasingly appear less congruent and might produce a situation where a plurality of polities at different levels of aggregation – national, subnational and supranational – may overlap in a given domain in the absence of authorities endowed with exclusive functions and without a well-established hierarchical ordering of relations. Instead, these agencies would negotiate with each other to perform common tasks and resolve common problems without resembling in any way the particular form of organizing political life so well-known to students of domestic politics. For outlining these developments and the possible ideal-types of future integration, Schmitter turns to a new vocabulary and employs neo-Latin terminology. The contingency table producing the outcomes is ordered along two dimensions – one of territorial constituencies and one of functional constituencies. Both are divided according to whether they are variable, egalitarian, differentiated or dispersed, shared, overlapping and reversible or, on the other hand, fixed, contiguous, cumulative, coincident and irreversible (ibid.: 134; figure 6.1). Two of the cells are filled with types of institutional architecture quite familiar to us, namely Confederatio (functionally fixed and territorially variable) and Stato/Federatio (fixed in both the functional
and the territorial dimension). The other two, however, have not been envisaged by either of the previous accounts of integration and are represented by Condominio (variable in both dimensions) and Consortio (territorially fixed and functionally variable).

As in most work of the functionalist-federalist variant, in the Stato/Federatio form both types of constituencies are coincident, boundaries are fixed and membership is irreversible. National and subnational entities would still exist but are inserted into an overarching hierarchy of authority. In functional terms, there would be a fixed allocation of competencies among a variety of agencies based on a clear division of labour. The Confederatio would be a more loosely coupled arrangement “in which the identity and role of territorial units would be allowed to vary, while the distribution of functional constituencies and competences would be rigorously fixed and separated in order to protect members from encroachment by central authorities” (ibid.: 135). Members would retain their autonomy and could negotiate their own differentiated relation to the unit as a whole. The Condominio leans on a fixed number of national authorities that agree to cooperate in the performance of functional tasks that are variable, dispersed and overlapping. There is no precedent for this type of arrangement but one could imagine that the type of bilateral relations between states that often establish regional or policy-domain-specific commissions and tasks forces come quite close to this scenario. Since being based on variation in both dimensions, Condominio, finally, would be the most unprecedented outcome. “Instead of one Europe with recognized and contiguous boundaries, there would be many Europes. Instead of a Eurocracy accumulating […] tasks around a single centre, there would be multiple regional institutions” (ibid.: 136). All this could easily result in competition and even conflictual situations to an extent that it makes this scenario most undesired. Indeed, nobody would deliberately establish it by design. It just happens and when emerging, it “rapidly institutionalizes itself as the least threatening outcome” (ibid.)

Schmitter does not a priori exclude either of the above patterns. His guess is that Condominio may even be the most likely outcome in a situation characterized by political stalemate and decreasing popular support. Overall, however, he would view the EU as a peculiar mixture or hybrid of at least some of these ideal-type scenarios. Their incidence and co-existence would vary relative to the policy in question. There are at least four intervening conditions co-determining the outcome – policy implementation, politicization, enlargement and external security (ibid.: 138-144). Again, as argued in the beginning, polycentrism and MLG may push the EU in different directions without, however, endangering the system as a whole. Implementation problems would support the Consortio-type result while politicization would probably generate some characteristics of Confederatio – although “the mobilization of subnational territorial units would have a Condominio effect or of functional domains a Consortio effect” (ibid.: 144). Enlargement on the other hand is associated with Condominio and external security may be one the few candidates for Stato/Federatio. Most of this is already working to some extent. As argued above, it has simply emerged without being driven by decisions taken by a majority of voters or their political representatives. Overall, Schmitter is realist enough for not fully excluding even the most unexpected scenario, namely the big bang brought about by a full-fledged constitutional assembly elaborating the rules for a new supranational Stato/Federatio – a kind of neo-rationalist’s dream. Such a federalist scenario would not rely on the slow, incremental and cumbersome spill-over predicted by neo-functionalism but would be overtly political. In any case, the options for the Euro-polity are still wide open.
6. Concluding Remarks

Considering the above, it appears that most of the scenarios presented are derived from political theories about the format and institutional architecture of nation states. This clearly is inappropriate and may no longer be viable. If the EU really is *sui generis*, and I believe it is, we may have to turn to other theories dealing with complexity and eventually draw fresh insights from neighbouring disciplines such as sociology, anthropology and, not least, organization science. Theories of evolution of complex systems and ecological approaches may help a lot for coming to grips with Europe’s future. In the field of political science, a first step into that direction has already been done. The least heroic but probably also most realist account of the status quo of the European Union is multilevel governance. Although lacking a (political) theory and being largely under-determined in terms of predictions about likely outcomes, it may help in drawing the future shape of the system. As we have seen, is broad enough a concept to embody parts of the scenarios suggested by the authors from which I have taken most of the ideas in this paper. MLG, most importantly, is interface-compatible *vis-à-vis* both the practice and the theory of established domestic political systems. If domestic polities are currently loosing essential parts of what has made them come about and given them the capacity to reproduce, their supranational, extra-national, confederal, etc. equivalent in Brussels has started with this type of format right from the beginning. If governance should really be the most appropriate term for characterizing what is currently going on, then the EU has acquired a formidable capacity of managing complexity and might even be in a superior position to respond to future challenges than its most advanced domestic member.
Bibliography


Perspective Thinking of the Czech Elites
Pavol Frič

By way of introduction

In the area of theoretical reflections on perspective thinking, this paper follows up on the solutions formulated in the publication on the previous research looking into the life strategies of the population (Frič and coll., 2003). The perspective thinking comes out of the military tradition of strategic thinking, and understanding strategy as the instructions, guidelines for planning the best way to use the resources available to achieve the goals set. E.g., according to A. Baufre, strategies are the outcome of the “art to target the strength with respect to possible allies and opponents so that the goals are achieved with minimum costs and safe.” (Beaufre 1967) Jiří Kabele, who refers exactly to the Baufre definition, emphasizes that the sense of strategies is to prospectively orientate disposable resources. He says that strategies are the “variant plans for the course of action including the essential means for their success.” (Kabele 1998 pp. 278) So the core structural elements of strategy are: goals, resources (driving forces) and practices, scenarios how to use these resources. This structure will be reflected in the following text dedicated to comparison of opinions of the public and of the elites about the strategy of modernizing Czech society.

The research1 the following text is largely based on, focused primarily on the Czech elites strategic visions and concepts about the future direction of Czech society. The cardinal question the following text is aiming to answer is “What next?” We wanted to find answers to the questions: What should our “catching up modernizing” be like? (Habermas) What kind of visions, roads and social resources are available? What is the quality of the main social actors – the elites and the public? With this in mind, the authors of this study made it a point to follow up the above research: “Life strategies of the population”, and so we can present the opinions and ideas of the elites in the text below in comparison with the answers of the population.

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1 The survey was in field in the context of the CESES project “The elites and modernizing in the Czech Republic” carried out by STEM – the Center of Empiric Research from October 2003 to January 2004. The research defined elites as relatively narrow circles of people, who because of their high social rank have a dominant influence on the developments of Czech society. It was focused on social top ranks in the Czech Republic active in these areas: political, economic, media, administrative local government and “spiritual”. These areas also agree with the research understanding of the types of elites the way they were defined as holders of executive positions at the central and regional level in the five areas above. In total, 826 interviews with the representatives of the Czech elites were conducted and statistically analyzed. More on methodology and research findings see Frič P., Prudký L., Nekola M., 2005.
1. Vision

Vision of Catching up with the West

To modernize any backward country it is usually a good sign when its population and national elites agree that they should catch up with the advanced countries. Sadly, the Czech Republic can be used as an illustrative example that this agreement does not necessarily mean to actually catch up with the more advanced countries any quicker. Our research reveals that the Czech public as well as their elites do share an ambition to catch up with the West, i.e., to reach the economic level of the most advanced EU countries, but, so far, have not succeeded much in this respect.

Table 1

<table>
<thead>
<tr>
<th>The Czech economy should reach the level of the most advanced EU countries.</th>
<th>N=2500, data in %</th>
<th>the public</th>
<th>the elites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I definitely agree</td>
<td>44</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>2. I fairly agree</td>
<td>46</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>3. I rather disagree</td>
<td>8</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4. I totally disagree</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Source: CESES, 2002/4

Specifically, Germany would be the worth following example or model for our elites. The list of the countries named by the Czech elites as an example/model for the next development of CZ also suggests that we should orientate ourselves largely towards the European countries (catching up with the West means in the eye of our elites mainly catching up with the advanced part of Europe), in particular the big countries of the EU integration core, albeit generally among these examples dominate small countries from across the world. The representatives of our elites typically do not concentrate on one dominant country only, but their preferences to example countries are very varied, and so it is impossible to define any generally acceptable, foreign model of development for CZ to follow. Nonetheless, the most often named example countries are Germany and Sweden, which impress our respondents primarily because of their strong national economy on the one hand, and the "exemplary" resolved question of their social security and health care systems on the other hand.
The Scandinavian model for managing modernization problems appears best to more than a third of the representatives of the Czech elites asked. The North of Europe is far more attractive for the Czech elites than the South. However, it is less attractive than the smaller Western Europe countries altogether. In general we can say that the Czech elites do not seem to reach a consensus of opinion on their foreign models that would form the solid base for any concentrated strategy to follow the more advanced model. The foreign example for the Czech modernizing is somewhat blurred, and so rather than to the strategic selection encouraging to spontaneous efforts of the type: “Something from everything!”

Table 2

<table>
<thead>
<tr>
<th>N=826, data in %</th>
<th>the elites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Germany</td>
<td>18.3</td>
</tr>
<tr>
<td>2 Sweden</td>
<td>16.1</td>
</tr>
<tr>
<td>3 Netherlands</td>
<td>14.7</td>
</tr>
<tr>
<td>4 UK</td>
<td>15.7</td>
</tr>
<tr>
<td>5 Ireland</td>
<td>14.1</td>
</tr>
<tr>
<td>6 Switzerland</td>
<td>14.1</td>
</tr>
<tr>
<td>7 France</td>
<td>13.6</td>
</tr>
<tr>
<td>8 Austria</td>
<td>11.0</td>
</tr>
<tr>
<td>9 USA</td>
<td>8.9</td>
</tr>
<tr>
<td>10 Denmark</td>
<td>6.7</td>
</tr>
<tr>
<td>No country, no example</td>
<td>6.5</td>
</tr>
<tr>
<td>Other</td>
<td>15.1</td>
</tr>
<tr>
<td>No answer</td>
<td>0.8</td>
</tr>
<tr>
<td>Does not know</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Source: CESES, 2002/4
*The total of answers is more than 100%, because respondents could give two answers.

The Scandinavian model for managing modernization problems appears best to more than a third of the representatives of the Czech elites asked. The North of Europe is far more attractive for the Czech elites than the South. However, it is less attractive than the smaller Western Europe countries altogether. In general we can say that the Czech elites do not seem to reach a consensus of opinion on their foreign models that would form the solid base for any concentrated strategy to follow the more advanced model. The foreign example for the Czech modernizing is somewhat blurred, and so rather than to the strategic selection encouraging to spontaneous efforts of the type: “Something from everything!”

Table 3

<table>
<thead>
<tr>
<th>N=826, data in %</th>
<th>the elites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>46</td>
</tr>
<tr>
<td>2 big countries of the EU integration core</td>
<td>36</td>
</tr>
<tr>
<td>3 Scandinavian countries</td>
<td>40</td>
</tr>
<tr>
<td>4 Smaller EU Western Europe countries</td>
<td>14</td>
</tr>
<tr>
<td>5 Central European countries</td>
<td>14</td>
</tr>
<tr>
<td>6 Switzerland</td>
<td>9</td>
</tr>
<tr>
<td>7 USA</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: CESES, 2004
*The total of answers is more than 100%, because respondents could give two answers.

How come that we cannot manage catching up with the West, when our elites and our public both agree that we should do so? How come we did not become the “Central European tiger” ages ago? Is it because – as many should think – we lack money for investments, because the technical facilities of our companies are outdated, the manufacturing not effective and the products not competitive? But, is it not the truth that this is exactly where we want to be a match for the West? Aren’t we moving in the vicious circle? And is it not exactly the inability to get out
of the circle of the stereotyped perspective thinking the real reason for our already protracted lagging behind? It becomes clear that the ambitions shared by both the elites and the public to catch up with the West do not have support in a more elaborate vision of modernizing, which would be able to answer the question “how” to possibly catch up with the West in reality. The majority of the public and most of the elites admit we actually miss this kind of vision.

**Table 4**

<table>
<thead>
<tr>
<th>We miss one common vision of the CZ development most of the population could relate to</th>
<th>N=2500, data in %</th>
<th>the public</th>
<th>the elites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I definitely agree</td>
<td></td>
<td>29</td>
<td>35</td>
</tr>
<tr>
<td>2. I fairly agree</td>
<td></td>
<td>51</td>
<td>39</td>
</tr>
<tr>
<td>3. I rather disagree</td>
<td></td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td>4. I totally disagree</td>
<td></td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: CESES, 2002/4

**Vision of a Visible Acceleration in Modernizing**

Despite the absent common vision of catching up with the West, the majority of both the public and the elites believe that in the next ten-fifteen years CZ will manage coming closer to the modernization epicenter of the Western world. The elites are in this sense even a bit more optimistic than the public. Nonetheless, the shared optimistic perspective ahead of CZ is not very strong on either party. Merely 16% of the residents or members of the elites asked hope for a sudden wave of the modernization outburst in the Czech Republic to materialize. Overall, the cautious optimism prevails among the public as well as in the ranks of our elites. At the bottom of this optimism we can find expectations that CZ, after all, should manage achieving at least some visible acceleration in modernizing in the near future, which would allow the country to hold a better position in the international modernization contest that it does today.

**Table 5**

<table>
<thead>
<tr>
<th>Do you expect that the Czech Republic in the next ten-fifteen years ...</th>
<th>N=2500/826, data in %</th>
<th>the public</th>
<th>the elites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Makes it to the top, among ten most advanced countries in the world</td>
<td></td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. Makes it among the leading EU countries</td>
<td></td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>3. Will hold at least a better position than today</td>
<td></td>
<td>50</td>
<td>70</td>
</tr>
<tr>
<td>4. Will hold roughly the same position as today</td>
<td></td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td>5. Will lose the today’s position</td>
<td></td>
<td>9</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: CESES, 2002/4

**Vision of Modern Society**

The consensus of the elites and the public on ambitions to catch up with the West and on optimism about their achieving, is not accompanied by any adequate vision of the modern society they all want to catch up with, either. To put it simply, neither the public nor the elites have an adequate idea, image about what the contemporary modern society should look like. The modernizing process of the Western societies considerably moved on in the last decades of the 20th century. Also the model of modernizing has changed (its goals, subject, method and space-time modus):
1. not the material comforts are so much emphasized as the goal any more, but the quality of life,

2. subject to modernizing is not only the development of manufacturing technologies, products, equipment and management, but what comes to the fore is the modernization of social institutions, examples/role models and rules of social life: -socio-cultural modernization,

3. modernization changes are not only the outcome of decisions made by the captains of industry and public policy of governments, but more likely that of the reflexive process in society as a whole, i.e., of everyday criticism, discussion and talks with all kinds of social players including the representatives of civic society,

4. international modernization contest has become global, and the position of individual societies is decided by the way of their involvement in the global division of labour, and not by their ability to produce for the domestic market.

These new highlights taking place in the modernizing processes of the Western societies resulted in their transition to the new development stage. Social scientists started speaking about them as about the rising societies of the post-industrial, or, information era, the societies of knowledge, or, simply, the societies of the “second moderne”. So, can we ask how is this new trend reflected in the picture of modern society in the eye of the Czech public and elites? We cannot say it went unnoticed, especially by our elites. On the other hand, the ideas of the public and of the elites about modern society in many aspects remind of the picture of the industrial society - “smoking factory chimneys” rather than of the picture of the information society or that of knowledge. The public typically places stress on material comforts and advanced technology/high tech. Both (the elites and the public) show the absence of civic activism and global dimension. In contrast to the public, however, the elites lay great stress on the socio-cultural development, or, on the institutional part of modern society. So it is evident that the elites are in their thought significantly ahead of the public, yet even they miss some absolutely essential parts in their mosaic of modern society. As a consequence, we can hardly expect a great modernization outburst in our country, when actually even the elites do not know exactly where it should be directed. The above ideas of the public and of the elites suggest a considerable level of disorientation among these two key players in modernizing, or, their no comprehension of what actually is the contemporary global modernization contest about.

**Table 6**

<table>
<thead>
<tr>
<th>What can you imagine under the wording: “modern society”?</th>
<th>N=2500/826, data in %*</th>
<th>the public</th>
<th>the elites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Society where people are materially secured</td>
<td>44</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>2. Technologically advanced society</td>
<td>38</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>3. Society with high quality of life</td>
<td>35</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>4. Society with developed institutions</td>
<td>29</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>5. Society with intensive civic activity</td>
<td>5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Society incorporated into global structures</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6. Other</td>
<td>17</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>7. Does not know/no answer</td>
<td>12</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Source: CESES, 2002/4

* The total of answers is more than 100%, because respondents could give up to three answers.
Vision of How the Ideal Society Should Work

In what kind of society would people and their elites want to live? How should this ideal society work? It seems that the public is more in the clear when it comes to this issue than the elites are. According to the public the desirable society should largely focus on achieving as advanced technology as possible, should be run by experts, should bring order into life of people rather than freedom and even development of all should come before that of great talents. The public remains polarized particularly on the dimension: continuity-discontinuity and on the dimension: peaceful-performance. Citizens roughly in the same proportion prefer modernization changes and to preserve traditions, or, orientation towards the top economic performance and that towards a peaceful, quiet life. By contrast, orientation towards performance has rather a unifying effect on the elites. Whereas the question of deciding between the performance-orientated and easy society has polarized the public, the elites go mostly for the vision of “super-performing turbo-society”. The same applies to the requirement to prefer the opinions of experts to those of the public. But here, the consensus of the elites ends. The opinions of the elites of the other principles are polarized. Roughly the same proportion of the elites inclines to modernization changes and preserved traditions, to egalitarianism and elitism, to order and freedom, to technology development and spiritual maturity. The low level of consensus inside the elites regarding the goal of modernizing efforts (see also the blurred foreign example/model of modernizing) is worthy of attention and could to some degree explain their lack of ability to come up with the modernization vision most of the population would like to follow.

Chart 1: Opinions of the public

<table>
<thead>
<tr>
<th>Which principles should be respected by the society where you would like to live?</th>
<th>Should this society....</th>
<th>N=2500, data in %</th>
<th>Source: CESES, 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>prefer modernization</td>
<td>51</td>
<td>43</td>
<td>prefer traditions</td>
</tr>
<tr>
<td>Focus on as high economic performance as possible</td>
<td>53</td>
<td>42</td>
<td>focus on a peaceful, quite life</td>
</tr>
<tr>
<td>Care mainly for a harmonious development of us all</td>
<td>57</td>
<td>35</td>
<td>care mainly for a development of great talents</td>
</tr>
<tr>
<td>Bring primarily order in the life of people</td>
<td>64</td>
<td>29</td>
<td>give people as much freedom as possible</td>
</tr>
<tr>
<td>Make decisions according to professionals/experts</td>
<td>68</td>
<td>25</td>
<td>make decisions according to the opinions of the public</td>
</tr>
<tr>
<td>Aim to be as technologically advanced as possible</td>
<td>69</td>
<td>24</td>
<td>aim mainly for a spiritual development</td>
</tr>
</tbody>
</table>
**Chart 2: Opinions of the elites**

<table>
<thead>
<tr>
<th>Which principles should be respected by the society where you would like to live?</th>
<th>Should this society.....</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefer modernization changes</td>
<td>57</td>
</tr>
<tr>
<td>Focus on as high economic performance as possible</td>
<td>70</td>
</tr>
<tr>
<td>Care mainly for a harmonious development of us all</td>
<td>46</td>
</tr>
<tr>
<td>Bring primarily order in the life of people</td>
<td>55</td>
</tr>
<tr>
<td>Make decisions according to professionals/experts</td>
<td>88</td>
</tr>
<tr>
<td>Aim to be as technologically advanced as possible</td>
<td>44</td>
</tr>
</tbody>
</table>

N=826, data in %  
Source: CESES, 2004

---

2. **Ways of modernizing**

**Westernization a la the Czech Style**

“The West is our example!” - not that popular a claim today in the Czech Republic as it might seem according to the jointly shared ambition of the elites and the public to catch up with the West. Only a mild majority of the Czech public would agree that copying the Western modernization examples is a meaningful effort. Even though citizens usually admit it is inevitable to adapt to the West, at the same even more often show their ambition to patronize the West (although the West is economically more advance, they could still learn from us!). They believe the Western model of modernizing can enrich CZ in a way (i.e., mainly in the socio-cultural area). In other words they actually say that taking up the Western models, i.e., the westernization of the Czech Republic is inevitable, but we should do it our own way, i.e., the Czech way. The attitudes of our elites are in this sense fairly similar, yet visibly more pro-West and more cautious. In particular, the vast majority of the elites feel to westernize CZ is meaningful and inevitable, and they do not profuse in their own praise and self-confidence when it comes to the Czech contribution to the Western civilization.
It certainly is a fairly ironic finding that the Czech citizens, who typically with a lot of self-confidence give the West to understand that the economic advance is not everything, think that the greatest contribution of Czechs to the European Union is their cheap labour (CVVM 2004). By contrast, the more cautious elites offer Europe primarily the level of education, creativity and spirituality. But as we can see they fail to “effectively” market these elite characteristics of theirs, i.e., do so on the background of the concentrated modernization strategy for CZ.

### Table 7

<table>
<thead>
<tr>
<th>Attitudes of the public and of the elites to the Western variant of modernization</th>
<th>N=2500/826, data in %</th>
<th>Definitely fairly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>the public</td>
</tr>
<tr>
<td>1.</td>
<td>It does not make sense copying the modernization of Western countries</td>
<td>46</td>
</tr>
<tr>
<td>2.</td>
<td>We can do nothing else but adapt to the West</td>
<td>66</td>
</tr>
<tr>
<td>3.</td>
<td>Although the West is economically more advanced, they could learn from us</td>
<td>76</td>
</tr>
</tbody>
</table>

Source: CESES, 2002/4

The above answers of the representatives of our elites suggest that westernization in their mind means particularly adapting to the European-tuned modernization model. Its holder (to a different extent) in the eye of the elites are typically the “old” EU states and so we can say that the Czech westernization implicitly contains the solution of the question how is CZ going to strategically cope with its inclusion into the EU. Can we ask how the Czech elites actually imagine this EU-ropeization? What strategy of the CZ presence and action in the European Union appears most acceptable to them? The factor analysis revealed three key orientations towards the strategic thinking of the Czech elites in relation to the CZ presence and action in the EU. The first, widest-spread of them is a “sovereignty orientation”. On its background there unfold the strategy of the cautious guard over the national competencies, defender of national sovereignty and that of the protectionist of the interests of Czech businesses. The wide support to the sovereignty orientation explains the low support (34%) of the Czech elites to the idea of making one federal state out of the EU countries. Overall, this orientation of the Czech

### Table 8

<table>
<thead>
<tr>
<th>In your opinion, what should be the specific contribution of the Czech Republic to the European Union?</th>
<th>N=826, data in %</th>
<th>The elites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Education, qualification/skills, science, research and technology</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>2. Creativity, clever/workmanship, flexibility</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>3. Culture and spiritualism</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>4. Historic experience</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>5. Strategic behavior</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>6. Manpower, manufacturing production and services</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>7. Nothing, nothing special</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>8. Other</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9. No answer</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Source: CESES, 2004

* The total of answers is more than 100%, because respondents could give two answers.

**EU-ropeization**

The above answers of the representatives of our elites suggest that westernization in their mind means particularly adapting to the European-tuned modernization model. Its holder (to a different extent) in the eye of the elites are typically the “old” EU states and so we can say that the Czech westernization implicitly contains the solution of the question how is CZ going to strategically cope with its inclusion into the EU. Can we ask how the Czech elites actually imagine this EU-ropeization? What strategy of the CZ presence and action in the European Union appears most acceptable to them? The factor analysis revealed three key orientations towards the strategic thinking of the Czech elites in relation to the CZ presence and action in the EU. The first, widest-spread of them is a “sovereignty orientation”. On its background there unfold the strategy of the cautious guard over the national competencies, defender of national sovereignty and that of the protectionist of the interests of Czech businesses. The wide support to the sovereignty orientation explains the low support (34%) of the Czech elites to the idea of making one federal state out of the EU countries. Overall, this orientation of the Czech
elites could be described as moderately ambitious and least open to the Czech EU-ropetization processed that well harmonizes with the outdated vision of modern society de facto isolated from the other world.

**Table 9**

<table>
<thead>
<tr>
<th>Role of CZ in the EU according to the elites -“sovereignty orientation”</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=826, data in %</td>
</tr>
<tr>
<td>Strongly/fairly yes</td>
</tr>
<tr>
<td>1. To aim to get as most competencies as possible and as much as possible participate in the decision-making in the EU</td>
</tr>
<tr>
<td>2. To aim particularly to keep its own state sovereignty</td>
</tr>
<tr>
<td>3. To maximally use the possibilities of state support/assistance and protection of Czech producers in the EU</td>
</tr>
</tbody>
</table>

Source: CESES, 2004

The second widest-spread strategic orientation of the Czech elites in relation to the EU is a highly ambitious, “activist orientation”, which composes of two seemingly opposite strategies, i.e., the strategy of a rebel aiming to (contrary to the main stream) economically liberalize the EU, and that of a specialist, who wants just the opposite – to adapt and look for the areas of the EU policy, where he could become indispensable. Both these strategies presume a high degree of openness towards the EU-ropetization and can be well complementary.

**Table 10**

<table>
<thead>
<tr>
<th>Role of CZ in the EU according to the elites -“activist orientation”</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=826, data in %</td>
</tr>
<tr>
<td>Strongly/fairly yes</td>
</tr>
<tr>
<td>1. To be the pioneer in a greater openness of the EU towards global economic trends</td>
</tr>
<tr>
<td>2. To concentrate on the selected areas of the EU policy and become here the indispensable specialist</td>
</tr>
</tbody>
</table>

Source: CESES, 2004

The third strategic orientation is least supported and perceived by the Czech elites as rather passive and little ambitious. It composes of two strategies. The first of them could be named the strategy of a stowaway who uses all benefits of the membership but alone makes it a point to contribute as least as possible. The other one is the strategy of an exemplary member who always adapts to the mainstream opinion in the EU. In terms of EU-ropetization these strategies may look little ambitious, but do not go against its spirit.
The history of modernizing countries shows that the process of modernization in these countries was always going on as a spontaneous as well as controlled activity. It was fuelled by the spontaneous impulses “bottom up” as well as by the planned instructions “top down”. Different societies with different political regimes combined these two ways of modernization in a different ratio. It is known that socialism one-sidedly preferred the way of modernization top down; so we should ask a question to what extent this tendency persists, or, is repugnant to the Czech public and its elites. Our survey reveals the largely different perception of the above ways in the eye of the public on the one hand, and the elites on the other hand. The public far more demands the state (government) interventions (top down) to solve their problems as well as to direct the whole society. By contrast, the elites in their vast majority are inclined to the spontaneous, or, liberal way of problem solving (80%). According to the Czech elites the main responsibility for solving one’s own problems should be with citizens alone and not with the state (government). Those who most agree with the statement are Communist’s party followers (63%). Also a relatively big difference was found between the elites from the central and regional level (16% and 25% of agreeing answers).

**Table 11**

<table>
<thead>
<tr>
<th>Role of CZ in the EU according to the elites – “passive orientation”</th>
<th>N=826, data in %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly/fairly</td>
</tr>
<tr>
<td></td>
<td>yes</td>
</tr>
<tr>
<td>1. To invest into the EU affairs as little as possible, but to</td>
<td>35</td>
</tr>
<tr>
<td>use the benefits and resources offers as much as possible</td>
<td></td>
</tr>
<tr>
<td>2. To go with the mainstream opinion in the EU and</td>
<td>35</td>
</tr>
<tr>
<td>diplomatically exploit the exemplary member reputation</td>
<td></td>
</tr>
</tbody>
</table>

Source: CESES, 2004

**Modernization Top Down or Bottom up?**

The history of modernizing countries shows that the process of modernization in these countries was always going on as a spontaneous as well as controlled activity. It was fuelled by the spontaneous impulses “bottom up” as well as by the planned instructions “top down”. Different societies with different political regimes combined these two ways of modernization in a different ratio. It is known that socialism one-sidedly preferred the way of modernization top down; so we should ask a question to what extent this tendency persists, or, is repugnant to the Czech public and its elites. Our survey reveals the largely different perception of the above ways in the eye of the public on the one hand, and the elites on the other hand. The public far more demands the state (government) interventions (top down) to solve their problems as well as to direct the whole society. By contrast, the elites in their vast majority are inclined to the spontaneous, or, liberal way of problem solving (80%). According to the Czech elites the main responsibility for solving one’s own problems should be with citizens alone and not with the state (government). Those who most agree with the statement are Communist’s party followers (63%). Also a relatively big difference was found between the elites from the central and regional level (16% and 25% of agreeing answers).

**Table 12**

<table>
<thead>
<tr>
<th>Do you agree with the opinion that problems of citizens should be primarily solved by the state (government) and not by citizens alone?</th>
<th>N=2500/826, data in %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>the public</td>
</tr>
<tr>
<td>1. Yes, definitely</td>
<td>20</td>
</tr>
<tr>
<td>2. Yes, somewhat</td>
<td>35</td>
</tr>
<tr>
<td>3. No, somewhat not</td>
<td>35</td>
</tr>
<tr>
<td>4. No, definitely not</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: CESES, 2002/4

The liberal orientation of our elites is also manifested in their dislike of a stronger influence of the state administration (but also the unions) on the direction of our society. For that matter it was these elites that were instrumental in bringing the fundamental reorientation of the modernizing efforts in the Czech Republic after the year 1989. On the other hand, the inclination of the Czech public to paternalism, or, to modernize top down is of a long-term character. So the findings collected only confirmed the persisting opinion confrontation between the public and the elites about the modernization strategy of Czech society. The majority (62%) of the Czech public want to increase the influence of the state administration on the direction of our society,
which is roughly twofold more often than the opinions of the elites, as most of them are against the idea that the influence of state administration should be stronger.

### Table 13

<table>
<thead>
<tr>
<th>Which of the following factors should, in your opinion, have a stronger influence on the direction of our society than it has today?</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=2500/826, data in %, answer &quot;yes&quot;</td>
</tr>
<tr>
<td>1. Local government/council</td>
</tr>
<tr>
<td>2. Courts</td>
</tr>
<tr>
<td>3. State administration</td>
</tr>
<tr>
<td>4. Businesses, companies</td>
</tr>
<tr>
<td>5. Unions</td>
</tr>
<tr>
<td>6. Voluntary organization</td>
</tr>
<tr>
<td>7. European Union</td>
</tr>
<tr>
<td>8. Political parties</td>
</tr>
<tr>
<td>9. NATO</td>
</tr>
<tr>
<td>10. Churches</td>
</tr>
</tbody>
</table>

Source: CESES, 2002/4

### 3. Driving forces of modernization

**Crisis of the Elites Legitimacy**

The confrontation of opinions about the ways of modernization is also signaling contradictions in views of the public and elites about their own role in the modernization process and assessment of performance while doing so. The data collected suggest that neither the public nor the elites are happy with their counterpart, or, with how they perform their modernization role. In the public’s view the Czech elites appear incompetent as well as morally wrong and deserving criticism because they betrayed their mission. Not only are they unable to quickly consolidate capitalism in our country and catch up with the West, but also, instead of work for the benefit of the public welfare, they concentrate on their own benefit only. The tradition of the treacherous, deceitful elites (see e.g., the years 1938, 1968) can go on in the eye of the huge part of the Czech public.

### Table 14

<table>
<thead>
<tr>
<th>To what extent do the following statements apply to the Czech Republic at present?</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=2500, opinions of the public, data in %</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1. Open and fair economic competition</td>
</tr>
<tr>
<td>2. Open and fair competition of political parties</td>
</tr>
<tr>
<td>3. A lot of corruption in the state administration</td>
</tr>
</tbody>
</table>

Source: CESES, 2002
So we have every reason to believe that most people do not respect the present elites as “natural elites”, i.e., as person, or prominent figures who achieve excellent results in their line of activity. In their opinion, they are merely people in positions, high ranks they often managed to hold in a not very correct manner. The Czech elites (mainly political, administration and economic) have been facing the legitimacy crisis in the eyes of the public for a long time. According to most citizens the elites are not the ones who modernize, but more likely to block any further modernization, because they have no other vision than their own making a lot of money, they conserve their positions and live as parasites on the social disorganization (unfinished consolidation of capitalistic relations). The loss of the elites legitimacy as the driving force of modernizing is, inter alia, reflects in little trust of citizens in social institutions such as the government, parliament, courts, police, etc.

Table 15

<table>
<thead>
<tr>
<th></th>
<th>Definitely/ fairly agree</th>
<th>the public</th>
<th>the elites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The development of our society is beyond control of the executive bodies</td>
<td>59</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>2. There is a threat that our country will be controlled by a small group of politicians bribed by large corporations</td>
<td>63</td>
<td>43</td>
<td></td>
</tr>
</tbody>
</table>

Source: CESES, 2002/4

Opponents to Modernization

In the elites’ view, the opponents to modernization in CZ are “logically” not hiding themselves in the ranks of the elites as such, but more likely in various layers and categories of the public. According to our elites, the major threat to modernization is not posed on the party of the pathological part of the elites, or, of the parasites inside the management of important institutions (tunneling individuals, corrupt officials, irresponsible politicians and dodgy bankers), who have their “invested interests” in conserving the chaotic relations. The Czech elites most often share an opinion that modernization is mostly opposed by those in a marginal social position (particularly, less educated, poor and older people). So they are not marginal in terms of their number, but as to their participation in innovation processes in society (either were excluded from them, or, lack the ability to make it there). Their opposition to modernization is not ideological, but given by their social rank. They are the “outsiders” or “losers” of modernization, i.e., people whom modernization does not bring the expected (promised) profits, or, because of its nature downright threatens them (e.g., that they lose their job). Finding the opponents to modernization among the groups with the minimum influence in society is only seemingly surprising. The representatives of Czech elites are well aware that even these people are the electorate, there are many, and with an inclination to burden the state with social benefits, the rise of which decreases the volume of investments into the further modernization of our country.

Symptomatically, the Czech elites openly do not include among the opponents to modernization representatives of the professions associated with the existence of middle classes. These opponents might (in the elites’ view as the mistaken part of middle classes) be partially hidden in the category “counter elites”, i.e., most often among the representatives of
unions or environmentalist and anti-globalization social movements, the elites regard as the second major opponents to modernizing. It means that the organized public as the ideological opponent to the current shape of modernizing in CZ is apparently in the eye of our elites not such a major threat to continue in the modernization processes as that represented by the social burden of the group: “outsiders and losers”. But it is a question whether the reason why is that the counter elites are not able to win “outsiders and losers” over, or, it is because of civic apathy of “outsiders and losers”. It is disturbing for the present elites that they cannot really count on either in a long run.

The above suggests that the Czech elites typically do not understand the development of modernization as an interaction between the for and against-modernization forces, or, the forces on the one hand aiming to take the country to the post-industrial modernization track, and on the other hand under the veil of national ideology conserving the largely industrial relations in our country. They tend to perceive the present development more as overcoming, or, removing the “modernization baggage” in the shape of various marginal individuals, losers and deviants, who hinder the modernization in their “parasitic behaviour”, but are not principally against it.

Table 16

<table>
<thead>
<tr>
<th>Who are the opponents to modernization in CZ?</th>
<th>N=826, data in %</th>
<th>the elites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Marginal people (less educated, poor, older…)</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>2. Counter elites (social movements representatives)</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>3. Deviant members of the elites (politicians, officials, bankers, entrepreneurs…)</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

Source: CESES, 2004
* The total of answers is more than 100%, because respondents could give two answers.

The above suggests that the elites take a similarly critical approach to the public as the public takes to them. This is validated by other data, e.g., most respondents from the ranks of elites accuse citizens that they are no longer willing to make sacrifices so that the future of us all is better, and that they often circumvent the law. As we all know the respect of citizens for the law represents the core pillar of any legal state functioning and is an important indicator of the level of social cohesion, or, disorganization in the society concerned. A high level of disorganization weakens the functioning of public institutions and undermines the modernization efforts. Again, a disturbing question is whether it is possible to interpret the fact that citizens circumvent the law as an individual moral failure, or, whether it is a failure of the system controlled by elites, or, even a failure of the elites alone, as they cannot manage be the example, role model for others and act as privileged groups no law applies to and thus give a bad example to the ordinary citizen. We can also ask how come that citizens are not able to make sacrifices for the common future when the elites alone say they are able to mobilize citizens in the interest of better future for all?
As indicated by the figures about a long-term declining participation of citizens in the elections not only in CZ but also elsewhere, the crisis of the elites and public cohesion will be a more general phenomenon in all democratic countries. In the last decades the advanced, modern societies show a special phenomenon related to the question of their social cohesion. In the globalized world the elites of national states feel less and less bound by their national context and become more and more cosmopolitan. They start replacing their cohesion with the public in their national states with that with the elites of other states. They even start revolting against the claims of “their” on the manifestations of solidarity. (Lasch 1995) However, the answers of the asked members of the Czech elites indicate that nothing like that threatens CZ at least for the time being. The vast majority of the representatives of our elites feel committed to the other members of society.

### Table 17

| To what extent do you agree with the following statements regarding the development of the Czech society? |
|---|---|
| | N=2500/826, row % |
| | Definitely/ fairly agree |
| | the public | the elites |
| 1. Citizens are no longer willing to make sacrifices because of better common future | 65 | 62 |
| 2. The ordinary Czech person circumvents the law whenever it is possible. | (the question was not asked) | 68 |

Source: CESES, 2002/4

### Elites Leadership Role

As indicated by the figures about a long-term declining participation of citizens in the elections not only in CZ but also elsewhere, the crisis of the elites and public cohesion will be a more general phenomenon in all democratic countries. In the last decades the advanced, modern societies show a special phenomenon related to the question of their social cohesion. In the globalized world the elites of national states feel less and less bound by their national context and become more and more cosmopolitan. They start replacing their cohesion with the public in their national states with that with the elites of other states. They even start revolting against the claims of “their” on the manifestations of solidarity. (Lasch 1995) However, the answers of the asked members of the Czech elites indicate that nothing like that threatens CZ at least for the time being. The vast majority of the representatives of our elites feel committed to the other members of society.

### Table 18

| Do you think that to belong to the elites commits their members to anything towards the other members of society? |
|---|---|
| | N=826, data in % |
| | the elites |
| 1. Yes | 82 |
| 2. No | 18 |

Source: CESES, 2004

And what exactly does this commitment mean? In particular, a responsible and moral behaviour. Therefore, it is fairly paradoxical that just the lack of moral qualities is one of the most criticized characteristics of the elites from the public. Moreover, only one quarter of those asked named among their commitments the ability to be an example, role model for others, or, to lead, which means that merely one quarter of the representatives of the Czech elites spontaneously admit they consciously agree with the opinion that to belong to the elite does not mean only to behave, have good manners but also that the “natural” duty of elites is to lead others, be aware of their “historic mission” (Ortega y Gasset 1993), and, should the need arise, to sacrifice for it. In the cases when the absence of leadership in the answers of the representatives of our elites is not just an unconscious, spontaneous reaction, but the well thought out attitude, can we speak about that the “revolt of the Czech elites” has a very specific character. The reason why is that they are actually revolting against the idea to be regarded as the natural elites. We can name examples galore when in the last fifteen years it has really happened and the representatives of our elites rejected to “have different qualities than other people” or emphasized their plebian...
character. For that matter it is only about continuing in the tradition of the “plebian nation”, which had put down strong roots already during the first Czechoslovak Republic (between the first and second war in the 20th century) and was made even stronger at the time of socialism.

Table 19

<table>
<thead>
<tr>
<th>If so, it makes them committed to ....</th>
<th>The elites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Responsible behaviour</td>
<td>33</td>
</tr>
<tr>
<td>2. Moral behaviour</td>
<td>25</td>
</tr>
<tr>
<td>3. Be example/role model for others</td>
<td>20</td>
</tr>
<tr>
<td>4. Work for the public welfare</td>
<td>8</td>
</tr>
<tr>
<td>5. Lead/guide society</td>
<td>5</td>
</tr>
<tr>
<td>6. Solidarity with the weak</td>
<td>4</td>
</tr>
<tr>
<td>7. Other</td>
<td>5</td>
</tr>
<tr>
<td>8. Does not know/no answer</td>
<td>10</td>
</tr>
</tbody>
</table>

N=756, data in %

Source: CESES, 2004

* The total of answers is more than 100%, because respondents could give two answers.

The representatives of our elites take an ambivalent attitude towards their own selves, when on the one hand fight back the “false” accusation that they are not the natural elites of society, and on the other hand protest that the integral part of their role should also be a demand for them to be different than others, or, to have some notable leadership qualities. The above findings support a very popular hypothesis in the Czech media that the Czech elites in reality do not have any ambitions to lead our society somewhere, but, rather let themselves be affected by the public opinion and gladly give in to it, since they usually lack their own vision at all, or, are afraid of its being made public (because then they would have to take responsibility for it). Since the Czech public is more inclined to the vision of the industrial society full of steaming factory chimneys, the reserved relationship of the elites to their leadership role supports building some industrial “museum or conservation area” in the Czech Republic and undermines a visible modernizing acceleration in the direction to Western (information) societies.

According the previous data about perspective thinking of the Czech elites and public, it could be said that both of these actors try to catching up rather the past of the West than its present or future information society face. This paradox of perspective thinking indicates that they (mainly the public) do not know what is going on in the actual phase of the Czech society development and that this situation is the result of the backwardness or we can say "crisis" of perspective thinking in the Czech Republic in general.
Bibliography

When Aristotle examined the difference between intentional and voluntary behaviour, he reminded us, that an adequate explanation must take into consideration those causes responsible for the phenomenon being explained. Four causes - final, formal, material and efficient - provided a surprisingly solid basis for explaining different kinds of phenomenon. (Juarrero 1999).

Over the centuries the first three causes were discarded little by little, and the efficient cause, which was originally used to describe the forces that bring a thing into being, became the dominant way of understanding causality. Today, this dominance can be seen in many organisational planning and change processes such as, how carefully laid out strategies and plans are used again and again to make things happen because the change is considered known, can be re-engineered and is designed top-down.

This paper seeks to provide a wide framework for reflecting on temporal and qualitative change. Instead of building on, although recognising their influence, Aristotle’s four causes, we suggest that three forces - final cause, sensitiveness to initial conditions and circular cause - and the dynamic interplay between them should be comprehended as the key factors in organisational planning and change processes. We also claim that the notion of sensitivity to final conditions responds to both the focus on sensitivity to initial conditions in complexity theory and the four orders of causation in Aristotelian philosophy.

Final cause can be seen as an important element in acquiring an understanding of structural heterogeneities, in the agglomerates of social worlds, since it helps us to realise how agglomerate systems behave in response to the impact of external realities. The activity of picking up details and patterns is far from trivial, and although the consequences cannot be calculated, they can be at least partly premeditated. Consequently, people’s goal-seeking activities are sensitive to final conditions, i.e. small variations in the occurrence and type of response received from larger environments can dramatically influence how and which contingencies are reframed as the context of this response in the agglomerate. (F. Barth 1992, T. Barth 2005).

Sensitiveness to initial conditions is a property generally attached to CAS (complex adaptive systems). It assumes, that CAS are sensitive to the changes that take place during their initial
phases. Different initial conditions will place a system upon different trajectories and shift it into different evolutions, different histories. In CAS new opportunities will continuously emerge as long as the system does not reach equilibrium. In these kinds of systems events never materialise the same way twice, because they are variables that interact and change in response to each other. (Nicolis & Prigogine 1989, Lorenz 1993, Sanders 1998).

Final cause and sensitiveness to initial conditions have become meaningful concepts for many organisations in their planning processes and change management programmes, because they are relevant conceptual tools for dealing with current issues in the business world. For example, uncertainty and the continuous need to reinvent companies and businesses, the need to move from ambiguity reducing strategies to ambiguity absorbing ones and complex sensemaking challenges. (E.g. Hamel & Prahalad 1994, Brown & Eisenhardt 1997, Boisot 2003, Aaltonen et al. 2005).

To move us onto our third concept, and to finish this presentation chapter, we must consider that most elusive factor; ourselves. People have always been connected to responsive communicative processes within their social worlds, but today increasingly move beyond their initial social worlds: either by networking with their natural environment (Latour 1993), through the Internet and its technological environment (Barabasi 2002), or the weak ties of their social environment (Granovetter 1983). In contrast to Aristotle, we argue that in these kinds of circumstances it is circular causality, i.e. how connectivity and feedback influence evolution, which is the dominant type of causality.

**Time, Information and Change**

Henri Bergson (1911), states that we endlessly recreate ourselves over time and mature via changes experienced in our existence. Our present state is thus a combination of all the pasts remembered at the present situation, and the future is formed by projecting into the future what has been perceived in the past, or by imagining a new order of those elements.

![Interaction between the world and a person or institution](Adapted from Bergson 1911).
Due to the fact that conceptions of time are culturally dependent, time is certainly a complex issue. However, calling a system or a concept “complex” does not take us very far. Niklas Luhmann (1990) would perhaps remind us, that complexity theory becomes meaningful when we are able to define and to reflect on differences, especially in a system and its environment, or in this study, the concepts of past, present and future.¹

The present moment can be seen as a temporal point where the observed outer image and the inner image meet (e.g. Dennett 1991, Damasio 1999). An important notion concerning this nexus between past and future, has been presented by Matti Kamppinen (2000), who used an ethnographic survey to demonstrate, somewhat surprisingly, that most people view the present moment to last from only 1 to 20 seconds. This survey pinpoints the significance of understanding history and imagining the future for any serious long-term work, or for human life generally.

The notion of “mean-time” widens our view on time in two ways: Firstly, it helps us to conceptualise duration so that it is comprehensible to our every-day life, especially organisational life that takes place in the form of projects and processes. Secondly, it clarifies the opposite ends, the entrance and the exit, of phase transition giving a sliding duration to the concept of now. The intention of mean-time is to capture the time between the start of the project and the closing of the project, and also to be able to bring, and keep, simultaneously together the right forces for completing the project. The mean-time of knowledge work is therefore the time of the running or ongoing activity, and it has been coined to emphasise the process of working. (Ricouer 1966, T. Barth 2005).²

To focus directly on the nexus between past and future, we consider Mikhail Bakhtin’s (1981) metaphor “chronotope” (literally place in time). It is the place where the knots of narrative are tied and untied, the place where emergence - and immergence occurs, the place where new properties appear or disappear in the course of organisational development.

Bergson’s ideas are useful in connecting time to information and from that to change and emergence. If the ideas about future and future actions derive from information and experiences gained from the past and the present, then any successful actor needs to have a somewhat broad experience of the world he interacts within, and an ability to learn; an ability to update his/her memory in a cycle fast enough to keep up with the changing environment.

¹ Time-series A and B by Ellis J. McTaggart (1908) are generally considered significant in the Western tradition of thinking about time. Time-series A divides the temporal world into the past and the future, which are separated by the present moment. In time-series A, the world as a sliding duration is tied to the subjective experience of the present moment „now“. Time-series B instead deals with measurable moments of time, e.g. with a help of a clock or a calendar. Time-series B represents objective time, its events are fixed in respect to time and they take place before or after a certain moment. (Bell 1997, Knuuttila 2000, Kaivo-oja et al. 2004).

² The concepts of time series A and B as well as mean-time can be seen complementary to the concepts of the first and second law of thermodynamics that also explain time. The first law assumes that you cannot create or destroy energy, but can only change it from one form to another. With the first law there is no time; past, present and future are indistinguishable. The second law - in all natural processes the entropy of the world increases – in a one-way flow and basically introduces the basis for telling differences.
Path Dependence Theory Revisited

Path dependence theory contends that decisions made in the past are likely to have long-term impacts by postponing, limiting and binding future alternatives. Path dependence theory has been used by economists, especially by those involved with evolutionary economic theory, but path dependence theory is also accompanied by mathematical literature on nonlinear models, chaos and complexity models, from which the term and concept of sensitiveness to initial conditions derives. (Nelson & Winter 1982, Magnusson & Ottoson 1997, Garud & Karnoa 2000).

Path dependence is one type of causal theory. It makes more explicit some of the vital elements of the decision-making processes through which the future is supposed to emerge. Three degrees of path dependence have been recognised: 1) there exists sensitivity to initial conditions, but with no implied inefficiency, 2) there exists sensitivity to initial conditions, that leads to outcomes that are costly and regrettable, 3) there exists sensitivity to initial conditions, and there exists or has existed some feasible arrangements for achieving the preferred outcome, but that outcome was not obtained. (Liebowitz & Margolis 1995).

We can move forwards and backwards along path dependence theory by using scenarios and counterfactuals. Scenarios are future-oriented as they focus on what might yet come to pass, while counterfactuals are narratives of what might have been. Scenarios and futures thinking generally, assess routes to ask what kinds of possible paths lie ahead? Counterfactuals and past-oriented thinking bring alternative history up-to-date and ask how the alternative present differs from our own. Counterfactuals are characterised by “What if?” and “Even if?” questions. (Bulhof 1999, Rosenfeld 2002, McCloy & Byrne 2002).³

³ The main rule in these kinds of exercises seems to be finding a divergence point, i.e. a point in time that is plausible, definite, small in itself, and massive in consequence. (Shippey 1997, Hellekson 2000 & 2001). Harry Turtledove (2001) points out that the establishment of a historical breakpoint is only one half of thinking about alternative histories. The other half, the more interesting and difficult one, is imagining what would spring out from the proposed change.

Figure 2: Path dependence and decision-making
Path dependence theory has been criticised for underplaying the contingent unintended nature of outcomes from arenas of conflict and co-operation in organisations, and relying too heavily on deliberate causation (v. Wright 1986, Scarbrough 1998). This criticism has also been levelled at the extrapolation of a single element, or a few elements, that are set against an unchanging background (Suvin 1979) and the difficulties of dealing with complex chains of causality and of potentially intractable combinations of deterministic and contingent elements within actor-network (Ayres 2000).

In evolutionary processes the next step is always the most important one, there will be no future for a system, if it does not survive from the next step nor if it endangers its own environment (c.f. Luhmann 1990). As much as we are path dependent, i.e. to succeed and survive our actions must fit into our environment, we are also path creators, the choosing of one path automatically postpones, limits and binds other possible paths. In the relationship between a system and its environment, the path dependent - path creator dichotomy shows that a system has the ability to respond, as well as to be adaptive to its environment.

In organisations, and other social systems, the next step is always constrained, but not determined, by the particular context it is situated within. This might be considered an argument that supports the existing path dependence theory, but if at every next step it is possible that the structural properties of the social system may or may not be renegotiated, then in this kind of reflexively constructed social world, the logic, and the causal relationships and interdependencies that have constructed past success or failure, are constantly under revision and path dependence theory could be revisited. (C.f. Introna 2003).

We assume, that if path dependence theory could be theoretically built on the epistemological and ontological assumptions conveyed by the three forces (final cause, sensitiveness to initial conditions and circular cause) and the dynamic interplay between them, then the methodological and practical consequences would be more sensitive to today’s organisational planning and change management challenges.

**Discussion**

**Sensemaking.** Karl Weick (1969) argues that the world becomes intelligible through our processes of “punctuation and bracketing”. In essence previous experiences allow an actor to select certain aspects from the ongoing flow of events (punctuation) and provide frames (bracketing) that explain the world. Weick continues by arguing that “punctuation and bracketing” contains a “touch of realism” because sense formed in this way is reliable for the sense maker and it is relatively static. (Hopkinson 2001).

The idea of “punctuation and bracketing” has drawn attention towards three issues: 1) how evidence is implicitly and explicitly extracted from the ongoing flow of events, and 2) what are the frames, lenses, or mental models (c.f. Boland & Tenkasi 1995, Griffith 1999) to which the evidence is attached to, 3) and how are the previous two issues are joined together? This is important because every time an actor is unable to place a piece of information in a context the meaning of that information is lost (Aaltonen & Barth 2005).
Concomitantly, narrativity\(^4\) becomes an essential element of sensemaking. Each moment sensemaking is anchored in time and space in a particular “chronotope”, we are able to move across time and space by bridging gaps inherent in the human condition – i.e. moving between times, spaces, people and events. The reason why stories are considered so important is that they are capable of expressing a sequence of events connected by subject matter and related by time and of doing so in both the chronological order and the causal order of a sequence. By “punctuating and bracketing” certain people and events stories overestimate certain causal ties, and underestimate others.

In every situation there are stories that compete with other stories purportedly constituted by good reasoning, stories that satisfy the demands of narrative probability and narrative fidelity. (Fisher 1987). The world can be seen as a set of stories from which we must choose the correct ones in order to live our lives in a process of continual re-creation. Good stories cause action, bad stories remain negatively influential, but if sensemaking is understood as an ongoing process of negotiation, the future is story-driven\(^5\), and is driven by the best stories.

**Complexity.** Peter Bearman, James Moody and Robert Farris (2003) ask a fundamental question: “when, if ever, do single events change history?” The meaning of a single event is always tied up to its position in a sequence of inter-related events. In building a historical story, i.e. looking backwards in Figure 2, we identify some events as salient, and deny other events as not salient. History involves a selection of events that may be nothing but the placing of thin lines of interdependent causes and events, into a story. Actually, the mechanism of telling a story about past events can be stated in one sentence - *the stronger the story the thinner the history* - and this mechanism drives us to believe that “butterfly effects” do drive history, which in fact is seldom the case.

The truth is impossible, or at least it often escapes us: individuals disappear into collectives, conflicts disappear into consensuses, alternatives disappear into obvious choices, accidents disappear into clear-sighted strategies, multiple events disappear into single thematic events, and the fragility of change disappears into images of solidarity. The truth is more subtle and complex than history, but allowing complexity into the rewriting of history can be a source of innovation and change, as discussed in connection with counterfactuals. (Kanter 1983).

Scenarios and even extrapolations are plausible, and often strong, stories about the future. They are criticized for being ontologically linear, i.e. extrapolating the present landscape, and its causal relationships, against an unchanging background. Instead, the hard and painstaking work of bringing to awareness new developments would demand the rupturing of epistemological and ontological linearity. (Suvin 1979, Parrinder 2000).

\(^4\) Alasdair MacIntyre (1981) states: „Man is in his actions and practice, as well as fictions, essentially a storytelling animal.“ For Walter Fisher (1987) stories play such a substantial role for people in explaining and understanding their lives that he proposes a reconceptualisation of humankind as Homo narrans.

\(^5\) An expression used by Rolf Jensen in a conversation.
Conclusions - Enhancing Sensitivity to Influence Points for the Future

If Niklas Luhmann’s (1984) assertion that the environment is always more complex than the system itself, is correct, then no system or model can be built to correspond fully to its environment.

However, models will serve us in exploring prospective mechanisms and constraints. And by referring, complementing and criticizing earlier models, in this paper the path dependence theory will allow us to learn about relationships and factors that influence emergence and immergence in the course of organisational development.

In this paper, an alternative epistemological and ontological basis for the Aristotelian four orders of causation was presented. *Final cause, sensitiveness to initial conditions and circular cause* and their interplay were used to form a wide framework for enhancing our sensitivity to influential points, both temporal and qualitative, when trying to determine the future.

Two major conclusions can be drawn. Firstly, there is an irony in the natural emphasis placed on stories as efficient tools for sensemaking because strong stories about history and the future create attention and cause action as they are reductive in their nature. Thus there is a need to integrate multiple views into the path dependence theory and into sensemaking, to add sensitivity to changes. Secondly, path dependence theory drives us towards seeking unobtainable goals, because the essential properties of *final cause, sensitiveness to initial conditions and circular cause* and their interplay pinpoint that there exist continuous changes in causal relationships that influence emergence and immergence. Therefore an understanding of long, or even medium-term periods of time remain problematic. Consequently, these kinds of environments require approaches that are reflexive, self-critical and nonlinear.
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Framework Forecasting.
Managing Uncertainty and Influencing the Future

Peter C. Bishop

Overview

The methods of futures studies deal with change in all its variety, and for two purposes: to understand change and to influence it. Understanding change means describing expected and other plausible future states, for which we need to prepare. Influencing change means to bring about the best possible future for ourselves and others given the time and resources we have available. People who understand the dynamics of change and the changes that are going on around them are not often surprised. People who then influence those dynamics toward their vision of a better future will have a greater change of getting that better future.

The two big divisions of futures studies, therefore, are forecasting and planning. Forecasting is the cognitive aspect of futures studies, knowing which futures are plausible; planning is the action side of futures studies, working to bring about a better future.

Forecasting results in two types of forecasts: baseline and alternative. A baseline forecast is the extrapolation of present conditions and trends into the future. It is also called the expected or surprise-free forecast. It would be the future that would occur if nothing really surprising or interesting occurred, if present trends continued uninterrupted. No one really expects the baseline forecast to occur, at least futurists don’t. But it is a useful place to begin the forecast. Knowing where we are headed gives us a departure point to talk about the other and more interesting forecasts, the alternatives.

Alternative futures happen when the baseline does not. As a group they are more probable than the baseline even though each of them individually is less probable than the baseline. The total of all futures, baseline and alternatives, is represented as an expanding cone. The longer the time that elapses, the less probable the baseline becomes and the more probable something else will occur. In the far reaches of the cone, enough time passes to allow unexpected events or issues to turn the trajectory of the future one way or the other.

The cone has limits, however. It does not include all possible futures. That would be too much to handle. Rather it includes plausible futures, those with a probability of occurrence somewhat larger than zero. The distinction is purely subjective, but the operational definition of a plausible future is that someone could tell a story about how it comes about and reasonable people would admit that they could see it occurring. They do not contain any fantastical leaps of imagination or violations of the known rules of science. There are plenty of plausible futures to consider without getting into all the possible ones, too.
The appearance of an alternative future usually signals the end of the current era and the beginning of new era. Eras are coherent periods of time characterized by equilibrium conditions in which change occurs incrementally. Eras are bounded by events that disrupt the equilibrium and generate a largely new set of conditions and trends. This overall approach to change is called punctuated equilibrium, first development by Niles Eldredge and Stephen Jay Gould to describe the episodic character of biological evolution. It is useful to think of all long-term change in terms of eras, however, because it places the present into an on-going historical context that contains both continuous and discontinuous varieties of change.

Framework forecasting is a process for categorizing information and placing the categories in relation to each to generate the expected (baseline) forecast and a series of alternative forecasts (scenarios). The process begins with a characterization of the present era--when did it start; what are its conditions and trends? It then explores the forces of change, beginning with trends which, after a while, generate the expected future. Discontinuities are then introduced in the form of plausible events, emerging issues (issues that have not yet made the news) and new ideas. The discontinuities are collected into dimensions of uncertainty, each of which has the potential to kickoff a new era. The result is a baseline forecast and scenarios of alternative forecasts whose implications can be explored for opportunities and threats to the enterprise in question.

The Framework consists of five sections describing the Domain, as listed in the appendix:
- Definition
- Current assessment
- Driving forces and the baseline future
- Discontinuities, Uncertainties and alternatives futures
- Information sources
Domain definition

The forecast is always about a Domain, an area of interest for the individual or enterprise doing the forecast. Just about anything with a future can be a Domain from global warming to toy sales. The first section defines the Domain—what is included in the Domain and, sometimes, more important, what is not included. So in the Domain of telecommunications, for instance, one would need to explicitly state whether broadcast communications were included or not. If not, the Domain would only include interactive, two-way communication like telephone or Internet. The reason for defining the Domain precisely is to bound the forecast and not spend time collecting information that is not part of the Domain. Most Domains will be large and complicated enough without including unnecessary elements.

The Domain Definition also includes the Time Horizon for the forecast. The Time Horizon is the longest future time to be considered in the forecast. It is analogous to the spatial horizon—that is, „as far as the eye can see.“ Forecasts of the economy for 2010, for instance, would be quite different than those for 2030.

Summary

The most important item in the whole Framework Process is the Summary. Although the Summary appears early in the document, it should be completed at the end, once all the other sections are complete. The Summary is the opportunity to look over all the material about this Domain and select those items that are most important for understanding its future. It is easy to get lost in the details because the Framework Process is so information intensive. The Summary prevents the product from being just a mass of facts.

Good candidates for the Summary are surprising bits of information, important implications from the baseline, interesting scenarios developed, and significant information sources. The Summary contains the highlights of the best material in the Framework.
Current Assessment

The first detailed section is the Current Assessment, basically assembling the pieces and the recent history of the Domain. This section provides a snapshot of the Domain in the present. The next sections will put that snapshot into motion. Even though it appears simple and straightforward, the Current Conditions section is a difficult category to define. It contains all the structural elements that an individual would need to know in order to understand the Domain. In the Domain of petrochemicals, for instance, it might include the total annual sales, perhaps by major product category and by application area. It could also cover applicable standards or regulations that govern actions in the Domain.

The Current Assessment also includes the Stakeholders, the individuals and enterprises that work in and could affect the future of the Domain. In petrochemicals again, the Stakeholders would be the primary producing companies, their suppliers and customers, service providers like transportation companies or equipment manufacturers, government regulators and not-for-profit groups like trade associations or environmental organizations. The Stakeholders contain all the people involved in the Domain just as the Current Conditions contain all the quantities and structural elements.

The purpose of the History section is to identify the Previous and Current Eras of the Domain. An Era is a generally cohesive period of time that begins and ends with discontinuous Events. So the Cold War was a Previous Era that began with the Events of 1946-49, such as the Berlin Airlift and the Soviet acquisition of nuclear weapons, and ended with the Events of 1989-91, such as the fall of the Berlin Wall and the Soviet Union itself.

The period within an Era is called the Equilibrium period, a quieter time when Trends shape the future and incremental change dominates. The periods of Discontinuity and Equilibrium together form a model of change called Punctuated Equilibrium, a term borrowed from the study of biological evolution. Contrary to what Darwin thought, that biological evolution proceeds smoothly, the fossil record shows that significant change in biological capability is infrequent yet rapid when it does occur. So the era of the dinosaur ended 65 million years ago in the fiery catastrophe of a meteor that hit the earth. With the dinosaurs out of the way, the mammals could exploit ecological niches Previously closed to them, ushering in the current biological era. Paleontologists have actually recorded five such Great Extinctions in the history of the planet. The model applies equally well to economic, political and even socio-cultural Domains.

The two areas of concern in the Framework is the Previous Era and the Current Era. The Current Era is more difficult to define because we do not have historical perspective on the present and because we do not know how it will end. Geopolitically, the Current Era might be the Age of Terror of the Conflict between Islam and the West, beginning with 9-11. Economically, it could be the Age of Globalization, beginning with the fall of the Soviet Union and the dominance of capitalism as the preferred economic system throughout the world.

Although difficult, it is nevertheless important to try to define the Current Era and how it began because the Current Era captures the “spirit of the times” and, most importantly from a forecasting perspective, it captures most of the major Trends and Issues that are shaping the future. When the era changes, however, those Trends and Issues go away or change significantly. So in the Cold War, the nuclear issue was how many nuclear missiles the U.S. and the U.S.S.R. had pointed at each other. In the Current Era, nuclear weapons are still an issue, but now the issue is nuclear proliferation.

Comparing the Previous and Current Eras can also be highly illuminating. In fact, people and institutions are usually struggling with the Trends and Issues of the Current Era, but they
are using the ideas and tools of the Previous Era. Making that comparison explicit reveals the novelty of the Current Era, and it allows us to jettison old ideas and habits more readily in order to confront the Current Era on its own terms.

A simple device for doing such a comparison is a small chart that requires people to identify the differences between the Previous and the Current Eras.

*Table 1: Old Era vs. New Era*

<table>
<thead>
<tr>
<th>Discontinuous Event:</th>
<th>Old Era:</th>
<th>New Era:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions, Arrangements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trends</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issues, Conflicts, Controversies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responses, Strategies, Plans</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An example of a discontinuous event that started the Current Era in information technology might be the release of HTML and the creation of the World Wide Web (~1993-4). The comparison between the era before the World Wide Web and the era after it would look like this:

*Table 2: PC Era vs. Internet Era*

<table>
<thead>
<tr>
<th>Discontinuous Event:</th>
<th>Creation of the World Wide Web</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Old Era: PC</td>
</tr>
<tr>
<td>Conditions, Arrangements</td>
<td>Print</td>
</tr>
<tr>
<td>Trends</td>
<td>More paper, mail</td>
</tr>
<tr>
<td>Issues, Conflicts, Controversies</td>
<td>Cost Distribution</td>
</tr>
<tr>
<td>Responses, Strategies, Plans</td>
<td>Push In-house development</td>
</tr>
</tbody>
</table>

Those comparisons are commonplace today because the Internet era is more than 10 years old, but more insight could be gained from Domains that began more recently, like the Wireless Era, or the Genomic Era, or the Age of Terrorism. Those Eras are not so mature that we are fully aware of their import or of the appropriate responses and strategies required to be successful.

In fact, some Eras are so new that the Domain may be in the midst of the short-term effects of its opening Discontinuity when the Framework is constructed, but that is rare because Eras are long compared to the turbulent times that get them started.

In many Domains, it is possible to identify more than one Discontinuity that began the Current Era. Multiple Discontinuities indicate that the present is layered with a number of equilibrium periods. For instance, the Current Era of public education in the U.S. might have
begun with the publication of *A Nation at Risk* (1983), a study that described the deplorable state of public education throughout the country, or with the arrival of the Internet (~1994), a communication medium that could change the very delivery of education itself, or the passage of the No Child Left Behind Legislation (2002) that required standardized testing in all states. All three are significant Events in the recent history of public education in the U.S., and together they all define the Trends and Issues in the Current Era.

The History category, however, is not a complete history of the Domain. Such an exercise might be interesting, but it would not be especially relevant to the Domain’s forecast. Events and Trends involved in Eras before the Previous one have usually faded from consciousness, and though their residue may continue to shape the present, their effect is not as strong as the Events and Trends in the Current Era. Thus a complete historical study of the Domain is different from and generally unnecessary in constructing a forecast.

Finally, the Current Assessment also lists those quantities, structures and Stakeholders that are likely to continue unchanged throughout the forecast period. Forecasting is about change, but change occurs in layers—from the daily toing-and-froing record in the daily newspaper and even more frequently on the 24-hour news channels, to the medium-size changes that take months or years to play out, to the truly deep currents that take decades to have an effect. Beneath even the deepest layer of change lies a layer of constants, things that are changing so slowly or not at all that they can be considered static for the purpose of the forecast. In the petrochemical Domain, for example, one would consider the need for plastics and for the financial system that accounts for it as constant throughout the forecast period. That is not to say that the elements cannot change in some unlikely set of Events, but the probability is so remote that one cannot consider them in depth and do justice to the more significant changes within a limited time and effort. The Constants are also called the boundary conditions in systems modeling—the conditions around the boundary of the Domain that are unlikely to change during the period under study.

The Current Assessment is the snapshot of the Domain as it exists today. The elements in the Current Assessment tend to be unremarkable. Nevertheless, it is good to articulate what they are so that any questions or Issues concerning the Domain can be raised and dealt with, particularly the assumptions about what is likely not to change in the forecast period. With the snapshot taken, we set the Framework in motion with the consideration of the driving forces of change.

**Baseline forecasting**

Putting the snapshot in motion requires a consideration of the drivers of change. The three basic drivers of change in this theory are Trends, Events, Issues. Trends and other relatively predictable drivers of change lead to one type of future, the expected or baseline future, and the other drivers lead to other futures, the plausible alternative futures. Together they describe the major regions at the end of the cone of plausibility, an ever-expanding region of alternative futures as time goes on. The big difference between Trends and the others is the degree of uncertainty. Trends do reverse themselves, but rarely. Hence they are fairly predictable. Potential new Events, emerging Issues and new Ideas, however, are quite unpredictable. Trends, therefore, lead to the expected future, called the baseline, at the center of the cone and intervening Events, Issues and Ideas can twist and turn the trajectory to some other region in the cone. Hence we deal with two types of futures—the expected and the alternative futures.
The expected future is called the baseline because it is the fundamental future with no surprises. It is more likely to occur than any of the other single futures, but it is not likely in itself because of all that could intervene in the meantime. (As Herman Kahn once said, “The most likely future isn’t [likey].”) It is called the baseline because it is good place to start, as the surprise-free default future against which we develop the more interesting alternative futures.

Listing Trends that drive the expected future is usually not too difficult. In fact, selecting the most important ones from the vast number proposed is usually more challenging. One must guard against two dangers, however, in proposing Trends. The first danger is to select almost all negative Trends or Trends that lead to unpleasant futures. Is this a human trait to imagine negative futures first? Perhaps so, but for whatever reason, it occurs all the time. It is doubly strange that we think of negative Trends much more readily than positive ones given the overall progressive view of change in Western culture.

It is perhaps this primeval view of change, that any change in the stable societies in which our most basic instincts evolved would be negative, that sees catastrophes more often than opportunities even in this modern world. In selecting Trends, therefore, it is important to balance the bad with the good. Although we rarely feel it, good things do happen. Positive and negative Trends do not have to be exactly equal, but the positive should be strongly represented nevertheless.

A second tendency is to draw Trends from certain sectors of society, especially the technological. The American or Western view of change sees technology as the big driver, particularly during these heady days of the electronic revolution. But technology is only one of five or six sectors of change. The list of sectors varies by individual or enterprise. The most common list is the acronym STEEP—Social, Technological, Economic, Environmental, Political. We use STEEP because we can pronounce it, but it may be too brief. Some would also include a Demographic category, others might include a Legal one, still others an Information category. Some would even group the Trends into their major categories or extend the form itself to the right by adding columns for each of the STEEP categories. Whichever set one uses, the Trends should be distributed across all categories. Again they do not have to be equal, but there should be representatives in most categories.

Four other drivers contribute to the development of the baseline future: Constants, Cycles, Plans and Projections.

- **Constants** remind us that not everything changes before the arrival at the time horizon. Hence some of the elements of the baseline future will be the same as they are today. In fact, most things do not change, but identifying the most important constants is not trivial. In fact, directly after articulating some constants, others will think of ways in which they might change. So the discussion of constants is an excellent probe into the assumptions of the baseline forecast.

- **Cycles** are predictable oscillations of some variable. So the seasonal cycle of sales, the boom and bust of different commodities, or even the swing from one political extreme to each other can be part of the baseline. It might be impossible to predict where in the cycle one is at the time horizon, but at least, the repetition of cyclic variables is not confused with the secular increase or decrease of trends.

- **Plans** are intentions to act. They are announced by individuals, organizations or governments. People who announce plans do not always carry them out, but they are usually sincere in their intention to do so. Hence they represent a driver of the future. A government’s plan to reduce taxes or to start a new program is not guaranteed to occur, but it is more likely having been announced than if it were just a possibility.
• **Projections** are forecasts of the baseline future made by others. Again these are not guaranteed to be accurate, but most forecasters are technically qualified and generally good at describing the baseline. Projections also increase their own likelihood by the process of self-fulfilling prophecy—i.e., what people believe is going to happen is more likely to occur than if they do not believe it will happen. Self-fulfilling prophecy may be stronger or weaker in different Domains, but the projections themselves and their effect on the future is important for understanding the baseline.

The baseline then is the result of Constants, Trends, Cycles, Plans and Projections that create differences in the future. The top 5 to 10 of each type should be included in this section. The baseline future is the result of these driving forces and their consequences for the Domain being forecast. It is sometimes hard to distinguish a trend or a plan from the baseline future. Trends and plans, however, exist in the present. They are changes or intentions going on today. Describing the baseline requires extrapolating these Trends and Plans into the future the way projections do. It is a subtle difference, but an important one. The most important realization is not just that Trends will continue, but that the future will be quantitatively and qualitatively different as a result. Highlighting the most important differences is the beginning of understanding the future.

**Alternative futures forecasting**

A funny thing happened on the way to the baseline future--something else happened instead! That is the essential problem of forecasting. We can tell very well where we are headed, but no one really expects to get there. Something will happen between now and then to upset the most elaborate and well-supported baseline forecasts.

Can we tell what that will be? No, but we can guarantee that something will. What is one to do then? Give up the forecasting enterprise entirely? Hardly. Rather we explore the range of variation in plausible futures by focusing on the Uncertainties in the baseline forecast.

The beauty of alternative futures forecasting is that we don't even have to get all these Uncertainties right, though the better they are the more interesting and useful our alternatives will be. But even if we don't get the „right“ alternatives, we are at least considering some of them. The effect is to remove the illusion of certainty or determinism, that feeling that we know what is going on and we can tell where we will end up. Plausible alternatives show that one can't be positive that the baseline will occur--hence the need for flexibility, contingencies, creativity. That attitude, more than the right alternatives, will prepare enterprises for the unknown and the uncertain.

Uncertainties arise from the other drivers of change--potential future Events, emerging Issues, and new Ideas.

• **Events** clearly change the future. Eras begin and end with Events as described above. If they happen, you get one future; if they don’t you get another one. Will there be a major economic recession? Will the atmosphere suddenly shift into another warmer or colder mode due to greenhouse gases? Will AIDS mutate into another more communicable form? Will scientists develop the means to retard aging? Any of these Events could shape the future dramatically. The Events specific to the focal Domain have the same power and the same degree of unpredictability.

• **Issues** also have the power to shape the future. Resolving current Issues one way or the other could make the future different. Issues on the agenda today include U.S. involvement in the
rest of the world, free trade or protectionism, assistance for or competition with the world’s
developing countries, universal health care, endangered species. Other Uncertainties arise
from what are called “emerging Issues”--Issues that have not yet appeared on the public
agenda. As with Events, emerging Issues are inherently uncountable, but some are more
apparent than others. Emerging Issues are not unheard of, but they are not receiving the
attention they could. The difference is a framing event, an occurrence that propels the
issue onto the public agenda. Books or studies might be such an event. Dr. Jim Hansen’s
testimony on the reality of ozone depletion before Congress in 1989 was just such an event.
9-11 put terrorism on the world’s agenda; Iran and North Korea did the same for nuclear
proliferation. Emerging Issues have a way of significantly changing the direction of the
future after they become framed.

- Finally, Ideas also have power to change the future. “There is nothing as practical [or as
powerful] as a good theory” (Kurt Lewin). New Ideas have shaped history--religious ideas
contained in Christianity and the other world religions; political and economic ideas of
monarchy, democracy, socialism, communism, mercantilism, capitalism; social ideas like
human rights, freedom of the individual, freedom of the press and assembly. New Ideas in
the focal Domain can also shape its future--welfare reform, market-oriented solutions for
environmental problems, charter schools and vouchers. Where do new Ideas come from?
Who knows? But when they appear, they can have a profound impact on the future--hence
their ability to kick off alternative paths to the future.

Images of the future are also ideas that shape the future. Elise Boulding, herself a proponent
of powerful positive images of the future, describes Fred Polak’s argument about how images
shape the future –

According to Polak, the human capacity to create mental images of the “totally other” - that
which has never been experienced or recorded - is the key dynamic of history. At every level
of awareness, from the individual to the macrosocietal, imagery is continuously generated
about the not-yet. Such imagery inspires our intentions, which then move us purposefully
forward. Through daily choices of action, individuals, families, enterprises, communities,
and nations move toward that which they imagine to be a desirable tomorrow. – “Why

So the Uncertainties about the future are numerous and unknown. A list of the most important
Uncertainties, however, is a valuable asset because they together identify the most important
alternative futures, those with the greatest impact on the Domain. The Key Uncertainties are
chosen using two criteria--impact and unpredictability. Impact is straight-forward--which
Events, Issues or Ideas would change the baseline the most if they were to occur.
Uncertainty and Unpredictability

Judging unpredictability or uncertainty is a little trickier. The problem arises from the fact that most people confuse uncertainty with probability. "Highly probable events are also highly certain," they say. "Therefore, highly improbable events are also highly uncertain." The first statement is true, but the second is not. The problem is illustrated in this figure.

While highly probable events are quite certain and predictable, highly improbable events are also predictable. They are predictable because they probably will not occur. It's the Events in the middle of the distribution, the moderately probable, the 50-50, that are the least predictable.

We have been taught all our life to avoid such Uncertainties because up to know, we have not known what to do with them. Since we could not predict their outcome, we were at a loss for what to say. In the methodology of alternative futures forecasting, however, Uncertainties are the most important element. They create the alternatives that make up the rest of the cone of plausibility. Without uncertainty, the future is just the baseline. Without uncertainty, the future is already determined. But then where is our chance to influence the outcome? What do we do about an already pre-determined future? So in alternative futures forecasting, we search for important Uncertainties, and we use them to explore the cone of plausibility.

The development of scenarios is a whole methodology of its own that can be incorporated into the Framework Process, but it does not have to be. Rather the scenarios in the Framework can just be brief suggestions of how the future may turn out given the Uncertainties. The purpose is to be aware and to agree that many futures are plausible and that the baseline future is not guaranteed. Indeed one of the alternatives will probably happen instead. So proceed with caution, be flexible, be alert to the signals of change, act contingently so that actions taken can be revised and amended when new information appears.

Leading Indicators

Finally, the alternative futures section concludes with attention to Leading Indicators. While futurists revel in the Uncertainties of the long-term future, those items will not be uncertain forever. As the future gets closer, they will resolve themselves into a singular present (or at least that is the way we think about it). At any rate, Events that don’t happen, Issues that don’t appear, Ideas that are not created pass off to the side much like the hazards to navigation (rocks, buoys, other ships) pass off the side of vessel in motion. So knowing as early as possible how the Uncertainties are resolving themselves is the key to navigating the waters of the future.

Leading Indicators are the focused information that will tell how an uncertainty is resolving itself. It is a set of precursor Events or statistics that point toward one alternative rather than another. What are the signs of impending recession? What indicates whether or not the have/have-not gap is growing or shrinking? How does one tell whether other countries resent the
U.S.’s position in the world more or less? As opposed to scanning, which takes in everything relevant to change in the Domain, Leading Indicators are very specific, targeted pieces of information with a clear link to one alternative future or another. Some even use a special term for watching Leading Indicators; they call it monitoring as opposed to scanning. Scanning uses the radar image; monitoring uses the image of pilot or nurse who monitors their instruments for any signs of change. Change (or stability) in the Leading Indicator gives a clear signal toward the increasing likelihood of one alternative future or another. Leading Indicators are the signposts along the way to whatever future ultimately prevails.

Alternative futures then balance the baseline. The baseline is the expected future if nothing really surprising happens; the alternatives contain the surprises. The real future is a combination of both. Many elements of the baseline will come about, but not all. Speculating on how the baseline could be wrong is the source of flexibility and creativity in approaching the future. We need both the momentum of the baseline and the surprising developments of the alternatives to appreciate and prepare for the real future when it finally becomes the new present.

**Information sources**

This last section catalogs the most important information sources used in the Framework to date (research) and the sources that will be most useful in the next phase (scanning). The Framework is the sum total of what is most important to know about the future of Domain at the present time. Scanning is the on-going effort to keep up with new changes, ultimately to keep the Framework current. So anything that might change the Framework, even in the slightest detail, is a worthy scanning hit. Scanning in turn provides the material to adjust the Framework to new changes that occur after it was originally created. The Framework therefore is a living document, periodically reviewed and revised in light of recent change revealed by scanning.

The information section lists where information about the Domain and, more importantly, where change and the future of the Domain are presented and discussed. Information about change exists in standard publications like texts and periodicals. It also resides in the human sources of information—individuals and organizations.

Websites, the ubiquitous source of information these days, also contain a wealth of information. Important and useful websites come in two varieties: portals contain links to many other websites in the Domain; destinations contain the best information themselves. Portals are characterized by many links going out of the website. They are often nothing more than a long list of links. Destinations are harder to determine since they are linked to by many other sites. One can tell a good destination site, however, by use the Google “link:” command. Entering “link:URL” into the Google search box lists all the sites that link to that URL. The more sites that link to that site, the better a destination site it is.

One note of caution: It is easy in this electronic age to fool ourselves that all information is contained on the Internet. (For a good overview of this issue, consult “Overcoming ‘Net Disease’: The risks in depending solely on the Internet for CI research,” by Chuck Klein available. While the Internet is vast and growing rapidly, some of the best information is still obtained from other sources, notably experts. Experts know things about the Domain that have not yet been published. True, in-depth forecasts will always require querying the experts for what they know.
The benefit of listing the most important information in the Framework categories is more than just a repository for good items. It also requires input and agreement from others. There is nothing like a good list to raise assumptions and resolve issues among a group of people who believe that they agree with each other. For the most part, they probably do, but it’s the little disagreements that may grow into broad conflicts down the line. Thus the Framework document is more than just a way to categorize information. It is also a method for articulating and coming to consensus on a group’s images and drivers of the future. That consensus can be a powerful means to align and work together for their common future. It also a great platform on which to build strategy and action—a platform that can also be modified as conditions change.

There is nothing in the Framework Process that is controversial or even novel. Taken together, however, building a Framework can be the first step to truly understanding the future of a Domain and for getting consensus on that understanding as a prelude to action.

Conclusion
Appendix 1 - Framework Forecasting Specification

This appendix contains the exact specifications for the framework forecast.

**Forecasting Framework:** The basic categories and elements used in forecasting a domain or topic of interest
- A category is a type of information that plays a specific role in the forecast.
- An element is a specific item within a category.

**Contents:** Each category should contain at least one element from each of the following societal sectors that are relevant to the domain: demographic, environmental (nature), technological, economic, political and socio-cultural. Each category should contain only 5 to 10 of the most important items in a standard framework. For more complete frameworks, the category may contain several elements from each sector in a columnar format.

<table>
<thead>
<tr>
<th><strong>Definition</strong></th>
<th>a paragraph that defines the scope of the domain, including what is and what is not in the domain.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A domain definition may include one or more of the following three levels:</td>
<td></td>
</tr>
<tr>
<td>- The enterprise level—the internal environment of the region, organization, industry, or issue that is to be forecast</td>
<td></td>
</tr>
<tr>
<td>- The immediate level—the external environment that directly affects the enterprise in the short- or medium-term. (The stakeholders within the enterprise are usually quite conscious of this level of the environment.)</td>
<td></td>
</tr>
<tr>
<td>- The global level—the external environment that indirectly affects the enterprise in the long-term. (The global level includes the STEEP factors.)</td>
<td></td>
</tr>
</tbody>
</table>

| **Summary** | A short description of the major findings of the study, focusing on interesting or important aspects of the future that the research uncovered. (Not a traditional abstract that merely abbreviates the report.) Develop the summary last as a communication device for people who will receive the framework. |
Each of the following may be divided into any of the three levels (enterprise, immediate/transaction or global) and/or into the STEEP categories.

### Current assessment -- a review of the domain up to and including the present

<table>
<thead>
<tr>
<th>Current conditions</th>
<th>An overview of how the domain is structured and how it operates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Key quantities that characterize the domain</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>The major actors in the domain (individuals and organizations) along with their values, political interests and relationships with one another</td>
</tr>
<tr>
<td>Past events</td>
<td>Recent events within the domain that have created the current conditions and stakeholders with particular attention to recent discontinuities that began and define the current era</td>
</tr>
</tbody>
</table>

### Baseline forecast -- material that describes the difference between the present and the expected or most likely future

<table>
<thead>
<tr>
<th>Constants</th>
<th>Conditions or quantities that are expected not to change before the time horizon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycles</td>
<td>Quantities or changes in the domain that recur, where quantities are in the cycle at present. <em>Can always say “And again...”</em></td>
</tr>
<tr>
<td>Trends, extrapolations</td>
<td>Quantities or changes that move incrementally in a specific direction over a long period of time; the value of the quantity and its rate of change (if known)...Forecasts of specific quantities and their value at some specific time in the future. <em>Can always say “More” or “Less,” or “Increasing” or “Decreasing...”</em></td>
</tr>
<tr>
<td>Projections</td>
<td>Public forecasts that might influence what people expect to happen</td>
</tr>
<tr>
<td>Plans, goals</td>
<td>Announced intention by any stakeholder to create change in the future</td>
</tr>
<tr>
<td>Expected future, baseline forecast</td>
<td>The result of the cycles, trends and plans in the expected or mostly likely future...A description of the most likely future at a specific time, focusing on the important differences from the present and the implications of those differences for the stakeholders in the domain</td>
</tr>
</tbody>
</table>

The extrapolated value of important quantities in the future if constants, cycles, trends and plans continue as expected.
### Alternative futures -- material that describes the difference between the expected future and other futures that might happen instead

<table>
<thead>
<tr>
<th><strong>Trend reversals</strong></th>
<th>Trends that go on for a while, but then they may stop or go in the opposite direction.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unfulfilled intentions, plans</strong></td>
<td>Intentions or plans that may not be realized or accomplished.</td>
</tr>
<tr>
<td><strong>Potential events, wildcards</strong></td>
<td>Expected or unexpected events and wildcards that would disrupt, change and potentially end the current era. <em>Can always appear as a headline in a news source.</em></td>
</tr>
<tr>
<td><strong>Issues, conflicts, controversies, dilemmas, choices</strong></td>
<td>Issues that are currently being discussed and those that could become important (emerging) along with the various ways they could be resolved and the implications of each of those ways. <em>Can always “Should we...” or “Should they...”</em></td>
</tr>
<tr>
<td><strong>New ideas, images, perspectives</strong></td>
<td>People and their ideas that present a new or insightful look at the domain, particularly about its structure, types and rates of change and plausible futures. <em>Something really new or novel, even if unusual.</em></td>
</tr>
<tr>
<td><strong>Key uncertainties</strong></td>
<td>The quantities, potential events, issues and ideas that would have the greatest impact on the future, yet which are least predictable (ie most uncertain) <em>(The key uncertainties are a selection of the most important items from events, issues and ideas above. Key Uncertainties do not contain any new elements that are not listed above.)</em></td>
</tr>
<tr>
<td><strong>Alternative futures, scenarios</strong></td>
<td>Scenarios that represent the most important and different plausible alternative futures of this domain that result from the uncertainties, including major differences from the present, the value of key quantities, and implications for stakeholders</td>
</tr>
<tr>
<td><strong>Leading indicators</strong></td>
<td>Quantities or events that would signal that a key uncertainty is being resolved in one way or another or that one or other scenario is more or less likely to occur</td>
</tr>
</tbody>
</table>
### Information sources

-- lists of relevant items in each of the following information categories

<table>
<thead>
<tr>
<th>Research</th>
<th>Scanning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Texts</strong></td>
<td>Overview publications that describe the structure, statistics and/or future of the domain</td>
</tr>
<tr>
<td><strong>Periodicals</strong></td>
<td>Journals or magazines that report on the latest developments in the domain</td>
</tr>
<tr>
<td><strong>Organizations</strong></td>
<td>Professional, trade or research organizations and institutes that publish relevant material on the field</td>
</tr>
<tr>
<td><strong>Experts</strong></td>
<td>Knowledgeable people who are often consulted about the domain</td>
</tr>
<tr>
<td><strong>Web sites</strong></td>
<td>Sites that contain important information for understanding the future of the domain (portals and destinations)</td>
</tr>
</tbody>
</table>

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### Framework Forecasting

![Framework Forecasting Diagram](image)

- **Information sources**
  - texts
  - experts
  - organizations
  - periodicals
  - websites

- **Current conditions**
  - social
  - technological
  - economic
  - environmental
  - political

- **History**
  - previous eras separated by events/discontinuities
  - the current “era” beginning with the most recent discontinuities

- **Forces of change**
  - ongoing trends
  - potential events
  - emerging issues
  - new ideas

- **Uncertainty**
  - Leading indicators

- **Baseline future**
  - Impacts
  - Implications

- **Alternative futures**
  - Impacts
  - Implications

- **Response**
  - policy
  - plans
  - actions

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Dr. Peter C. Bishop, *Studies of the Future*, UH-Clear Lake
Scenario’s as a Powerful Tool for Public Policy (Especially after 9/11)

Bart van Steenbergen

1. Introduction

As a sociologist I have always been interested in the relationship between the developments in the field of the sciences and in society in the broad sense of the meaning (social affairs, politics, etc.).

It should be emphasized that this relationship is a complicated one, that it is not a simple matter of cause and effect or one of supply and demand: society has its needs and the sciences deliver the products.

It is better to speak here of elective affinity (Wahverwantschaft) to use the terminology of max Weber, of mutually choosing and using each other.

Well, although interesting I do not want to go here into the more general question of that relationship, but become more specific and raise the issue of the mutual influence of societal developments and our field of research: future studies.

What I want to do her is give a historical overview of that relationship, ending with the present.

Here I intend to do two tings at the same time, show how scenario’s are a powerful tool for policymaking and in general for the political debate in society as well as deal with the new request of society to future studies to cope with ( to put it in broader terms than forecast) unexpected dramatic events of which 9/11 was the most outspoken one. Are such events unpredictable and/ or what possible contribution can future studies make in that context.

Well, I think that we agree that future studies, as a more or less defined and organized discipline started after world War II.

Naturally it has a much longer pre-history. Many would see Thomas Morus’ Utopia as the starting point and some would even go as far back as Plato with his vision of the state to mark the beginning of future studies.

Personally I do consider Leonardo Da Vinci the first but also the greatest futurist of all times. He is mostly known for his painting and for the Mona Lisa in particular and more recently as the hero of the Da Vinci code, but I became interested in his drawings with which he shows that he is at least three to four hundred years ahead of his time, i.e. as a Renaissance man he was already anticipating the industrial revolution or broader the modernization process.

This summer I was in Amboise where Leonardo spend the last years of his life upon the invitation of king Francois 1, where I visited his house, now a museum, where you can see not only his drawings ( or better copies of them ) but also the fascinating scale models IBM had made on the basis of these drawings.
Even more fascinating in this context, I found the recent report of the heart surgeon Francis Wells, who has invented a new method to repair leaking heart valves; an invention he only could have made, as he claims, by studying old drawings on this topic by our Leonardo.

Although it is tempting to elaborate on this topic of Leonardo as our champion futurist, I stop here now and go back to my story of today.

2. Post World War II: Unconditional Forecasting

Talking about the outside influence on future studies in the direct post World War II period, one can distinguish two developments.

A. Big companies, especially in the US were more and more forced to make long term investments, i.e. investments of which the profits might only come after ten or even twenty years and that made those companies interested in how the future world and especially the future world of consumers and their behaviour would look like.

B. Secondly the Pentagon became more and more interested in how future wars would be fought or for that matter prevented. Here the invention and the use of the atomic bomb was of crucial importance.

Well these two societal needs (if we can call them that way) have led to a new institution known as the “think tank”, in which large teams of futurists worked together to predict the new world. The main method here was forecasting or more precise unconditional forecasting, mostly based on some form of trend extrapolation.

The most famous think tanks were the Rand Corporation and the Hudson Institute of Herman Kahn, who’s book "The year 2000" which appeared in 1967 was very influential.

I think that there are two reasons why these think tanks lost some of their influence in the following decades, the late sixties and seventies.

Firstly they were strongly associated with the powers that be, with the power elite, or in the terminology of those days the “military-industrial complex”. They (and certainly Herman Kahn) were seen as expressions of “establishment futurism”.

A greater “deathblow” however was the apparent weakness of unconditional forecasts. In the last decades of the 20th century there were many evaluation studies, to see whether these forecasts had become reality and the outcome was highly disappointing.

Not only it came out that forecasts by professional futurists (like the ones of the think tanks) proved not to be better than the ones by others, scholars, and even lay persons but even worse was that forecasts on the basis of sophisticated methods and techniques were not better than the ones on the basis of simple techniques or even what the Germans call: Fingerspitzen Gefuehl.

Nevertheless unconditional forecasting is naturally not fully out and useless. In a fields like demography for example it still makes sense to develop long term forecasts.

In my understanding, an important lasting influence of that first period of the think tanks, was the notion of Herman Kahn: “thinking about the unthinkable,” the subtitle of his book on thermonuclear war.

This notion could and should be seen as an assignment for futurists: thinking about the unthinkable, having the courage, the guts, the imagination and the fantasy to think through till the end (where others might stop somewhere on the road) of what the possible consequences might be of a certain development.

Partly as a reaction to these think tanks and their close relationship with the powers that be, in that period the notion of ”critical futures studies” emerged as everything in the late sixties and early seventies had the label “critical”
Here the names of Johan Galtung and especially Robert Jungk should be mentioned: the last one as the inventor of the so called Zukunftswerkstätte, the “future creating workshops”, a form of participatory futurism where all the parties involved, the stakeholders as we say nowadays, developed alternative plans for the future. This notion of involvement of all parties when important plans are developed can be seen as a lasting influence of that period of critical futurism.

3. The Influence of Ecologism: The Conditional Prognosis

Future studies in the seventies and eighties were strongly influenced by the then newly emerging ecological problematic. Here the first report of the Club of Rome, Dennis Meadows’ ”Limits to Growth” was of crucial very importance and marked the beginning of several waves of global models.

For future studies this Meadows report was particularly important as a form of conditional prognosis. It has often been said that this Limits of Growth- study was a doomsday scenario, but that is a wrong conclusion.

The report indeed gave a grim picture that in the middle of the 21st century the survival of the human species might be in danger, but it never said that this will happen, that this is a prediction or a forecast.

It emphasised on the contrary that this was a conditional prognosis in the so called if...then...form, meaning that only if we continue to pollute, use non-renewable resources etc, then the future of mankind is in danger, but that does not necessarily has to happen, since we can intervene in this process and in fact that has happened since then.

Somewhat exaggerated one could say that whereas the value of an unconditional prognosis is that what is forecasted for the future really takes place, the value of many conditional prognoses is often that they are not taking place, because they function as an early warning, they show the danger of a possible future situation and emphasize that that can be prevented by acting and intervening now.

I do think that these conditional prognoses are important instruments in the toolkit of futurists and should have a lasting influence on the development of futurism. Unluckily however it is my impression that this method has not been used very often anymore since that Meadows report and that it regretful.

4. The growing influence of Scenario’s on Public Policy

Coming closer to our time now, I do see that during the nineties scenario’s came forward very strongly as a tool for policy makers in both the public and private realm.

In the title of this paper I even indicate that we deal here with a powerful tool.

Well in itself scenario’s are not new for futurists. Herman Kahn used the notion already in his book from 1967, be it that he gave it a somewhat different meaning than the way we understand it nowadays.

However it seems to me that it was not before the end of the eighties that scenario’s became an important tool for policy makers.

Let me illustrate this with an example, the situation in my home country, the Netherlands a typical developed European welfare state society.

In general we can say that certainly since World War II, the social sciences in general and future studies in particular have played a rather important role in the realm of public policy.
in my country, even to the extent that I thought that it is normal and general, that a modern government takes its decisions and makes it rules, regulations and laws based on social research (often empirical studies) in the broad sense. However this is not a normal situation in all European countries as I discovered recently when I was in France, where I discussed with my colleagues the relationship between the social sciences and governmental policy, a relationship which seems to be almost absent there.

Back to the Netherlands, in particular since the foundation of the Scientific Council for Government Policy in 1973, long time future studies have become a normal thing in the world of public policy and since the nineties scenario-studies have become very popular especially since the publication of “Scanning the Future”, in 1990, the, also outside the Netherlands widely acclaimed scenario-study on the future of Europe by the Netherlands Central Planning Bureau.

Nowadays we can observe that each ministry, municipality, province or other governmental- or quasi governmental institution (known as Quango’s) that respects itself develops long term-scenario’s.

Future studies in general and scenario’s in particular are seen as an inherent part of public policy and of public policy studies.

However not only in the public sphere, but also in private companies scenario’s are popular.

A good example is Royal Dutch Shell which has a long tradition of making scenario’s and of taking them seriously for its policymaking process.

To indicate how important these scenario-activities are for Shell, the following story.

Recently I received an invitation to attend a meeting in the Hague, where the president of this company, so the highest official, would present the newest Shell-scenario’s.

Unluckily I could not attend that meeting, but my eye was struck by the list of forty invited persons.

Almost all of them were well known Netherlands, representatives of the power elite: the prime minister and half his cabinet, parliamentary leaders, opinion leaders from different NGO’s and journals, captains of industry etc.

This story is meant as an illustration that scenario’s are taken seriously for policymaking in both the public and private realm (at least in the Dutch context) although it is naturally difficult to judge to what extent real policymaking is directly based on these scenario’s. On that level we can hear many complaints by social scientists in general and futurists and scenario writers in particular.

The main functions of scenario’s for policymakers are that they teach to think in terms of alternatives, for they explore alternative possibilities. They reject the often heard notion that there is only one possible way, the one best way; that the present situation and problems simply dictate what should be done.

If you do not adhere to that belief and are of the opinion that there always alternatives, more than one option and that it makes sense to explore several options then the scenario-method is relevant and can be fruitful.

In other words scenario’s break through the notorious tunnel visions, which are so typical for many policy institutions.

Since a good scenario does not only give a vision of the future, but also an analysis of the present and some indications for the road “from here to there”, they are relevant for policymakers to show what possible steps should be taken and choices and decisions taken on the road to the projected/desired future.
5. Nine Eleven and the Weak Signals

Now I finally come to our era, which can be described best as the "post 9/11 era", i.e. it seems that international terrorism and the possibilities of a sudden attack have our western societies in their grip.

Here an appeal is made on future studies to come up with methods to forecast such sudden, dramatic events.

In that context the notion of the so called "weak signals" has gained momentum. Are we able to detect those signals which are basically very weak, but announce dramatic future events?

In the past I have dealt with a similar notion, which I called "the seeds of time". I was inspired for that by Shakespeare and especially his play Mac Beth in which Banquo challenges the three witches by saying:

If thee can look into the seeds of time and say which grain will grow and which will not, speak then to me.

The idea is that we as futurists should develop a sort of antenna to detect those developments which in the present are hardly visible but which may grow out and become very important in the future.

Although there are similarities, the notion of the seeds of time basically deals with relatively slow developments, whereas the weak signals primarily deal with detecting sudden dramatic events in advance.

Although the notion of the weak signals is the talk of the town in futurist land since and under the influence of 9/11, I am not impressed by it as a new tool for futurism.

However I found the related approach by Watkins and Bazerman interesting.

These authors claim in their article with the sexy title: "The disasters you should have seen coming", that it is possible for an organization to predict sudden surprising and disastrous developments.

They even have a method or better a recipe for that, which they call the RPM-process, standing for: Recognition, Prioritization and Mobilization.

Organizations should (more than nowadays) invest time and energy in early recognition of possible disasters (compare my notion of the seeds of time), give it a higher priority in the policy of the organization and thirdly work on the mobilization of all workers of the organization to be constantly alert that these things may happen.

In my opinion this does not necessarily lead to a better prediction of those dramatic events, but much more to a being prepared to cope with them when they do occur.

In that context Watkins and Bazerman make a plea for an annual scenario-exercise in each organization.

Well that must sound like music in the ears of scenariologists. Imagine that all organizations of a certain magnitude would have annually a scenario workshop or something like that under the inspiring leadership of "us" scenariologists. Well that would be a new and huge labourmarket.

But now more serious, I do think that these authors have a point here.

Scenario’s have many functions. I mentioned already a few, but we could add that scenario’s would increased our awareness of possible future events and make us prepared for that.

It means that we still cannot forecast 9/11-type of events, but by preparing ourselves for that with the help of scenario’s we shall not be fully surprised and we know much better what to do if such an event takes place.

I do think that the terrorist attacks in London are a good example of what I mean. In the UK there was a long time experience with terrorists attacks, primarily based on the experiences with...
the IRA. So it was less of shock when this terrorist attack in the underground did take place a few month ago.

In this context I find the story of the Austrian bank illuminating.

That bank was developing scenario’s in the late eighties and one of those (a supposedly very improbable one) was the fall of communism in Central/Eastern Europe. When communism did fall in 1989 and 1990, that bank was prepared for that and immediately invested and with great success in the newly opened countries of Central Europe.

In my title I called scenario’s a powerful tool for policymaking.

That has to do with the great variety of ways in which they can be used.

We can use them as tools to explore alternative options, to detect what decisions have to be taken on our way from the present to that projected future, to break through tunnel visions, to stretch our minds and to promote our sociological imagination, to look into the seeds of time as I have called it, but also as the last example has shown how to deal with sudden dramatic events like terrorists attacks, not so much to predict them (I do not believe in that possibility) but to be prepared if they do take place in order to give an adequate reaction.

Bibliography

2. HEIJDEN, Kees van der (1996) Scenario’s. the Art of strategic Conversation. Chichester, John Wiley & Sons
Instead of bold brains, ready to defend fruitful but implausible ideas against majorities, we do have timid gnawers, stubbornly defending the status quo only not to show their insecurities. This defense has now reached its epicyclical stage: details are researched in greatest depth and fractures, holes and rusty spots are being repaired. In order to justify the whole scientific enterprise, only empty phrases are being stuttered.

Paul Feyerabend, Erkenntnis für freie Menschen, Frankfurt, 1980

1. On the history of social sciences

To even only try to sum up the history of the social sciences or to dare to evaluate them is not possible any more, since they have broadened so tremendously, despite their relatively young age. And one would have to differentiate in addition between countries and cultures.

Consequently, the following will only present widely applied routines with some illustrations. Most often, the social sciences are divided into sub-disciplines like psychology, political science, law, economics, sociology, etc., even if such a distinction can not be more than heuristically. The sub-disciplines themselves do not like to be called “sub” and rather claim a specific scientificity of their own. Psychology, to start with, mainly tries to tackle intra-personal and/or group-related problems, including pathologies (leaving sub-sub-disciplines like the psychology of languages or ethno-psychology apart). The totally new problems and tasks which she presently encounters mainly stem from globalization or from those totally new surroundings people are forced to scope with daily. The situation in political science is similar: classical references like states or nations are rapidly loosing substance and nothing really is visible to replace them (neither non-governmental organizations, transnational conglomerates or political-economic unions like the European Union are successful in this respect so far). Law looses her reference to legal principles and national law, whilst matters of power gain importance and bridge over to political sciences as well as to economics. In the same way, legitimacy will have to be redefined. States
as well as military powers have lost influence to economic power (historically, the legitimacy of wars and military interventions were already disputed quite vividly) “national economy” ceased to be regarded as a serious science, but neither do we have theories on world-finances nor on world-economy meriting to be taken serious ...

Probably, “muddling through” is the most prominent “theory” presently, if it merits to be called theory. Her goal is equally easy: “right or wrong, advances in globalizing”. In sociology, finally, there aren’t any bold pipe-climbers any more (like Marxian ideologists, trying to explain the world), empirically working single-track sociologists dominate, meso-level theories like theories on development of third world countries will soon be denounced as speculative or not well based as well.

But two exceptions should at least be mentioned, since they stick to the necessity of interrogating bigger units: the Frankfurt School (the Critical Theory) as well as certain types of Systems Analysis (but definitively not à la Luhmann).

In “proceedings” no. 7 & 8 of the Frankfurt Institut of Social Research, two basic questions were elaborated:
- Which is the status of economic theory within the present “Critical Theory”;
- Do macro-level-analyses contribute to topics like “Conflicts in World Order and the Global Civil Society”?  

Quite a lot of these latter approaches tried to bring together as many of the mentioned factors as possible, some even more. “World models” were those which gained most attention.

2. Incidences

The most ridiculous Millennium festivities definitively were not amongst the incentives for this paper, much rather questions like “What were the reasons for the Kosovo war?” (the first war on European territory since the end of World War II), “Why was the OSCE ineffective?”, “Why do Europeans continue to be incapable to form common opinions in certain policy areas and take respective actions?” or “Why do the US need a new enemy (like China)?”

Most decisive were the consequences of globalization or questions concerning capacities for shaping of future. Both depend on different visions as well as possibilities to redirect major trends like the one towards a global knowledge society.

The science, which proves to guide to answers (which can not be more than temporal), should, profilactically, be called “Societal Science”.

Put differently, greatest difficulties arise when trying to answer the question, what sciences like the social sciences are for. The reason therefore is, that the value of results of studies like the following: “x% of all families have y% of all children” is not easy to explain and that the “flair of irrelevance” is never too far. Social scientists have indeed hardly contributed to the formulation, propagation and justification of respective policies, rises in GDP or export successes, etc. Certainly, individual researchers in individual countries have done so quite often, but the science as such has not gained any reputation in that respect so far. – Nevertheless, we place different emphasis when answering the “utility of the social sciences” question: in which domain of reality do they only have supplementary character and in which other domains would they be able to deliver original contributions or have already done so?

Before we continue, let’s look at some severe social science shortcomings:

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1 With specializations like, e.g., sociology of youth and family, sociology of sports, leisure, tourism, consumption or culture, urban and rural sociology, sociology of the economy or of the military and geriatric sociology.
Many social scientists have never really perceived the many new social phenomena, consequently have never ever either reported on them or gave explanations (or only insufficient ones), not talking about early warnings. Here are some examples:

- The speedy rise and break-down of some former third world countries or societies like the NICs;
- The break-down of communism as well as of many right-wing dictatorships in many different regions of our globe (Africa, Asia, Latin America; but Europe as well). This often took place in parallel with the rise of new dictatorships, e.g. on the basis of religious fanatics;
- The self-elimination of social strata, on which their own system relied formerly; or in other words: these strata were often completely unaware of the new international upper class, their ideologies, customs and meeting points (e.g. Cayman for those from the occident; or the superrich Overseas Chinese, wherever they live or go for holiday), etc.;
- New, super urgent information requirements of broadest social strata, as, e.g., job opportunities, pensions or assurances (life, job and health), etc..

Maybe that these shortcomings are rooted in the fact that the social sciences mainly faced national societies in the past and that they were only expected to give explanations on them, whilst the new phenomena can not be explained any more by tools developed for old purposes. In particular, temporal, geographical, economic and power problems are out of reach of these tools and trans-cultural problems as well as global scientific and technological developments are beyond the range of their epistemology.

We witness new revolutions as well as new types of revolutions:

- Economy dominates politics as never before - this type of revolutionary message is communicated via revolutionary channels which operate by revolutionary technologies - and might end up, via revolutionary synergies, in revolutionary societies (average income for everybody, decreasing population, information- and knowledge-society instead of work- and industry-society; and people have problems to spend their daily time, since there are no more opportunities for gaining additional allowances ...);
- ICT\textsuperscript{2}-based industries are already or will soon be the basis of the present Kondratieff-cycle. Their products are manufactured entirely by intelligent robots and transfer streets;
- Finally: this new-revolutionary society is already or will soon be entirely beyond nation states. But the nation state will not lose all its functions completely. - Wars will also be different: their goal will not be the killing of people or soldiers any more, nor the destruction of industries, but to stop the functioning of knowledge-bases and of science- and technology-development- institutions.

Simultaneously, these new-revolutionary societies are heavily loaded with dangers which might prevent them to follow any prototype. Or they might as well develop into even more new-revolutionary societies or into societies of compromises which we, presently, can’t even have the faintest ideas about.

Then we should remind ourselves at the example of the Pugwash movement, even if most of its members were natural scientists at the outset: they acted in ways social scientists should have acted as the OSCE\textsuperscript{3} acted when trying to reduce the East-West tensions during the Cold War, in particular their theory (and practice) of ”confidence-building”. And in as far did society profit from the application of social sciences to new technologies, new work and leisure conditions or pension systems, etc., and, in particular, in respect to future developments and if they would

\textsuperscript{2} information and communication technologies

\textsuperscript{3} organization for security and cooperation in Europe
be desirable? Or, and in order to reiterate our basic question: What profit did the application
of social sciences yield during or after the end of the Kosovo war (it would not be too difficult
to evaluate positively the work of peace researchers, but who would accept them as social
scientists? Social scientists?)?

3. How is reality really and which scenario derives out of it?

"Reality Isn’t
What It Used To Be”
(W. T. Anderson)

In order to be able to answer the question, which science and which scientific method is
most ideally suited to analyze the present situation, at least some basic knowledge of today is
required. But wouldn’t just that very situation already necessitate that very method? One simply
ends up in one of those famous vicious scientific circles, which more often than not proofed to be
verbal fallacies: Today’s reality can downright be recognized and described, at least its general
lines, even if details are yet missing. And the situations aren’t that different when observing
strong trend-indicators and when their prolongation into scenario or their discontinuity seem
like necessities: then speculations on adjacent societal features are allowed and could even be
plausible for features further apart.

So, and again, what’s the situation today and how will it be tomorrow? Revolutionary changes
will continue to occur, lots of chaotic situations as well, exponential loss of power of nation
states and simultaneous gain of power by Trans-National Conglomerates⁴ (TNC). The art of
putting together big units and Global Players⁵ is in full swing and will be decisive for our future.
Factors like state, ideology and military lose their importance almost everywhere. Globalized
entities do have inclinations to imperialistic behavior and also China, eventually already today
amongst the Global Players but definitively tomorrow, turns more and more imperialistic.
Simultaneously, almost all Asians step up their military, South-East Asia in particular.

In order to be able to design a scenario, one has, first of all, come to an agreement on the
time distance from today. Let’s say 2030 and 2070, since we have to realize that descriptions
of situations can’t really mirror dynamic trends since they are, by necessity, basically static,
whilst two scenario with different temporarities are the easiest possibility to describe dynamics.
– Aren’t 30 and 40 years too much, aren’t periods of this length too long? The best hint in that
respect points to the facts, that, on the one hand, our time is constantly increasing its path of
change, whilst, on the other, the planning and realization periods of ever bigger projects and
programs also increase steadily. The following two examples may do: a. Life expectancies, and
that means pension time, i.e. the time without contributing to the system, has steadily increased;
b. planning for the new high-speed railway track Cologne-Frankfurt-Airport started more than

⁴ More than twenty years ago, the term was Multi- or Trans-national Corporations. Because their size (number of
collaborators, annual turnover as well as swallowed former competitors) has multiplied manifold in-between, the
term Transnational Conglomerate replaced the old term.

see also:
o Peter H. Mettler (ed.), Multinational Corporations in the Federal Republic of Germany (in German),
o Peter H. Mettler (ed.), Where to will Multinational Corporations expand? (in German), both: Frankfurt, 1985

⁵ The term Global Player is vague on the one side. On the other, it comprises states und political unions (like, e.g.
Brazil, China, India, the European Union, India, Indonesia, Japan, the US, etc.) as well as big economic units
(like Mitsubishi, with turnovers of the size of the Dutch budget) and big military units (like Russia’s stra-tegic
weapons), etc.
12 years ago, the actual construction work took about ten years, and it is expected to serve at least 50 years ...

In the annex I will introduce the scenario ”2070 – a little more then hope”. It is one out of a series of three. For the present context I refer to this scenario, in as far as present trends are interpreted, in such a way that the globe almost reaches a suicide-doomsday till 2030 but realizes it five minutes before twelve and reorients itself till it reaches the described ”situation 2070”. Those who want to influence today’s trends, those who want to reach the turn-around before 2030 or to attain a different setting in 2070 (or follow even completely different goals) – they all will have to explain their ”instruments” (without saying, of course, that societal science would work by the simple application of simple instruments ...). Therefore:

4. Design for a societal science

The very most important criteria is the necessity for social sciences to reconcile the imaginable with the possible and both with the desirable. That, quite sure, is normative and I want to state my conviction right away: the social sciences have to accept that their loss of importance stems from the complete failure of their attempt to follow the natural sciences and from their postulate of the necessary and possible value-freeness. – Methodology was regarded as extremely complex (mental acrobatics) in former times, but the glory has faded. Though it is true that the day-to-day research in the social sciences steps up its degree of complexity (because the number of knowledge and know-how topics and their complexities do not stop to rise), but it has abandoned its philosophical-ethical, crypto-religious (fascism as well as communism both wanted to create a new human species and believed in its possibility!) as well as ideological and worshipping parts and therefore became easier to be accepted. That’s also why it will be used in the following much rather in a descriptive than in a definitory way. But one methodology notion, which classically had never been regarded as one, shall be denounced right away: if one replaces globalization by liberalism and researches the latter, one can’t but attribute ”anarcho” to it. ”Anarcho-Liberalism” is the exact description at least of today’s style of economy, if not of most other spheres of life as well, the sciences included. And may be, that Feyerabend’s mentioned description describes only a minority today ...

In the same way, in which liberal political parties are loosing more and more ground because they define themselves through mere economic liberalism instead of standing up for the right of each and every individual (i.e. for “all” rights, not only for the single one, to do business), societies fostering individualistic behavior find themselves deprived of inner solidarity, the complement to individualism. The first counter-movement against anarcho-liberalism’s spearheads like TNCs and their CEOs, PDGs, Generaldirektoren or simply bosses, greedy for more personal income and wealth, are already well under way. The turn-down of the MAI (multilateral agreement on investment) should have taught them that even their power has limits. Revolts against mega-structures are rarely interested in philosophical disputes about methodologies, as have shown either Greenpeaces’s ”Brent-Spar-Campaign” or the ”Alternative Nobel Price” awarded mainly by alternative economist, ecologists and other socially oriented minds. But their ”methods” can’t really be disputed in view of the real changes in the environment which took place in the last decades and which they helped to bring about to a considerable degree.

The spectrum of research delineated in the following is not at all exclusive, should much rather be understood as exemplary and will probably lend itself to be regarded as being very ambitious because of its societal science approach. None of the research fields requires specific knowledge and/or know how ”sine qua non”, despite that profound knowledge never does any harm. The
very specialization of the societal scientist as well as what he can offer to interdisciplinary teams is his knowledge and/or know how in inter- and trans-disciplinary societal analyses:
- Science and technology futures, in particular in areas like telematics, transportation and medicine as well as in sub-areas like technology assessment, sustainability and technology-transfer (between industrialized countries as well as from them to developing countries);
- Political futures, in particular of the European Union (EU) and the North American Free Trade Association (NAFTA), or of a prospective Trans-Atlantic-Union as a result of the two former ones, should they once decide to merge; but also the future of the identities of the triade and of certain developing countries;
- Economic futures, in particular of TNCs and Global Players, but possible futures of the globalization of agriculture and food and of world-trade as well. May be that the following is only a dream:

"Regions of the size of up to 20 million people, completely self-determining and economically (raw materials, production, consumption as well as waste treatment) almost self-sufficient, heavily networking globally in respect to science, knowledge and know how, with strong feelings of responsibility for future generations as well as to help develop less developed regions. They could stimulate a completely new type of preparations for decision making for developing countries. Global players could still exist, but their might and influence would be balanced by the countervailing forces of regional networks and they would be much more democracy-minded then in previous periods (they would, e.g., voluntarily take part in Delphi-studies with the goal to develop prototype visions);
- Social futures, as e.g. wealth-distribution, life-expectancy and population policy, as well as future studies in leisure, sport, professional activities, etc.;
- Cultural futures, in particular the dialectics between individual and (world-) society, as well as future studies in values and moral or in criminality;
- Urban futures, in particular the megapoles, as well as questions like if these would be capable of forming a countervailing force to TNCs and/or developing into a fourth political power besides the UN, the nation-states and the economic Global Players;
- Security futures, e.g. how the military and the armament industry, the technology of ABC weapons and their international proscription, the aerospace industry or SDI/NMD might develop;
- Ecological futures, in particular manmade climate changes, weather doomsdays, water shortages and genetic manipulations in respect to agriculture and food as well as to humans;
- Futures of consumption, marketing and leisure;
- Futures of the knowledge society and its social consequences;
- And finally the question, how a decline of world population to 4 billion people could come about till 2150?

Should one want to describe researchers in societal science or to list qualifications they should acquire through their studies and training, two would be preeminent:
- They ought to have learned how to move intra-cultural, as e.g. between Europe and the ExSovietUnion or between the US and the Muslim World;
- Societal long-range planning and futures research ought to incorporate the following list of tasks and qualifications:

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6 See also Peter H. Mettler (ed.), Science and Technology for Eight Billion People, London, 1995
- Futures research has to find ways, as have to do ecology, economy, politics, science and technology, to cope with the dialectic between local and global. Today, this requires much more different research networks then so far existing, in particular they have to be able to work empirically and critically and hermeneutical as well. These networks have to be situated at the crossroads between researchers in the societal sciences and their institutes in the various countries of the world, but also hooked to MNCs, agencies of the UN and Global Players like e.g. the megapole-network;

- Futures research has to ask: which reductions or even better extinctions of conflicts could become possible in the future between which situations, problems and relationships? One of the most appropriate examples is the high probability, that our globe will be partitioned into only five blocks by 2070 (China, India, the Muslim block, South-East Asia under Japanese hegemony and the TAU, reaching from Cape Town trough Africa and Europe till Vladivostok) and all problems of the hopefully peaceful relations amongst them;

- Futures research has to be done by researchers with special qualifications: They have to have, first of all, very good knowledge of several languages, lived considerable times in several cultures and traveled extensively (the media so not really teach a great deal). Secondly, they have to have an almost encyclopedic knowledge in areas as far apart from each other as natural and cultural sciences, medicine, technology and esoteric, etc.. Thirdly, they have to strive for peace worldwide, be ready to get engaged for social and environmental balance and justice, be auto-critical and almost a truth-maniac. – In a way, they have to supplement their homologues formed by the Global Players. These are ”world-citizens of the transnational class”. Their children will follow them and enlarge their numbers. But there is no patent how to develop into such an expert in societal science. Probably the only training is ”on-the-spot” after at least two decent academic careers (like engineer and psychologist or medical doctor and political scientist, etc.) and at least one professional career.

7 It’s not enough to have lived in Argentina and Mexico or in Greece and Finland. A Latin-American should have lived e.g. in Asia or a Chinese in Europe, etc.)
Annex

Scenario “2070 – A Little More Than Only Hope”

Short version

*This is one scenario out of a series of three on the Superpower Structure in the year 2070, with three intermediary scenarios “2030 - On the Way to the Year 2070”, originally prepared for the Hannover EXPO 2000*

Introduction

Scenarios are not forecasts or prognoses, nor do they intend to be. They are meant to stimulate thought and they have to be constructed on three basic conditions: they need to be conceivable, possible and ultimately even desirable - in other words they should not be inconceivable, impossible/absurd and/or inhuman. And scenarios really make any sense only if they exclude doomsdays and major catastrophes. - The successes achieved by Japanese MITI demonstrate the most astonishing way in which scenarios - particularly those worked out with a participatory Delphi method applied - can be effective: thanks to the mechanism of self-fulfilling prophecy, people do their utmost to realize what had been declared desirable.

The three scenario ran under the following headlines:

- The “World Cooperation”-scenario, with the intermediate scenario “Breakthrough 2030”;
- The “Continued Muddling Through” scenario, with the intermediate scenario “Flat Kondratieff – 2030”;
- and the “A Little More Than Only Hope” scenario put forward here, the intermediate scenario “2030 - Virtually the same as 100 years ago” included.

“Superpower structure” means the relations between possible “world players”, i.e. those political structures (or variously structured entities) whose potential permits them to act or exert influence worldwide. Principally we are assuming that, from 2030 onwards, these will comprise the following: China, India, the Islamic Federation, the Occident (Atlantic Union), SE Asia under Japanese hegemony, and the largest Transnational Conglomerates (TNC).

Apart from the chief criterion of “Main Political Structures” (blocks, or the virtual end of most nation-states), the focus is on the two criteria “Urban Agglomerations” (megapoles, regionalism and ecology, etc.), and “Telematics”, around which we grouped the additional criteria “Population”, “Military Structure”, “Scientific & Technological Development”, “Economy” (traffic and globalization), and “Education, Culture & Religion”.

The intermediate scenario “2030 - Virtually the same as 100 years ago”

The year 2030 is reminiscent of what it was like 100 years ago and whereto the situation led

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8 Stimulating thoughts along the lines of: „What steps would have to be taken now, in 2017, 2030, 2055 etc., in order to realize scenario X?“

9 whereby the actual degree of co-determination is secondary
Superpower Structure

The situation is comparable with that of 100 years ago in that now as then there are hardly any fixed points of reference any more, chaos prevails.

Traditional factors - such as states, their military and security forces (the state’s monopoly of power and strength), their economic power (with commissions from the state or income from the state’s tax monopoly), and their territory - have largely lost their significance: the TNCs which have taken their place are neither wanting nor able to take over most of these functions. TNCs are aware of their responsibility only towards their shareholders, or at best towards their customers.

In countries, (large) regions and even (sub-)continents - the Islamic world, China and/or India - which for a long time attempted to oppose penetration (particularly dictatorships), internal wars have broken out (ideologies, separate regions and army units fighting against each other). Some of this is again about spheres of influence, and in some places millions of victims have already been claimed.

And there are both old and new ideologies about conquering the world and doctrines of healing, as well as condemnations of opponents, going as far as new calls and plans for genocide.

Two entities play special roles:

Urban Agglomerations

The chaotic conflicts are mainly fought in the urban agglomerations: in each of the approx. 50 megapoles with more than 25 million inhabitants there are different victors, who enter alliances with like-minded rulers of other megapoles (wherever they may be in the world), and are not afraid to use hunger as a weapon for suppression within the regions.

Telematics

Telematics starts to be used to usurpers’ ends, Orwell’s visions are mild by comparison.

Population

*The world population declines, for the first time in over 200 years. Migratory movements involving hundreds of millions of people leave behind completely devastated areas. To combat this migration, new local armies form in the shape of citizens’ vigilante groups.*

Military Structure

Although the armies of the former national states no longer exist (owing to the fact that the states are bankrupt), there are still arsenals of weapons available, constituting an incalculable risk, like the old Soviet nuclear weapons did after the implosion of the USSR in 1989. In particular, there are signs that fundamentalist fanatics are contemplating (and planning) how they could get hold of them.
Scientific & Technological Development

Science and technology are scarcely global any more either: they are compelled to serve the high and mighty and research/develop for their purposes.

Economy

Due to the almost complete collapse of world trade, there are extremely acute lacks of supplies: between 1980 and 2010 the range of varying production processes was given up almost everywhere in the world, in favor of specialization and market niches (comparable with the situation in the USSR’s successor states after the former had imploded).

Education, Culture & Religion

Helplessness and rashness prevail, along with incriminations and the search for transcendental explanations for the disaster; but there is also a return to classical religions and values. The latter results in most varied recommendations “how to overcome the crisis”.

2070 or: Outcome of the Renewed Experience
Where there is danger, help grows too

Superpower Structure

History does not repeat itself, but historic parallels do keep occurring: due to the situation in the year 2030, which retrospectively (i.e. as seen from the year 2070) can be seen as the climax of the crisis, a new power structure developed, which has not yet (i.e. by 2070) managed to lay down new basic rules that have any chance of retaining their validity for any length of time (as at the Vienna Congress), but which have all the same succeeded in dissuading the world from using its weaponry and forcing it back to the negotiating table. Since then there are signs of a new version of the UN and a new world economic structure.

Four world players make up this new UN / this new world:

O the parliament of the approx. 100 largest megalopolises, comprising about 1/3 of the world population;

O the parliament of the approx. 100 largest TNCs, making up for around 40% of the world’s GNP;

O the parliament of the approx. 350 (national) states, which still have approx. 1/6 of the world’s GNP at their disposal;

O the parliament of the approx. 20 economic blocks, which account for around 85% of the world’s GNP.

Their intertwining links no longer permit any single “entity” to grow beyond a given size (+7%), and the hierarchical systems (at least 4 levels) incorporate so many early warning systems that crises can and must be dealt with at an early stage:
Urban Agglomerations

Since poverty was greatest here, some of them joined to form a democratic alliance against those megalopolises which were ruled in a more criminal fashion. Their example encouraged the inhabitants of the megalopolises ruled in a criminal way to gradually get rid of their rulers. They were assisted here both by the old (political) structures still in existence - such as e.g. international concerns, national states and political economic blocks such as the EU - , and by telematics, which it had been impossible to keep under total surveillance for a long time now. Apart from this the people - in accordance with their own needs - made themselves relatively self-sufficient locally (i.e. in municipal districts) and could thus only be blackmailed to a certain extent. In a new sense, Mao’s old saying, “Let 1000 flowers bloom” came back into favor again.

Telematics

During the last decades, the large-scale facility of the world telematics network as it was at the beginning of the millenium has passed its democratic test with flying colors. Dictatorships covering small areas (even including those ruling several hundred million people) were not able (any longer) to conceal the international truth from the people they suppressed. And luckily there was already so much telematics know-how available worldwide that even the local “experts” with all their official duties were unable to restrict worldwide communications amongst suppressed people to any substantial degree.

Population

The view that there is an optimum population for each area is now scarcely queried any more. It has now finally been recognized that the education of each respective population and its scientific and technological know-how - not just its sheer numbers - constitute the capital of each regional unit. Since by the year 2055 medical sciences had managed to increase average life expectancy - which has since remained stable - by over 14 years, the world population has now reached a level of 12 billion.

Military Structure

There are just a few military units with geostrategic tasks (and abilities), which report to the UN; apart from this, there are security forces specific to individual territories, with technically superior equipment but rotating staff. The territorial forces from 2 to 3 neighboring territories can prevent any attempts to invade by individual units, whilst the units with geostrategic tasks can dissolve any alliance between several territorial forces.
Scientific & Technological Development

Numerous experts (from all areas) opposed the usurpers worldwide, committing themselves to more local/regional attempts to solve problems.
Now however world associations exist again, even if they are not geared towards individual disciplines as they were previously.
The percentages of all four parliamentary budgets earmarked for science and technology are rising again, but the qualification requirements are tougher than ever before: the more an expert or a programme/institute gets, the tougher they become.

Economy

The term “economy” (including the above-mentioned GNP rates) is currently being replaced by complicated regional development indexes, which are now nearly fully developed, and which subordinate thinking in terms of finance and capital to thinking in terms of quality of living.

Education, Culture & Religion

It is here that the actual fate-turning revolution has taken place. The egoistic manner of thinking in terms of the particular and the partial - decisively shaped by the Occident - which so frequently resulted in criminal machinations, realized its own limits in view of all the dangers, dimensions and complexities.
But the old dangers have not really been eliminated/overcome, nor is there any safeguard against new dangers which will certainly emerge. Emphasis is again put on the old concept of socially and environmentally tolerable flexibility.

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Innovation in Futures Studies
Methodology

Futures Lab - An Application of Future Workshop for Regional Strategic Planning and Development Projects

Juha Kaskinen, Toni Ahlqvist, Venla Kinnunen

1. Regional foresight lab process

Regional foresight lab, as it is defined as an application of the Jungk’s and Müllert’s classical future workshop method has two basic definitions. Firstly, regional foresight lab is an iterative and discussion oriented strategic process. Secondly, it as a grounded visionary framework adapted to specific regional context and connected to the specific needs of the region. These definitions refer, basically, to a strategic process that is linked to some existing regional strategy or regional vision. It is a framework which connects, translates and tests the different views of the strategic actors in the region against some predefined visionary concept, aim or process. This visionary concept, aim or process becomes then, following Knorr-Cetina, a trans-epistemic tool which links and unifies differing aims of the regional actors. Under this trans-epistemic ‘umbrella’, different regional actors can locate and test the critical boundaries and points of convergence in their interaction and thus stimulate the regional development processes. ‘Umbrella’ here refers to a trans-epistemic concept, which unifies and integrates regional actors.

An example of the trans-epistemic ‘umbrella’ is the term ‘cluster’ in Finnish public and regional administration system. Cluster is Michael Porter’s (1991) initial concept that was designed to be used in the analysis of development blocs in national industries. Along the way, the concept has transformed its meanings. It has become a hybrid. Cluster is, in the Finnish context, seen as a new concept that could replace the former sector-based view of the economy. Therefore, Finnish administration uses ICT-cluster instead of more traditional ICT-sector. There are advantages and disadvantages to this kind of conceptual hybridization. The advantage is that it can gather wide number of seemingly unrelated actors to discuss some issues that they would not be otherwise discussing. Because the concept is widely utilized, it can service as a platform for the orientation of discussion. The disadvantage is that the analytical power of the original concept is surely diminished. These two are the basic implications that follow the transformation of a scientific concept towards a more administrative concept.
As defined here, regional foresight lab can be utilized as a strategic process tool in defining the strategic futures of regions. The idea is to form a vision for the ‘epistemic region’. Epistemic region can be defined in unison with the idea of the epistemic communities: epistemic region is a region of an epistemic community. Furthermore, epistemic region has common visionary framework in which to lean on. Basically, what regional foresight lab can deliver in the context of epistemic region is the basic concept of the development process.

The regional foresight lab process is summarized in the figure 1. Regional foresight lab connects the hindsight (knowledge of the past), insight (knowledge of the present) and foresight (informed consciousness about the options for the futures). The idea is that these different time horizons (past-present) can be read as strategic inputs to the foresight process. Foresight process in itself is structured around the strategic, trans-epistemic concept. The hypothesis is that this strategic concept provides an ‘umbrella’ under which the regional actors can engage in a strategic dialogue about the options, strategic directions and regional practices for the future. This dialogue, then, helps these actors to reiterate and make creative interpretations about the sources of the regional competitiveness. As can be seen from the figure 1, regional foresight lab is a circular process, a kind of ‘hermeneutic circle’ of regional foresight. The process does not stop after certain amount of strategic session. On the contrary, it is should be read as a constantly evolving and continuously looping process.

![Figure 1 Regional foresight lab as a strategic framework](image)

2. **Vakka-Suomi sub-region: location and basic economic characteristics**

Vakka-Suomi sub-region is located in the South-West Finland (figure 2). Vakka-Suomi is quite traditional industrial region in Finland. Vakka-Suomi is also a region of marine trading and shipping industries. It has also modern food industry, e.g. private brewery. The industry is quite export oriented, exports are made roughly to 50 countries.

Vakka-Suomi sub-region’s most important economic sectors are:

- **Automobile industry.** The most important producer is Valmet Automotive Ltd., which is specialized in brand automobiles and special models.
- **Chemical industry.** The most important firm is Kemira GrowHow Ltd. It is specialized on plant nutrients.
- **Metal industry in general.** Metal industry is mainly focused in shipbuilding industry.
• **Electronics industry.** The most important products are inductive components, lamina and plate production and mobile phone devices.

• **Construction industry.** Industry is focused on subcontracts (for example making of doors) and stone production (for example fireplaces).

• **Food industry.** Mainly focused on fish processing, agricultural production and soy industry.

![Figure 2 The location of Vakka-Suomi sub-region Finland and South-West Finland (Adapted from http://www.varsinais-suomi.fi/ and http://www.vakka-suomi.com/rs-alue.htm)](image)

The basic problem of the industry in Vakka-Suomi sub-region is its orientation. It is basically branch industry heavily dependent on the fluctuations of global economy and fluctuations in the volume of orders in the parent company. Basically, the means to make informed regional decisions are quite limited because of this situation. Most notably the situation is seen in the Uusikaupunki car factory which has the key role in the well-being of the whole region.

In the end 1990s and start of 2000 the production has fluctuated a lot and this situation has created an “on/off” division of labour to the region. Workers in the car factory are somewhat used to these fluctuations, even to the extent that this situation and being off-work now and then affects even the entrepreneurial structure of the region. Unemployed workers of the car factory do not want to pursue a career of an entrepreneur because it is seen as a “sure thing” that car factory will rise again. Nowadays, when car factory is fully employed in the production of Porsche’s at least to the year 2007, the situation is better for the time being.

As can be seen from the figure 3, the economic structure of Vakka-Suomi is based on industry, public administration and social security services. Agriculture has been slowly declining in the 1993–2003.
The key problem of Vakka-Suomi sub-region is its constant decrease of population. The capital sub-region of Turku has been experiencing constant flow of in-migration and a small but steady rise in the birth-rates. It has resulted in the yearly growth of about 1500 (ca. 295 000 inhabitants in 2003). Contrary to this, in Vakka-Suomi sub-region the decrease of population has been about 250 persons per year. It is substantial considering the overall population of the Vakka-Suomi sub-region (ca. 34 000 inhabitants in 2003). The basic implication of this trend is that in the coming future the regional structure will be loaded by the citizens utilizing municipal services in the situation where these services are on the inevitable decline because of the diminishing population (lowered amount of workers in the services). This trend will also affect the potential for the creation of new enterprises. It means that one key challenge of Vakka-Suomi sub-region is to reverse this trend of constantly decreasing population.

3. The four future directions of Vakka-Suomi sub-region gathered in the lab process

The Vakka-Suomi regional foresight lab process was carried out as a two days futures workshop in the spring 2005. The futures workshop consisted, basically, of four (4) phases. The participants of the process were representatives of the regional public administration, regional development organizations, enterprises and regional education organizations. This presentation gives rough outlines of these phases without covering the material that utilized.

First, before the actual futures workshop, the orientating phase was completed (1). In this phase, the facilitators and organizers of the foresight lab discussed with each in order find out the most important possibilities for the trans-epistemic concepts. In this case, the chosen trans-epistemic was ‘early adoption’. On the basis of these discussions, quite thorough analysis on this concept was made. On the basis of this analysis, key questions were formulated as follows:

- What ‘early adoption’ means as a regional strategy?
- What kind of foresight processes should be linked to this strategy?
- What kind of regional competencies ”early adoption” requires?

Elaborating the concept, early adopter, in the context of regional foresight, we came up with the following clarifications. Early adoption refers, firstly, to the regional capacity to adopt and
apply technological innovations before the majority of regions and regional actors are adopting and applying them. Secondly, it refers to the regional capacity to adopt, apply and create social innovations to regenerate the regional structures and foster the adoption of technological innovations. The concept of social innovation can be opened as follows:

Social innovations refer to reforms in regulation (legislation, rules of governance), politics, organisation structures and practices that improve the performance of society [in this case improve the performance of sub-region]”. (Hämäläinen & Heiskala 2004)

Social innovations refer to structural flexibility, ability to apply new practices and new ways to solve problems.

The idea was presented through regional application of product cycle theory (Figure 4).

![Figure 4 Basic elements of product cycle theory and the ‘early adopter’ (Adapted from Dicken 2004, originally from Vernon & Hicks)](image)

It was concluded in the first phase that strategy of early adoption, hence, requires at least following things:

- the application of foresight in all the regional activities
- proactive regional attitude
- everything cannot be anticipated and, therefore, proactive attitude should be reinforced with capacity to rapid reactions and structural renewal
- continuous mapping of best practices (benchmarking)
- continuous checking and balancing of own regional practices in relation to best practices — each recognized best practice should not be imitated, but these should work as landmarks in the search of own unique practices
- structural flexibility
- capacity to learn and power to unlearn
- applying latest knowledge in the regional activities (research knowledge, best practices, financial arrangements, directions of regional development etc.)

Second (2) phase was the feeding of the dialogue through lectures and statistical exercises. In this phase, the strategic inputs of the region were presented and analyzed (past and present...
regional structures). After this, participants of the lab were split into three groups which worked independently. The work was focused on the elements of regional vision in the context of the ‘early adoption’. On the basis of the results of the working groups, four future directions were identified. The future direction can be summarized as follows:

**Strategy bound to the traditional industrial path**

**Vision statement:** Vakka-Suomi is a sub-region leaning on its industrial tradition. Vakka-Suomi has regional foresight activities, which focus on the changes in the economic environment. Through these activities Vakka-Suomi endeavours to sharpen this path and develop its traditional industries.

**Strategy of multiple deviating economic paths**

**Vision statement:** Vakka-Suomi is a sub-region that aims proactively towards new industrial and service sectors. Its mode of action is based on radical foresight activities and continuous benchmarking of best regional practices. Through these activities Vakka-Suomi endeavours to find a unique regional niche which differs from other regions.

**Strategy of cultural diversification:**

**Vision statement:** Vakka-Suomi sub-region aims for the diversification of regional culture by attracting new people and by developing services. Especially nature and pleasant built environment are emphasised.

**Strategy of networking region:**

**Vision statement:** Vakka-Suomi sub-region proactively develops its internal co-operation and networking. It also creates strong external relations with strategically chosen partner regions. The central aims are dissemination and embedding of new information and knowledge to the Vakka-Suomi regional structure.

In the third phase (3) the whole group discussed and iterated on the results of the second phase. The discussion was structured with two methodologies that will be not described here. The results of the third phase were mould into the form project ideas. These project ideas were based on the specific regional vision. On the basis of this vision, the specific activities and actors were defined. The key outcomes, ie. project ideas, are presented on the table X.
Finally, the regional foresight lab process can be presented in the theoretical framework presented earlier (figure 1). The past trajectories of the Vakka-Suomi sub-region are the automobile and metal industry. The present situation is characterized by industrial lock-in caused by industrial tradition and out-migration. The future directions in the context of the strategy of early adoption can be summarized as: traditional industrial path, multiple deviating economic paths, cultural diversification and networking region. The formation of practices was concluded as the formation of project ideas, as mentioned earlier. These project ideas were: regional entrepreneurship, communication plan, ‘development ribbon’, transfer of competencies, gathering of competent personnel and privatization of municipal services.

Table 1 Key outcomes (practices) of the regional foresight lab process

<table>
<thead>
<tr>
<th>Project idea</th>
<th>Vision</th>
<th>Action</th>
<th>Actors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion of regional entrepreneurship.</td>
<td>Vakka-Suomi as an entrepreneurial region.</td>
<td>Creation of a ‘entrepreneurial education system’ to the second level education. It could be a ten year program. The plan could be realized with quite low resources.</td>
<td>Municipal division of education. Teachers could be circulated in the Vakka-Suomi region as ‘teaching nomads’.</td>
</tr>
<tr>
<td>Sub-regional electronic communication plan.</td>
<td>Creation of service firms and expert firms.</td>
<td>Creation of a plan, which define the frames for the municipalities to modernize their communication systems in coordinated and integrated fashion.</td>
<td>Technical divisions in the municipalities.</td>
</tr>
<tr>
<td>The creation of a ‘development ribbon’ between cities of Uusikaupunki and Laitila.</td>
<td>Ribbon of economic activities. Back to the idea of string city.</td>
<td>The construction of new road and new basic infrastructure as a co-operation between Uusikaupunki and Laitila.</td>
<td>Municipal actors.</td>
</tr>
<tr>
<td>Transfer of regional competencies to the firms.</td>
<td>The fortification and renewal of regional work force resources.</td>
<td>Re-education of structurally unemployed work force. For example, a lot of metal industry workers lack the professional training.</td>
<td>Education division through corporate investments.</td>
</tr>
<tr>
<td>The pursuit of competent personnel to the industries and service sectors.</td>
<td>Higher education levels and more economic activities to the Vakka-Suomi region.</td>
<td>Creation of lightened education systems. Systems should enable the re-education of older work force.</td>
<td>Co-operation between municipalities, educational institutes and other actors.</td>
</tr>
<tr>
<td>The privatization of municipal services.</td>
<td>Strengthened service sector.</td>
<td>Municipal services could privatized to some degree. However, competition legislation creates a serious obstacle to privatization.</td>
<td>Municipal actors.</td>
</tr>
</tbody>
</table>

Finally, the regional foresight lab process can be presented in the theoretical framework presented earlier (figure 1). The past trajectories of the Vakka-Suomi sub-region are the automobile and metal industry. The present situation is characterized by industrial lock-in caused by industrial tradition and out-migration. The future directions in the context of the strategy of early adoption can be summarized as: traditional industrial path, multiple deviating economic paths, cultural diversification and networking region. The formation of practices was concluded as the formation of project ideas, as mentioned earlier. These project ideas were: regional entrepreneurship, communication plan, ‘development ribbon’, transfer of competencies, gathering of competent personnel and privatization of municipal services.

The conclusions of the Vakka-Suomi foresight lab are shown in figure 5. As a conclusion, it can be stated that the regional foresight lab is an iterative and discussion oriented strategic process. It is a framework which connects, translates and tests the different views of the strategic actors in the region against some predefined visionary concept, aim or process. The example presented here described the lab process in traditional industrial region in Southwest Finland. The process was coiled around the concept of ‘early adopter’. The process was based on four future strategy options. Lab process developed strategic project initiatives.

Certain questions and challenges can be raised in the context of process. The most important are the following:
- How the trans-epistemic concept holds?
- What are the alternatives to this concept and how would they work in the region?
- How to embed the concept in the regional structure?
- Will it be the guiding light that integrates the regional actors and activities?
4. Environmental Business Cluster Analysis for Pirkanmaa region

In the Environmental Business Cluster analysis the contemporary structure of the environmental business in Pirkanmaa region and the possible changes in it were identified with Delphi process. The most essential agencies were recognized through literature and interviews. An Internet based questionnaire directed at the essential parties was carried out in order to perceive an overview of the structure of the business cluster. The focus of the questionnaire was on the scope of networking among cluster firms, on critical factors affecting the cluster and on the rising and extending business activities, technologies, and future innovations in the environmental business sector in Pirkanmaa region. Future educational needs were explored in telephone interviews directed at university researchers and teaching personnel.

The results of the questionnaire were verified and specified through expert interviews. The interviews concentrated on possible future changes in business logic and course of action. In the last stage the key parties created development strategies for the environmental business cluster in a Futures Lab. Scenarios exploring different Futures for the environmental business cluster were built. The context, the cluster analysis theory, defined mainly the substance of the questions asked. The results of the study were presented in a result seminar and report. The cluster analysis was funded by the Employment and Economic Development Centre of Pirkanmaa.

In the analysis were instead of one environmental business cluster, three smaller sub-clusters identified. Those sub-clusters are not especially strong yet, but a good basis for them already exists, and some serious action has to be taken in order to consolidate them. The futures lab process produced many development suggestions for the environmental business cluster which

Figure 5 Outcomes of the Vakka-Suomi lab shown in the strategic framework
attracted a lot of attention and approval. Despite the fact that the time horizon of the exercise was set to ten years, the realisation of many development measures require engagement already in the near future. Below is a short description of the Futures Lab process in the Environmental business analysis.

**Futures Lab**

The objective of the Futures Lab was to gather development measures/recommendations for the environmental business cluster in Pirkanmaa Region. For the gathering of recommendations *priority themes* were identified during the first two Delphi rounds (questionnaire and expert interviews). The priority themes emerged repeatedly as crucial for the success of the companies. Development recommendations were collected for the priority themes, which were

- networking,
- legislation,
- internationalisation,
- education,
- public sector and
- infrastructure (centralized and decentralized water etc. supply network).

By identifying crucial themes/issues during the two earlier stages, it was assured that the development measures were more concrete and focused. Though some of the themes were more abstract than others, the participants did not have any problems in finding develop measures within them.

Stakeholders from various interest groups both from public and private sector were invited to participate in the futures lab. Invitations were sent mainly to entrepreneurs but also to the Pirkanmaa Chamber of Commerce, Business Development Centre, Employment and Economic Development Centre of Pirkanmaa and university researchers were invited. Results from the two earlier phases were sent to the participants beforehand.

The duration of the workshop was three and a half hours. Previous results along with a short introduction to futures research were presented before the workshop. The actual exercise lasted two and a half hours. The participants were divided into three groups. Each of the selected issues (total 6) was discussed by two groups.

People tend to consider development measures as difficult to carry out and easily forget to consider available resources. Thus the use of a quartered square is recommendable in this practice to get for the proposed development measure also propositions of resources (skilled labour, intellectual capital, physical spaces etc.) and actors (most essential agents, officials, investors etc.). The quartered square serves as a “normative” tool/approach when considering development recommendations, because it includes the most important elements that are needed to carry out the actual development measure. It excludes unrealistic suggestions by making it hard to fill in the squares and might make some previously apparently unrealistic suggestions feasible.
Each group member is given a bundle of self-stick post-it notes and a drawing pen. Each development suggestion is written down on a separate post-it note. The resources, agents and barriers related with the recommendation are equally written down on separate post-it notes. The chair gives 10 minutes to write down all the ideas, after which the post-it notes are attached on the two by two squares under the right topic. When all stickers are attached, the group discusses the development and other ideas. One theme is discussed at a time, each for half an hour. It is necessary to take notes during the discussion for further analysis.

It is essential to reach concrete ideas. If the ideas given are on a very general level, the group leader should ask the participants to define the ideas more closely (also on the post-it notes). Very general recommendations leave of course more freedom for further ideation, but are often also less interesting and do not raise much discussion.

The outcomes of the Futures Lab varied from very detailed to more general suggestions. According to previous studies, development measures that improve the business possibilities are the same for the companies in the environmental business field as for companies in other lines of business. The local officials have a lot of information about needed measures that support and ensure the operation of SMS enterprises. Thus the selected priority themes offered information that was important particularly for the companies operating in the environmental business line. The feedback from the participants was very positive both of the Lab process and the recommendations gathered.

**5. Future Lab process in the context of SPIDER-project**

The SPIDER project is concerned with increasing regional competitiveness through futures research methods. It is conducted by three project partners: Turku School of Economics and Business Administration / Futures Research Centre (project coordinator, Finland) The Destree Institute (Wallonia, Belgium) and Z_punkt GmbH The Foresight Company (Germany).

The SPIDER project is supported by the European Community, in the context of the “Regions of Knowledge” Pilot Action. The project started on 1.2.2004 and will continue until 31.1.2006. It focuses on exploring future potentials of emerging fields of economic activity in the three regions which participate in the project.
The aim of the SPIDER project is to increase potential of intrinsic regional strengths. The output of the networked co-operation is a selection of regional visions that focus on exploring future possibilities in promoting European economic progress. Future potentials of emerging fields of economic activity in the regions, the competitive advantages, are explored by the project partners to reach these aims. Futures studies / foresight exercises are conducted to overview and discuss policy options and opportunities.

A main feature of the project is learning via the sharing and benchmarking of comparative performance and good practice. Therefore, regions with economic growth potential of some specific economic fields are selected as target regions of the research. The evaluation model of regional competition and innovation systems presented by the Ståhle & Sotarauta (2003) “Regional Innovation Activities in Finland – Current Status, Significance and Developmental Challenges” (published by the Finnish Parliament, Committee for the Future), is applied. The regions to be evaluated and compared have been selected among three EU countries:

- Etelä-Suomi, Finland,
- Wallonia, Belgium,
- Regierungsbezirk Düsseldorf, Germany.

6. Theoretical background of SPIDER

The project’s theoretical background draws from the above-mentioned evaluation model of regional competition and innovation systems presented by the Ståhle & Sotarauta (2003). **Four basic requirements for an innovative environment**, i.e. self-renewing development, which will be focussed upon, are:

1. Players: identity, sense of belonging and charisma
2. Networks: links, trust and mutual dependences
3. Knowledge management: information flows and communication
4. Mastering timing: situation awareness and the courage to act.

In addition to self-renewal, **creative tension** can be considered a key factor in innovation-based regional development. The ability of self-renewal is born spontaneously of the creative tension generated by interaction and leadership.

The **local and regional actors** are seen as networked innovators and “players”, and nodes for knowledge creation. Making inter-regional (and international) comparisons gives information on creative ideas of policy implications and actions that emerge in reinforcing the economic progress of the regions. This is done by **experimental co-operation**, with collaboration between the higher research / education units and by recognising other relevant local actors and good practices and carrying out the project. Stimulating integration between university units, companies, regional and local authorities and other regional actors is of importance.

The main phases of the project are:

- Designing the detailed networking strategy and the inter-regional/ regional work plans
- Carrying out the regional analyses and applying the regional competitiveness model in the selected regions (regional analyses & comparison)
- Composing local action groups with recommendations given by the steering group and in accordance with the local work plans
- Designing regional visions by using the Delphi method (with the internet based questionnaire & possible interviews)
- Modifying region- and European –based policy implications
- Reinforcing connections / cohesions between European regions and actors
The whole process is described on Figures 6 and 7. SG stands for steering group and BS for brainstorming session.

**Figure 6** The Process of SPIDER-project (1)

**Figure 7** The Process SPIDER-project (2)
Future Lab is only one method applied in SPIDER-project. The whole process a combination of three different methods integrated in same research and development process. Regional analyses were carried out by gathering indicator data on each region. Local action groups used this data as a basis of discussion in Future Lab sessions. Further, the outputs of the sessions were applied to construct the Delphi-questionnaire. The results of Delphi are discussed in the third Future Lab session.

7. The Future Lab process in Southwest Finland

The aim of the local action group work was to define the main elements of the vision of regional innovation system and by the end of the project formulate the vision and policy recommendations needed to guide the regional innovation processes.

Local action group members represent various stakeholders of the region. They came from regional governmental organizations, universities and polytechnics, private companies, sub-regional development centers, municipalities etc. Altogether 35 different organizations were invited to take part first via mail and then via email and phone. In first two sessions there were 23-26 persons present from these organizations. The idea was to get together representatives from different stakeholder groups in order to start a fruitful conversation. The theoretical starting point of the whole project is that more innovativeness will occur in a situation in which different or even contradictory arguments are brought into the innovation process.

The regional analysis report was sent before the first meeting to the local action group (LCA) members. They had an opportunity to give suggestions and comments to that. In the first meeting the regional analysis report was presented to LCA members. After that the group was divided into three subgroups. The combination of subgroups was planned beforehand. Again, the main idea was to combine the subgroups so that diversity of the group was high.

The subgroup work was carried out by following guidelines:
• Brainstorming and free flow of ideas.
• Future orientation with 15 year time horizon.
• Some prepared questions to start the discussion then group can go further to new ideas and couplings between them.
• Task is to outline the main elements of the vision of regional innovation system.
• Consensus on the elements in not primary goal but new ideas on what regional innovation system needs.

Group secretaries wrote down the discussion. After that the text were concentrated and classified into memo which worked for basis material in the second LCA meeting. The first meeting lasted four hours. In Figure 8 the elements the subgroups discussed are presented.
In the second LCA meeting, which was organized six weeks after the first one, the results of the first session were first shortly repeated to all those present. The second meeting was divided in two sub sessions and three subgroups. First, the first round’s vision elements were assessed and modifications and more could be added. Group secretaries wrote these down. Then everyone was asked to write down a short sentence on elements as many as possible which would describe the desirable future of it from the point of view of regional innovation system. The time horizon was 10-15 years.

In the second phase it was expected that everyone suggest action that would suit to reach the desirable future of the elements of the phase one. Participants were asked to name the action, consider the obstacles that could hinder the action, think who should be involved to take part to carry out the action and what type resources and how much of them are needed. (Figure 9) (Pirkanmaa process followed same type of orientation.)
As stated earlier, the results of two sessions were utilized when the Delphi-Questionnaires were planned. The results helped the researchers to formulate the questions so that both the vision elements and possible actions were taken into account. The SPIDER-project continues and the third session is not yet organized when this paper was written. The aim of the third session is to present the results of the Delphi-process to the LCA members and respondents of the Delphi.

So far it is possible to state that some of the elements were emphasized more frequently than others. For example, it is expected that in 2020 Southwest Finland is even more international than 2005. This means that the population is more diverse from the ethnic point of view and international corporations have more influence in the region. The main city of the region, Turku, is a European cultural city which supports the development of the whole region. Its strengths like history and tradition are well utilized in the construction of its image. Public authorities and education system create real and functional supportive preconditions for companies and all are part of development networks. Entrepreneurship has increased and people employ themselves.

At the same time members of LCA expressed their concerns that might slow down the desirable process of developing regional innovation system in the future. One of the mains worries was that different mental obstacles restrain co-operation and networking. Organizational customs, rivalry and routines still block the functional cooperation. Lack of dynamic organization culture is part of that problem. Fear of losing is a feature that can be found both public and private organizations. In Finland, a special concern is the lack of entrepreneurship among young educated people. In media a common message to be heard is to complain how it is hard to be a SME enterpriser. Some of the laws and other public control mechanisms are still hindering flexible development projects e.g. rigid and bureaucratic public development funding systems.

Furthermore, inflexible education institutions cannot change their functions according to the demands of the markets. The gap between enterprises and universities has diminished but still an obstacle. Management of networks, openness and trust in networks is needed. One of
the new threats is the risk of ‘overnetworking’. It might happen that in regional development too many networks are created that do the same things without coordination and thus they spend resources. Demarcation lines between professions still exist. One of the main questions from point of view of living conditions is how to ensure good living environment and quality of nature? How to choose right strategic partners inside and outside of the region and also internationally?

In overall, Southwest Finland has requirements to ‘survive’ in future and to be a successful region of knowledge. There is a clear will to implement foresight and futures studies methods in planning and decision-making in the public sector and big companies but SMEs are still hard to reach. Also, the LCA members have a desire to move from a vision to concrete next steps. Definition of innovation still differs; social innovations are more difficult to understand than technological ones.

8. Discussion

Futures Lab can be useful in several types of regional development projects. The examples presented in this paper deal with regional innovation system, sub-regional strategy and regional cluster analysis. Futures Lab method has been successful also in developing municipal culture strategies (KULMA-project 2005). The method can be tailored to fit various types of municipal, sub-regional and regional development project that deal with vision, mission, strategy, action planning and decision-making. It also means that different type of organizations can apply the method.

Futures Lab supports regional networking and brings together different regional actors. If we think regional development from a point of view of creative tension, Futures Lab can create an innovation environment in which different ideas can be brought in agenda. Different stakeholder’s ideas and opinions are taken into account and new connections between them can created and tested.

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1. Introduction

1.1. The Origin: TRM in Corporate and Industries

The terms "roadmap" and "roadmapping" are applied to a broad range of activities.

A literature survey revealed that the single word “roadmap” has surfaced as a popular metaphor for planning S&T resources. The variant “roadmapping” is a new verb that describes the process of roadmap development. Kostoff [2002]

"Technology Roadmapping” (TRM) usually refers to various types of forecast or foresight studies including visions and/or detailed projections of future possible technological developments, products or environments [Da Costa et al. 2003]. Since the mid-1980s, TRM has been developing within R&D and strategic planning teams in high-tech companies [Willyard McClees 1987]. In this context, graphic representations of the future for one or a family of products are developed, which integrate relevant strategic information such as technologies, products, markets. TRM aims at supporting the development of new products by developing causal or temporal relations between the technological possibilities and choices and the business objectives thereby highlighting the necessary steps to reach the market with the right products at the right time [Groenveld 1997].

A roadmap is an extended look at the future for a chosen field of enquiry composed from the collective knowledge and imagination of the brightest drivers of change in that field. Roadmaps communicate visions, attract resources from business and government, stimulate investigations and monitor progress. They become the inventory of possibilities for a particular field...

Robert GALVIN, Chairman and CEO of Motorola, [1998]

As the concept and methodologies of TRM have been maturing its design and application have been extended and developed from single companies to consortia of companies and even entire industrial sectors [Da Costa et al. 2003]. An entire industry can become more competitive in the long term by sharing R&D investments and results in the pre-competitive domain, thereby creating common technology standards and platforms, sharing risks and avoiding duplication of efforts. Each partner is thus able to identify and develop the technologies needed to succeed in the highly competitive global market.
Industry TRM is used as an information and strategic planning tool and is also oriented towards action. It is about developing, organizing and presenting information on the critical technological milestones to be completed within certain time frames by those players aiming for key roles. It aims at providing the information needed to compare different technology alternatives.

In addition to the technological developments, some industry TRMs embrace organizational and human resource issues. Also, for some companies, interest in industry TRM could lie outside their core concern, i.e. in monitoring competing, synergistic or alternative technologies in a way they would not be able to using only internal resources.

The classic example of Industry TRM is the International Technology Roadmap for Semiconductors’ [ITRS 2004], first published in 1999, which originated from the US-based ‘National Technology Roadmap for Semiconductors’ (NTRS). It is a cooperative effort of the global industry manufacturers and suppliers, government organizations, consortia, and universities from virtually every country active in this field to ensure advancements in the performance of integrated circuits by identifying the technological challenges and needs facing the semiconductor industry over the next 15 years. It has become the world-wide reference document for the semiconductor industry.

TRM is also used in the forecasting and development of “trans-disciplinary hi-tech goals” entailing collaboration between various partners. These goals may be objects or environments (e.g. the connected home or vehicle, etc.), functional objectives (e.g. reducing manufacturing defects, hazards to workers and environment, time and cost of manufacturing [U.S. Department of Energy 1998]) or competitive objectives.

1.2. S&TRM for Policy Intelligence

Science and technology (S&T) are advancing at an increasingly rapid pace while having complex forms of interaction with the economy, society and the environment. Effects are often not immediate but take place after a substantial delay or through second or third order effects. The understanding of the risks and opportunities of technological developments is essential for the policy-making process, not only in Research and Development but for virtually all the other fields of policies (economy, health, defence, education, culture...).

In our “information society”, data and reports on a broad range of subjects are plentiful but the translation into knowledge and appropriation by the decision-makers is challenging: policy-makers and corporate executives do not have enough time to read, understand and synthesise this material on complex S&T developments and their impacts. However, they cannot afford to wait until all the impacts, risks, and opportunities have been clarified before they come to decisions. Actions in the earliest phases of technological developments are the most effective whereas this is the time when one knows less about them.

Since the mid-1990s, various research institutes and think-tanks have worked to adapt the TRM methodology to the provision of intelligence for policy-making in areas where S&T play a prominent role [Cahill & Scapolo, 1999] [Da Costa et al. 2003]. Its objective is to provide the strategic intelligence needed by policy-makers to optimize public R&D investments and ensure their relevance to society.

This paper is concerned with this last case. The expression ”S&TRM for Policy Intelligence” was developed to illustrate that:

- As its scope is larger, it might have to move further upstream beyond technological developments into scientific research, in order to envisage the potential future applications and,
• Its objective is to provide the strategic intelligence required by the policy-makers to optimize public R&D investments and ensure their relevance to society.

The potential of S&TRM is significant in this context. It can be an important input in the selection of research priorities by highlighting the emerging S&T themes likely to impact on policy in the coming years. In a recent benchmarking study, roadmapping was highlighted as one of the "recommended best practices" for the selection of priorities in R&D programmes since it does not only identify the bottlenecks that need to be addressed within a realistic time frame, but it can lead to a high degree of consensus when the potential beneficiaries are involved in the agenda-setting process [Friedewald et al. 2005].

Finally, it can be said that the practises of TRM are diverse and that this methodology has yet to reach maturity. "It is still developing from an art into a discipline, from exploring a spectrum of methodologies for different goals and situations into systematically applying basic principles and methods" [Eggermont 2003].

1.3. The IPTS/ ESTO Roadmapping Project

The IPTS\(^1\) / ESTO\(^2\) Science and Technology Roadmapping (S&TRM) ran from September 2002 until May 2003. Taking major socio-economic challenges facing Europe as starting points, it intended to address two questions:

1. What are the emerging technologies able to contribute to the responses to these challenges?
2. What are the pathways between these challenges and responses?

The pilot phase of the project comprised an overall study to review existing studies and approaches and to develop the methodology for mapping science and technology and the production of two pilot roadmaps:

• The "Ambient Intelligence in Everyday Life" Roadmap [Friedewald & Da Costa 2003];

As explained above, TRM originated from industry. The aim of this project was therefore to assess the value of this methodology for policy intelligence, whether challenge-centred roadmaps could be a valuable and cost-effective tool to inform research and development policy at European level and to support the needs of a range of users including policy-makers.

TRM traditionally focuses on technological developments, applications and products. The intention was to assess whether it could also be adapted to evaluate fundamental research for which there is as no application yet and whether it was possible to take into account the economic, political and social dimensions, and the complex interactions between them.

The duration of each of the two pilot roadmaps was six months, and they were developed as two separate projects. As detailed within the following sections, the scope of each of them was defined by a far-reaching socio-economic ‘challenge’ rather than a technological sector *per se*.

Six institutes from the ESTO network participated in each project. At least three workshops were organised for each one. The first (challenge-definition workshop) and the last (validation workshop) included external experts.

During the challenge-definition workshop, a group of experts was convene to define, in consultation with the project partners and relevant European Commission services, the

\(^1\) Institute for Prospective Technological Studies) of the European Commission’s Joint Research Centre.

\(^2\) European Science and Technology Observatory network.
parameters of the main challenges and to identify emerging technological solutions, in relation with the main socio-economic factors.

Once identified, detailed examination of the development of key technologies was conducted by the project partners. They assessed the state of the art of the technologies, their likely trajectories of development, their economic and commercial potential, their socio-economic impacts, and the identification of the relevant scientific and technological actors and other stakeholders.

At the end of each pilot roadmap, a validation workshop including invited experts and European Commission officials were organised to review the consistency of the output particularly with respect to the goals set at the beginning of the project. To a large extent the material of this paper derives from these workshops.

1.4. Ambient Intelligence in Everyday Life (Aml@Life) Roadmap

The vision of Ambient Intelligence (AmI) [Ducatel et al 2001] [ISTAG 2002] [Aarts & Marzano 2003] envisages the future of Information and Communication Technologies (ICT). According to this vision, human beings will be at the centre and technologies will be designed for people rather than requiring people to adapt to them. The emphasis will be put on user-friendliness, efficient and distributed services support, user-empowerment, and support for human interactions. People will be surrounded by intelligent intuitive interfaces embedded in all kinds of objects and environments and capable of recognizing and responding to the individual needs in a seamless, unobtrusive and often invisible way.

The pilot roadmap addressed the potential of full ICT integration in our everyday life. The ‘challenge’ was the universal and trusted access to Ambient Intelligence in Everyday Life, how these technologies and the functions based on them could actually contribute to an improvement of the everyday life of ordinary people. Besides technological forecasting, key socio-economic and cultural factors were taken into account.

1.5. Healthcare Technologies Roadmap (HCTRM)

The Healthcare Technologies Roadmap (HCTRM) aimed at providing an overview of the major technological and socio-economic trends in healthcare technologies. The challenge was the effective delivery of quality healthcare in the context of an ageing population, and of the enlargement of the European Union.

2. Main Characteristics of S&TRM

Two key interrelated functions have emerged as central to the TRM or S&TRM methodology:

• TRM usually includes graphic representations in which "nodes" (past, present or future states of the art in S&T development) are connected by "links" (causal or temporal relations) showing the nature, rate and direction of potential S&T developments from or towards those nodes. As such TRM is a technology forecasting and foresight methodology.

• These representations can be put to practical use, in illuminating the way forward and in informing decisions about possible future options. As such, a roadmap is also a planning methodology, "a traveller’s tool that provides essential understanding, proximity, direction, and some degree of certainty in travel planning.” [Kostoff & Schaller 2001]
Its main characteristic, in comparison with other forecasting or foresight methods, is that it includes graphic representations, such as scenarios include stories. These are an effective way to demonstrate actual and possible causal and temporal relations between successive or parallel steps or "nodes" and thus to provide assistance to policy makers under information overload and time pressure to grasp effectively the most important elements and relations within a complex systems including scientific and technological, economic, political and social dimensions. Some inconsistencies, such as those between estimations from different sources or those arising from technological co-dependencies, can be put resolved through the construction of respectively the "nodes" or the "links" of the roadmaps.

As in case of other foresight methods, TRM is valuable both as a process and as a product. As a process, roadmapping brings together experts from different backgrounds to share knowledge and to build common perspectives and visions. As a product, roadmapping provides information and guidance to an audience beyond the original participants and stakeholders.

The main characteristics of successful roadmaps are their clarity, relevance, focus on the information displayed in the graphics, and a clear synthesis and presentation of the core issues. Ideally, decision-makers can concentrate on what is relevant for the strategic decisions to be taken rather than being diverted by excessive detail.

S&TRM for policy intelligence can, in theory, be constructed through and across broad S&T fields, extended upstream to fundamental research and observed through a challenge-centred perspective. One of the main difficulties is thus to ensure the coherence and a homogeneous depth of analysis across broad areas, which are needed if this methodology aims at assisting policy-makers in comparing the appropriateness, efficacy and efficiency of public investments in different fields.

3. Preparatory Phase

Arguably, the main lesson learnt during this project is that the success depends primarily on a well-designed and carefully-conducted preparation phase. A roadmap does not stand on its own but takes most of its value from its ability to respond to the explicit or implicit needs of the clients. This could also be said about most of the foresight or policy-support studies.

3.1. Requirements for Starting the Project

3.1.1. Full Commitment of Clients

The clients of the project have to be formally and unambiguously committed for the whole project. Regular interactions between the project team and the clients have to be maintained throughout the process, whose modalities of interactions have to be formalized. Frequent references to the specifications of their requirements and needs have to be made but at the same time feedback procedures should be designed to realign the objectives and the process during the course of the project, if needed.

3.1.2. Composition of the Team

The core team is in charge of defining the references, writing domain papers, creating a structure for the roadmap and filling it using input from experts and/or on-desk studies.

The coordinator or facilitator can be a member of the core team or an external consultant and is responsible for keeping momentum in the process. The coordinator is not necessarily an expert of the field, but an "informed and interested generalist" with the capacity to listen, to think
strategically and to synthesise information and ideas. The real added value of this facilitator is to manage groups and to produce the strategy from their interactions [de Laat 2004].

The team should be closely coordinated and if the roadmap is developed through a *consortium* of external partners it will more efficient to work with a relatively small consortium (2-4 partners depending on the budget).

### 3.1.3. External Participants

A good network of experts and external reviewers is also necessary for providing the most up to date material on technological developments. Depending on the size of the project, the number can vary from a few tens up to more than one hundred. The coordination of a large network is time-consuming and therefore expensive. The level of commitment expected, in terms of the amount of time and effort, has to be assessed from the start, so that the participants know what is expected of them. This requires careful planning. It is not uncommon to underestimate the amount of effort involved, but the enthusiasm of participants may compensate (although this should not be taken for granted).

It might be considered to invite the "leading lights" in the field so as to give credibility and input vision to the output. However, they will need to be convinced of the value of the undertaking. One has to be aware that key actors will only give one chance to an activity (at the most…). If they are not convinced of the value of the project at the first workshop / interview they will not come a second time.

### 3.1.4. Time and Resources

The number of meetings should be appropriate to the breath of the project.

If the project is undertaken through a consortium, enough time should be allocated for team building, for the construction of common references and for the emergence of working modes through collective process rather than only pushed from the coordinator. Meeting with the core team should alternate with workshops involving external experts. The complexity and the breadth of the project should not be underestimated which could lead to a lack of resources for the in-depth study of major issues.

As orders of magnitude, 9 months with a total of 6 meetings, 3 with the core team only and 3 with external experts, is probably a minimum for a policy-intelligence S&TRM.

### 3.1.5. Knowledge and Expertise

The policy-intelligence roadmap should capitalize on in-house knowledge and expertise. The existing material should be listed and whenever possible reused to avoid duplication. Experience and feedback from previous exercise have to be codified. Co-workers or network members having a content or methodology expertise should be involved, such as through interviews, if they are not directly part of the process.

### 3.2. Assessment of the Needs

In the case of corporate roadmapping, the goals are relatively easily-defined [Da Costa *et al.* 2003]. They are about optimizing R&D decisions and strategic planning for development of new products or more generally delivering the right products on the right market at the right time.

In comparison R&D policy-making could appear complex and fuzzy, with sometimes antagonistic and intertwined goals, some of them explicit and other implicit. Typically policy
makers do not come forward spontaneously with requests for specific studies. Usually, only short-term urgent needs are articulated and it may then be too late to undertake elaborate foresight studies. Therefore, the research institutes and think-tanks have to be proactive, identify major socio-economic challenges and propose studies to potential clients. A clear ‘market strategy’ integrating the roadmapping project within the wider policy context should be established. This is what makes the definition phase so important and structuring for the whole project.

Adhoc interviews and questionnaires have to be designed to record the needs and the wishes. They should be relatively formal and structured in order to build detailed and solid specifications on the three main decisions to be taken: identification of the roadmapping objectives, choice of the roadmapping areas and of the granularity, approach to the future, however sufficiently open not to restrain too much creativity. The feasibility of meeting client requirements needs to be viewed in the context of available resources.

3.2.1. Objectives

The assessment has to be based on open questions such as: ”What kind of questions do you have?”,”What would you need a roadmap for?”,”How would you like to use it?” Detailing the need for something abstract which has not been developed yet and which can take different meanings is challenging. Experience shows that an analysis of the needs at a ”high” level (the fundamental reasons for undertaking the project) should precede detailed specifications. The interactions between the clients and the service providers involve a lot of tacit knowledge and an in-depth experience and understanding of the operation of the organisation.

3.2.2. Focus and Scope

Precise definition of the focus and scope of the roadmap is essential but challenging. As presented above the traditional TRM methodology implemented in corporate and industries is technology-centred. However, in the frame of policy intelligence, it is wise to define the scope with regard to socio-economic challenges so as to avoid the "solutions looking for a problem" approach.

Schematically, two cases could be distinguished.

In the first case the roadmapping project is launched in a well-defined context, the clients having a clearly-defined agenda. In a policy-support role it is then necessary to be in tune with the current debates concerning the research, development and related policies. The roadmapping needs a clear focus, a core challenge which can be refined by subsequently adding a few more sub-issues. Multiple questions at the same level of emphasis are not operational.

In the case of the IPTS / ESTO pilot roadmaps, the focus was in each case a challenge related to the improvement of the quality of life of European citizens:

- **AmI@Life**: "Universal and trusted access to Ambient Intelligence in Everyday Life”;
- **HCTRM**: "Effective Delivery of Healthcare in the Context of an Ageing Society”.

In the second case, the roadmapping might have an exploratory aspect and used to inform the policy agenda itself by highlighting the emerging S&T themes likely to impact on policy in the coming years.

3.2.3. Breadth and Depth

For the available amount of resources, there is a straightforward trade-off between the scope of the roadmap, breadth of the roadmapping and the depth of the analysis (or granularity) which is feasible. The granularity is related directly to the breadth of the area to be roadmapped. The
right balance has to be sought between the roadmap for the generalist (‘bird’s eye view’) which has a broad scope but does not go into deep analysis and the roadmap for the expert (‘worm’s eye view’) which is narrower but goes into greater analytical depth.

Thus, it is essential to be realistic in the definition of the breadth of the roadmapping and the depth of the analysis. These are to be determined by the mean of a cautious assessment of the clients’ needs and the budget and human resources available. The different stakeholders (policy makers, S&T experts, socio-economic researchers and civil society) which are potential users of the roadmap may have different perspectives.

Schematically, ‘company’ and ‘industry’ roadmaps are for experts whereas roadmaps for ‘policy intelligence’ are for generalists [Da Costa et al 2003]. However, even if the objectives and the contexts are not the same, policy intelligence roadmaps may be compared with technology roadmaps on similar subjects, developed in companies or industries. It is not possible to compete directly with these roadmaps, which have budgets of orders of magnitude larger. The ITRS roadmap involves hundreds of people active in the semiconductor industry on a quasi-continuous basis.

On the one hand, it may be wiser to avoid broad and loosely-defined subjects such as ambient intelligence, biotechnologies, nanotechnologies…, and to use S&TRM as an exploration tool to anticipate long term needs which are not necessarily yet articulated, to explore emerging, trans-disciplinary or peripheral issues which are not yet receive wide attention. For instance, it may have been more judicious within the “Ambient Intelligence in Everyday Life” roadmap to replace ‘Ambient Intelligence’ by ‘Interfaces’ or ‘Everyday Life’ by ‘Home’.

On the other hand, the question remains whether it is possible to address far-reaching policy goals such as “Knowledge Society for All”, which have numerous complex dimensions with a roadmap on ”Ambient Interfaces for Home Applications”. It may be a valuable contribution to the development of a R&D programme, but may not contribute much to the understanding of fundamental socio-economic challenges. This may actually point to the danger of basis policies on a reduced set of forecasting or foresight output.

Also it is important to keep in mind that the graphic displays of the roadmap are delivered with support documents. In this case, the graphic displays are more a synthetic tool, for the generalist view, whereas the documentation addresses the issues more in depth, for the expert view.

The concept of ‘zoom-in / zoom-out’ roadmap where a ‘generalist’ roadmap encompasses nested ‘expert’ roadmap on the most interesting sub-areas is worth to be explored further. The generalist roadmap is developed first and is used to identify the areas where there are some knowledge gaps which can be roadmapped with a smaller granularity at a later stage.

3.2.4. Approach to the Future

The future can be envisaged in different ways in a foresight exercise including a roadmap. In corporate and industry planning and technology roadmapping, one single desirable state of the future is envisaged and the exercise consists in finding the paths leading from the present to this state. This approach is labelled ‘normative’. Accordingly, the time horizon is relatively short, from 6 months up to 5 years depending on the sector, and the main quality of the output is to be ‘scientifically accurate’.

The ‘foresight’ school of thought is based on the fundamental postulate that the future cannot be predicted and that various alternative futures of a single present state should be considered. Rupture scenarios are considered, cases such as catastrophic events, or major technological
breakthroughs. This is the ‘exploratory’ approach used in scenario building but innovative within the roadmapping methodology. The time horizon can be much longer, up to 20 years in relatively slow-moving sectors such as energy. In this case, long-term hypothetical or visionary developments could appear with the roadmap. In the preparatory phase of a policy intelligence roadmapping, it is important to assess the sensitivity and the needs of the client in this respect. There is a trade-off between the ‘scientific validity’ and the ‘vision’ in the output.

Within the “The Healthcare Technologies Roadmap” [Braun et al 2003], a ‘normative’ approach was adopted. The project team examined the current situation (Footprint Matrix) and a future vision (Matrix 2020) across three main technological clusters (information and communication technologies, medical technologies and genetic technologies) in terms of six principal dimensions of healthcare delivery (promotion, prevention, diagnosis, treatment, monitoring and aftercare).

Within the AmI@Life Roadmap [Friedewald & Da Costa 2003], it was intended to implement an exploratory approach. Concretely, ways were sought to represent the different possible scenarios and the degrees of uncertainty within the graphic displays. A simple colour code was designed with ‘green’ meaning ‘fairly certain short-term extrapolations’, ‘orange’ little uncertainty medium-term extrapolations, ‘red’ ‘high-uncertainty foresight’ and blue ‘vision or science fiction’. Therefore it was possible to include visions such as ‘Goal 2050’ where a team of football-playing robots beats the human World Cup champions, even if this is closer to science-fiction than foresight. Visions are often created precisely to influence the factual R&D agenda and should therefore not be neglected within policy-intelligence roadmaps [Dierkes et al 1996].

However, estimating ‘uncertainty’ is not straightforward and results in representations where the estimated degree of uncertainty was almost directly related to the time horizon foreseen for the specific development.

Further developments of the methodology would be needed to make roadmapping fully compatible with an exploratory approach.

3.2.5. Information Sources

The term ‘TRM’ or ‘S&TRM’ implies that the output should include graphic representations of technological developments but say nothing on the way the information should be collected and processed.

In the case of a policy-intelligence S&TRM, it is important to reflect to which extend the roadmap should be based on original information obtained, for instance, from Delphi studies or brainstorming workshops or whether in should be based on on-desk meta-analysis of existing studies. The former has the advantage of originality whereas the later could base the generalist roadmap on a larger basis of knowledge and is less demanding in terms of resources.

Within the IPTS/ESTO roadmapping project, the main sources of information were desk-based meta-analysis of existing studies, mainly for budgetary and time-constraint reasons. Experts were involved in the scoping phase at the beginning and in the validation phase at the end of the project.

The situation is different in the case of large scale industry technology roadmap. They are typically produced by the dominant players in the field who have high personal stakes in future developments and for that reason may tend to ignore some weak signals (Unix OS, Internet infrastructure, novel programming languages, etc) up to the time point were the importance of these technologies became obvious to everyone.
The open issue is how the huge and fast-growing body of scientific material could be mined and searched for relevant information. Teams of experts would probably cover this body in a far from comprehensive way. Only advanced text and data mining tools could possibly allow a breakthrough.

3.3. Kick-Off of the Project

Once detailed specifications for the project have been produced and agreed by the clients, it is necessary to assess the feasibility of the project before taking the final decision to proceed. The decision to continue the project has to be taken at a high level of management after common understanding has been built between the clients, the management, the coordinator, the core team and the main partners.

4. Implementation Phase

4.1. Construction of the Roadmap

The construction of the roadmap itself consists in collecting, synthesising and validating the information, and representing the trends within graphic displays associated with support documents.

An important lesson is that aiming at building a single, standardized and general methodology is neither practical nor desirable. On the contrary, the approach should be based on a light and modular process using a “methodological toolbox” with different modules depending on the roadmapping areas, issues, context and objectives.

Schematically, the methodology consists in relating major political or socio-economic challenges, seen as potential outputs of R&D developments, back to the present S&T policies through various technological paths. Traditional TRM tends to focus on the development trajectories of technologies to provide new products (Corporate TRM) or on detailed enabling technologies in the pre-competitive domain (Industry TRM).

Within the AmI@Life roadmap a ‘function-oriented’ approach was implemented in order to give a fuller account of the “innovation chain”, also including non-technological factors. It can be seen as an intermediate way between the technology-push and the user-pull approach.

The process consists of the following four successive but interrelated phases (see figure 1):

1. Preparation of Review Paper linking the user needs with key functions where AmI is expected to “make a difference”, to capture both foreseeable AmI applications and everyday behaviour (social trends).

2. Definition of Key Technologies needed for the development of the AmI applications and/or functions and construction of the Matrix Key Functions versus Key Technologies.

3. Mapping of Key Technologies over Time, using a yearly time scale and a time horizon of up to 15 to 20 years. This is the Technology Roadmap synthesising the:
   • Key nodal points;
   • Potential breakthroughs or disruptions;
   • Alternative scenarios;
   • Co-dependencies, i.e. how different technologies need to evolve and come together at a certain point in time in order to allow progress at macro-level.

\[3\] Meeting of enabling technologies for the emergence of a new generation of products / services [Eggermont 2003].
4. From the two previous steps, the potential trajectories of key functions/products versus time are derived. This is the **Function Roadmap** synthesising the:

- Key nodal points, milestones or ‘rendez-vous’;
- Potential breakthroughs or disruptions of different natures (S&T, economy, environment, society, demography, policy);
- Critical paths for the development of the key functions;
- Alternative scenarios;

![Diagram](image)

**Figure 1 Methodological Approach of the AmI@Life S&T Road**

The approach used in the Healthcare Roadmap was similar. The project team examined the current situation (Footprint Matrix) and a future vision (Matrix 2020) across three main technological clusters (information and communication technologies, medical technologies and genetic technologies) in terms of six principal dimensions of healthcare delivery (promotion, prevention, diagnosis, treatment, monitoring and aftercare).

**4.2. Key Success Factors**

The final evaluation of a roadmap depends primarily on the client satisfaction. However the following issues are important.

**4.2.1. Prioritisation**

It is essential to keep the process focused. The temptation to scan exhaustively a functional or technological field should be avoided and the most important information should be highlighted. The challenges/functions/technologies have to be prioritised and only the most relevant ones should be selected.
4.2.2. Inclusion of Human Factors

It is essential that the policy-intelligence roadmap is centred on some of the major challenges society is facing rather than only pushed by technology and the technology developers. Therefore the ‘challenge’ and the human factors: economic, social, human and demographic dimensions have to be intrinsic to the roadmapping process. For instance research demonstrates that though people have access to innovative functions, there is no inherent guarantee that they will accept and use them [Punie 2003]. This is to illustrate that a thorough analysis of social (use and acceptance) and economic (costs & business models, effects of public funding) factors is essential before envisaging the impacts of S&T developments on everyday life.

This raises the difficulty of integrating qualitative information within a systematic ‘quantitative’ process. There is a natural tendency not to put more emphasis on the areas for which quantitative elements or clear and undisputable relations are available to the detriment of areas for which they are not.

4.2.3. Transparency

It is important to ensure the legitimacy of studies, which may later be used to support major decisions in R&D policy. Therefore, the requirement for transparency of the roadmapping project should be considered early in the definition stage. This has various consequences for both the process and output.

1. The methods used and the process should be consistent and well-documented so that the project team could “learn from mistakes” and continuously improve and refine the process;
2. The format of maps should enable some evolutions and updates;
3. The procedure for selecting the participants to workshops should be transparent and documented in terms of backgrounds, expertise and skills.

To complement point 3, Kostoff and Schaller [2001] have also formulated the (theoretical) needs for the development process to be iterative.

"This process is somewhat paradoxical in that the appropriate expertise must be employed to develop a roadmap, but the appropriate expertise becomes fully known only after a complete roadmap has been constructed. An iterative roadmap development process is therefore essential."

These needs may apply primarily to the technology roadmaps developed within companies or industry. In the context of the policy intelligence, a new roadmapping project on a different challenge might be better value for money.

4.2.4. Reliability

Reliability and replicability are essential for the credibility of the products and the process. Even if roadmapping is dealing with uncertainty, this should not imply that uncertainty and randomness are part of the process. The transparency of the process is a pre-requirement for the reliability of the output.

Kostoff and Schaller [2001] put it as follows: "To what degree would a roadmap be replicated if a completely different development team were involved in its construction? If each development team were to construct a completely different roadmap for the same topic, then what meaning or credibility or value can be assigned to any roadmap?" They provide at least a partial response by saying that "to minimize repeatability challenges, a large segment of
the competent technical community should be involved in the construction and review of the roadmap”. This is obviously demanding in terms of resources.

4.2.5. User-Friendliness of the Outputs

To avoid information overload of clients and stakeholders (foresight and S&T communities, industry, citizens…), the appropriation of the outputs of foresight studies is always challenging. The necessity to deliver the outputs in user-friendly formats should be integrated from the definition stage, the form being in this case almost as important as the content.

The output and especially the graphic representations should be relevant, synthetic and user-friendly. Detailed, compatible and validated documentation have to support these graphic displays.

However, it should be emphasized that reaching the adequate level of relevance, simplicity and synthesis is particularly challenging. It requires good knowledge and a profound understanding of the field. The first iterations are likely to be complex, ‘comprehensive’ and cumbersome.

The developers of roadmaps, or any other foresight study, should be aware that the presentation of the results has a strong impact. In the future, roadmaps should therefore be in multimedia format and accessible from the web. It is however important to remain realistic because elaborate displays do not compensate insufficient content.

5. Validation and Evaluation

5.1. General Considerations

Peer review steps could be built early within the roadmapping process for instance during workshops with external experts in order to validate the:
- Identification of key functions;
- Identification of key enabling technologies;
- Roadmapping of key technologies;
- Roadmapping of key functions.

A process of validation of the final output can also be implemented. It has to be carefully designed, as a comprehensive validation of every detail would require almost as much effort as the original project.

However, it is important to keep in mind that a roadmap developed for policy intelligence may be less ‘scientifically exact’ than a roadmap developed with a considerably larger amount of resources within and by industrial R&D teams. This, however, does not necessarily mean that it has less value. The objectives and users are different and the value comes from the vision at higher level of abstraction and from the inclusion of socio-economic and human factors.

By definition, a good ‘policy intelligence’ roadmap responds to the specific needs of the policy-makers, whether they are explicit or implicit. Therefore, the validation of the roadmap should be considered as much as an assessment of the relevance, a ‘market testing’ or a quality control rather than a pure scientific validation. The ultimate evaluation of a foresight study is whether the outcomes have been translated into actions and have triggered some changes within the client organisations.
5.2. Validation of the IPTS/ESTO Roadmapping Project

The validation of the pilot phase of the IPTS/ESTO S&TRM project took place in May 2003. It was conducted by European Commission R&D officials and external experts. The outputs were considered to be good value for money “a solid piece of work”, especially in terms of the quantity of material. Both studies were regarded as particularly timely and addressing major challenges in the context of an enlarging Europe:

- It is highly important for Europe to be active in AmI, firstly because the roadmapping has confirmed the potential of AmI to improve the everyday life in many different areas and second because Europe should remain independent from the US technologically;
- The effective delivery of healthcare is a striking challenge in the context of an ageing society and an enlarging Europe.

It was even suggested that a ”European way” of roadmapping was needed, where the social drivers would be the leading ones, whereas within the US way competition and competitiveness are the leading drivers.

However, it was also mentioned that there was scope for increasing the impact and the relevance for the clients and users by exploiting the bulk of the existing material more thoroughly. Useful, applicable and relevant results should be extracted from the perspective: ”what does that mean for the policy makers?” and complemented by ”bridges to make them operational”. Therefore, it was envisaged that a relatively small complementary project could maximise the added value of the whole investment by extracting the critical points and developing strategic recommendations for R&D policy. For instance the quantitative output could be complemented by visions and scenarios such as in [Ducatel et al. 2001], or trend building, or SWOT analyses (Strengths / Weaknesses / Opportunities / Threats) or cost / benefit analyses to focus the policy recommendations.

6. Conclusion

As a conclusion, good progress in the development of a systematic methodology to investigate the relationship between key functions, key technologies and time has been made. The identification of the functions, technologies and the timelines were derived from a careful and iterative process of analysis and synthesis of previous works and from brainstorming. It has been possible to highlight some applications of S&T technologies in terms of useful, accessible and trustworthy innovative functions. These functions are effectively the starting point and leading dimension of this roadmapping methodology, before key technologies and time. This is probably one the main specificities and added values of the output of this study compared to the existing corporate and industry roadmaps: the ”function-oriented” approach seems to be closer to the user. However, the remaining question is how far this methodology is relevant and efficient for the study of the interrelationship between the technological and the human (economic, social, political and demographic) dimensions. Certainly, this methodology cannot replace scenario building in this respect but further theoretical developments could address the integration of different methodologies, qualitative and quantitative, into foresight studies. Similarly, more efforts are needed to integrate outcomes of foresight studies such as S&T roadmaps into the policy-making process.
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Transition periods tend to be controversial by nature: values from the past do not seem to be valid any more, because their content and interpretation has been changed. Paradoxically, when describing future plans, actors of society still need to use these values: first of all the new value systems are not characterized yet, but also because the old values remain to be commonsense (Smelser, 1994). From this perspective it is even more problematic that when making decisions, people many times do not behave in a critical future-oriented manner: we usually decide upon previous experience, and less likely based on – plausible – future expectations. In transition periods this characteristic of human nature may result in decisions trying to "save the past for the future", while ignoring that circumstances that were valid in the past are not plausible for the future any more.

Currently society experiences a complex transition which is many times called as "social transition between modernity and post-modernity"; this change can be reflected in the future-images of the youth which is – towards novelties – said to be the probably most sensible group of the society. (Rubin, 2000)

Future-orientation research accomplished by Professor Erzsébet Nováky and her colleagues (Nováky – Hideg – Kappéter, 1994), results of the Hungarian Rokeach-tests (Hankiss, 1989), the two nation-wide youth research called Youth 2000 (Szabó – Bauer – Laki, 2002) and Youth 2004 (Szabó – Bauer, 2004), as well as the conclusions originating from Budapest Futures Course 2001 (Nováky – Gáspár – Tyukodi, 2002) pointed out that examining the expectations, anticipations, hopes and fears of young people both within Hungary and on the international levels and looking into the value-level decision-making of the youth is relevant for understanding the content of change of eras and for foreseeing possible paradigm-shifts.

Hence – in case we want to foresee the main paradigms of future societies –, we need to deal with today’s youth; their mental images reflect the problems and failures of the predecessors, their hopes, fears and expectations should be addressed, and in the meanwhile adults can gain
a lot of information about their life-leading patterns, which also means a self-control, a reality check on ourselves. In this case general knowledge and social knowledge will be confronted for the sake of finding an identity construction that might be valid for the today’s youth, which is globalized in many ways, but owns the cultural heritage of predecessor generations as well. (Rubin, 2000) How do these young people cope with reality? Who impresses them, whom do they respect, and whom do they refuse? What kind of in-depth processes cause or amplify these phenomena on the societal level? The article addresses these questions in the Causal Layer Analysis (CLA) framework.

1. Theoretical background for the method

Dealing with interrelated phenomena the researcher needs to collect and process great amount of information originating from different sources on the one hand, but needs to remain structured and easy-to-follow on the other hand. The use of CLA helps us to fulfill these requirements. In this chapter I summarize the idea, the algorithm and the brief content of the method following the way Sohail Inayatullah has constructed it (Inayatullah, 2005). The method identifies four layers, representing four different levels where complexity and depth of the analysis increase from Layer 1 to Layer 4. At the first two levels analytical way of inquiry is more beneficial, while at the deeper levels the researcher paves the ground for detecting interrelations and synthesis. It is also an absolute must that while examining the phenomena, the researcher moves back and forth among these levels. The short description of the aim and content of each layer is as follows:

Layer 1.: “Litany”

It handles quantitative trends while gaining data from the most visible and obvious phenomenon. Problems can be well defined in this layer, but - because of the source of the data, i.e. media, news, statistics - they are often exaggerated and many times are used for political or commercial purposes. Still, the content needs to be observed as objectively as possible. Regarding to the proposed research trends of education-selections, consumer behavior, and free-time activities should be incorporated in this layer. If appropriate, deep-interviews and focus-group studies need to be accomplished.

Layer 2: “Social causes”

In the second level the research detects economic, cultural, political and historical factors so that quantitative data can be interpreted and explained. As source the researcher uses data from policy institutes, editorials, the media of popular science, as well as deep interviews and on-the-spot observations (i.e. the researcher needs to visit families, classrooms and typical “chill-out” places of the youth). To obtain data for this purpose it is necessary to map the trends, images of the future together with weights that make realizing the preferred future; then emerging issues (seeds of change and week signals) must be detected and described; these as obstacles will challenge the preferred futures. Statistics must be questioned and the role of the state/institutions will be observed, while he researcher needs to look for an alternative notion of policy analysis while identifying phenomena obeying to dominant paradigms.
Layer 3: “Discourse/ Worldview”

The goal of the research accomplished in the third layer is to identify actor-invariant social and cultural patterns; circumstances serving as legitimate structure for the system must be examined. The issues of grand structure and power are identified.

Layer 4: “Myth/ Metaphor”

In the deepest level collective archetypes, unconscious and emotional dimensions need to be incorporated to the research. Arts, visual images and artistic products designed for the youth are said to create the civilization level of the relevant collective identity, as such these information sources (i.e. ancient and contemporary arts and media-based popular arts) need to be examined and understood by the researcher. As a result unconscious assumptions of how the world is and how it should be according to different stakeholders of the society are reflected within the research.

The balanced research and moving up and down among the layers gains the most efficient sources of empirical futures research, evolutionary methods, critical approaches and action-learning patterns.

2. Empirical experience elaborated within the CLA framework

The second chapter is basically a case study. The methodological framework is built on the CLA-approach; the content focuses on the media-driven expectations of the Hungarian youth. The aim of the research is to gain in-depth explanations, embedded in societal processes, for the media-related behavior and attitude of the Hungarian youth.

Observations from the Litany level

It is part of commonsense that today’s youth is to consume many products created by the media: they may either relate to advertising, to popular movies, or to the news, they all have the power to influence carrier-aspirations, peer-to-peer relations or health-related choices. The most popular representative of the media is still television; it influences people through the time spent on watching it (the more we watch it, the less free-time we possess that could be spent in alternate ways; the more information we need to process, etc.) and through the quality of the offered programs.

According to international comparisons time-expenditure on watching television is extremely high in Hungary. Already during the 1980’s, well before the regime change, in many social groups it became the most popular way of spending free-time. The time devoted to watch television is influenced by the activity status of the respondents (ie. whether s/he pursues any paid jobs) and the number of accessible TV-channels. Interestingly, the indicator was not in correlation with the education background of the respondents, but with the father’s education level, with the type of school the respondent visits (elementary/high school, public/denominational school) and with the sex of the respondent (boys generally watch more TV, than girls). In terms of supervision of the programs accessed by the children the level of education possessed by the father is a significant influencing factor: fathers with college or even university degree pay more attention on the program-selection of the children. In terms of free-time activities television seem to have a central role within families: based on the survey 35% of the responding students meet their parents the most frequently in front of the television. (László, 2005)
The quality of the programs offered by the proliferating number of channels is also an important factor. It is commonsense, that aggression and sexuality shown on the screen attracts people. Except for the channels of thematic style (like Discovery Channel, MTV, Animal Planet) commercial channels, which sell advertising time to companies as their main income, radiate globally justified programs that contain a lot of stimulation related to violence and sexuality. These messages strengthen the tensions towards consumerist values – such as self-expression via consumption and identity-building via free-time activities or music-styles, and this way they re-produce while also intensify the demand for the reinforcing messages.

Can we find groups within the youth that are relatively less influenced by the media? It is worth taking a closer look at denominational schools; in Hungary young people attending schools owned by the church watch TV during 107 minutes/day, whilst their peers visiting public schools spend 157 minutes/day in front of the TV. Denominational high schools owe the lowest rates, by 73 minutes/day. It would be interesting to search for the explanation to this observation; maybe the atmosphere is different, or there are more volunteering projects organized by the teachers and offered for students so that kids can spend their free-time in a community and on meaningful activities. (László, 2005)

**Identifying social causes at the second level**

Creation of the adult personality, character, worldview, and value system is said to be affected by three major influencing factors (Törőcsik, 2003):

1. family and its closest acquaintance circles,
2. school including also peer-pressure, and
3. cultural environment overwhelmed by social experience, knowledge and value system being transmitted via the media.

In order to understand social mechanisms causing phenomena visible on the litany level, we need to take a closer look at the three factors.

**Family**

After the regime change the “lost generation” (people who were in their 40’s about 1990) faced severe existential and moral challenges. Because of the economic transition, unemployment rates increased, number of working hours went up, fear from loosing position and status has shaded everyday life in many families. Several marriages broke up, social problems and deviances became visible in public places, while society ended up in confusion also in terms of values and identity. In short, the transition challenged not only the existential well-being but also the mental health of the Hungarian population, and the parent generation of the current teenagers suffered even more drastically. These children received much less attention; parents could only hope that school and education could – at least partly – substitute their role. On the other hand, as it comes visible in the third layer, parents are still role-models for many young people, and they have vital role in providing security and orientation for their children that cannot be substituted by any other institutions. As a conclusion it is crucially important that parents find self-balance and keep on expressing family values and practicing traditional parental tasks.

**Education**

By definition we can say that i) school serves as a transmitter of authentic information and teaches mental abstractions to make the individual eligible to create knowledge from the information, ii) school serves as a social space where individuals may found friendships
or groups and this way can prepare themselves for an independent life in the society. In Coleman’s point of view there is an education-related paradox in the post-industrial ages: even though there is always more to learn in a society that is getting more and more difficult, and institutionalized education is constantly gaining importance in influencing individual lives; the so called “independent teenager society” emerges gradually (Coleman, 1974). As Coleman says, this teenage culture is less and less interested in education but pays equally more attention to cars, dating, sports, music and other activities that are not directly related to the school as an education unit but a place dedicated to socializing (ibid). This way, although it is getting more and more important that teenagers study, the emerging teen culture deviates their attention from education. According to Coleman the root of the problem can be found in the contest-oriented spirit of the schools that repress natural curiosity but take overwhelmed goal-orientation to the surface. It would be a great progress for the future if school could develop other incentives than individual contest and would feel responsible about not only teaching but again, educating the young ones.

The “cultural environment”

After the regime change in Hungary, new television channels providing programs of a new style have occurred, whereas programs representing the consumer culture have grown to the largest scale. This is certainly a natural phenomenon in consumer societies; but it appeared drastically in Hungary, had no cultural embedment and this way caused a dramatic change in the TV-watching habits of the population. This rapid progress was a mental challenge for the population in its own. Furthermore, these cultural products have had a significant affect on the worldview of the teenagers growing up during the years of transition, and the process has far not reached its saturation point. Also, the role of the media gains importance as the complexity of the society increases; a constantly larger amount of our knowledge is obtained not by direct, personal experience, but via information provided by the media.

Unfortunately, in parallel with escalation of the media, the field of other free-time activities has shrunken. The media, supported by the state-of-the-art methods of ICT’s, have gained much more relevance and popularity among teenagers than other value-transmitter social-cultural free-time activities (community work, hobby-groups, etc). In the same time, as mentioned, above, we can also observe the decline of the power of the two other influencing factors, family and school. This means that the worldview of the new generations is affected by messages predominantly reflecting hedonistic patterns. When looking for social causes or working out society models for the future, we must take into consideration that their identity is being experienced via consumption and enjoying free-time activities that also can turn to be the primarily social and human value.

Explanations gained from the worldview observed in the third layer

For going a step deeper on the way to understand how youngsters interpret and integrate the outside world, it is worth taking a look at what kind of role-models teenagers choose for themselves (Tárki, 1998). Role-models usually serve as orientating mile-stones for young people: they accept and admit them; moreover, they want to develop their personalities upon reflecting patterns of characteristics from the role-models. In this sense choosing a role-model will definitely tell us about what young people evaluate as important and attracting on the one hand. In case we consider expressing preferences as part of constructing identity during adolescence, we might gain some conclusions about how the teenager thinks about his/her future.
Based on the survey it depends on the education level of the father and on the television-consumption patterns of the youngsters, what kind of role-models they choose. In terms of youngsters watching television for less than four hours a day, 52% chooses role-model from the family, 32% among the representatives of the media, and 16% from school. Although it is still the family that impresses youngsters the most, we should not forget that media has the most spectacular tools for targeting messages – and teenagers are easily impressed by show-elements, novelties and technological solutions. The messages of the media transmit values related to a hedonistic style of living, where the individual should become the center of life-planning aspirations and should treat him-/herself as an investment. Stereotypes relating to these messages are new consumerist value system, wealth, well-being, and success.

Accordingly, research accomplished on the third layer reinforces outcomes of the first two layers. It means, when talking about future societies predominantly constructed by the today’s youth, we need to take into account that these youngsters have already experienced the hedonistic way of consumption while developed a critical aspect about the way adult-generation copes with its patterns. They still need authentic role-models, parents and family can have a strong influence, but education definitely needs to reconsider its purpose and techniques.

**Myths legitimating the societal progresses; synthesis from the fourth layer**

Hereby we focus on the following two questions: What kind of processes can be found behind these phenomena? What are our collective beliefs that legitimate this system?

The age of modernity can be described by local/regional traditional cultures, value structures formed on the social basis, and the rationale of the industrial society and its technological premises. The next plausible era of humanity is called “post-modernity”: it can be characterized by phenomenon emerging through globalization and networking while increasing individuality in the same time; the individual interpretation of values; and the rationale of information society (i.e. increasing significance of service economy and communication). The tension between the two eras manifests in late-modernity; it is a transition period that is being experienced globally, although cultural roots color the nature of the process; in this period social empowerment, coping and identity are seen as main research areas. (Rubin, 2000)

It is commonsense that social-economic changes restructure value-systems. The nature of the current transition can be described by the shift between the puritan character of the 20th century representing the labor-ethos and the hedonistic or narcissistic character of the present time aiming at self-expression, self-fulfillment and assertion. Hence in the meanwhile the individual should focus on impressing the social environment, managing impressions, and fulfilling the expectations of the outside world. When looking into the system of the individual’s capital, it is visible that the emphasis has been shifting from the material and the intellectual capital to the networking and symbolic capital. Consumption culture, market-oriented economy, advertising and show-industry serve the needs of this “outside-driven” society, and create new demands fitting in the scope of the hedonistic life. One can feel very free and autonomous in this society, can take advantage from the opportunities provided by the slurring limits and globalization, but it has its price: the feeling of insecurity and lack of orientation.
3. Understanding and orientating the anticipations of the youth

Youth is definitely a risk-group in this sense, because they need to feel being loved, taken care of and provided orientation the most by nature. The three main influencing institutions (family, school and surrounding culture, i.e. the media) need to be conscious about the messages they pass on to the youth: they need to be orientating, supporting and possibly univocal. From the futures perspective of view, it is visible that hedonistic type of consumption, transmitted by the media in an efficient way, affirmed by the peer-groups causes imbalances, insecurity and indiscipline among certain youth groups. It is an absolute must that we can identify youngsters that are affected by the messages of the consumption society in a different way; when examining their behavior we can understand their motivations and problem-solving strategies, and this way we can have real dialogue, conversations and communication with them.

A possible analysis of the youth-groups showing different reaction-patterns was constructed by an advertising agency in 2000 (Teens 2000, In: Töröcsik, 2003). The research was accomplished among teens between 13 to 19 years in three rounds: after the first quantitative phase the commissioners, who were 19-21-year-old pre-trained youngsters themselves, used associative techniques during the second and the third rounds. As an outcome, four categories could be identified, depending on two variables: (1) being family-reliant or family-independent, (2) showing extrovert or introvert behavior.

Category 1: “Playing kid”: family-reliant and introvert. They usually lose themselves in playing computer games and comics; they do not go out often, do not criticize the adult world, but contemplating it without interfering with it.

Category 2: “Carefree”: family-reliant and extrovert. They have already made the first steps towards independence, faced no big problems in the meanwhile, they are open towards the adult-world, and do not really care about the future.

Category 3: “Fun Freak”: family-independent and extrovert. They live up to their passions, are independent and attracted to the peers, but do not diverge from the family.

Category 4: “Outlaw”: family-independent and introvert. These are the children that are not understood by adults; but this feeling is usually mutual: outlaw kids deny the adult world and create own value systems and behavior codes.

The majority of the observed youngsters belonged to the ”Fun Freak” and ”Carefree” categories; the ”trendy” opinion leaders were the ”Outlaw” children in the same time. According to the results teenagers were interested in music, fashion and sports the most, and created new fields of reality by using technology and music; they found recreation and joy in experiences and groove.

During the current social transition – on our path from modernity, through late-modernity to a stage we can hardly describe in a precise way for the moment of being – the most important task of the older generations is to listen to the children and understand what they need and why they ask for it. The category system, above, is one possible grouping; its greatest advantage is the applied method: instead of examining the youth in the traditional manner, peers were trained to accomplish the research, and this way the authenticity of the results is more reliable. We can see from the outcomes that the categories show significant differences and adults need to be conscious about the messages passing on to them: what works for certain youngsters remain incomprehensible for others. In short, adults – parents as well as teachers and other experts dealing with the youth – need to be very patient and passionate in observing them, understanding them, and addressing them.
We could see from the CLA analysis that youngsters do not show any problems that cannot be traced back and identified in the deeper layers of the society which we called either transition from modernity to late-modernity or shift from the puritan era of the industrial society to the hedonistic type of consumer society. We could say that the problems of the teenagers reflect the difficulties of the society as such, and this way in case we want to help them, adults must help themselves first. Hence generations are interconnected with each other, and in case there is a shift to a positive direction at either level, society as a whole, including all generations, will develop in a parallel way.

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Diverging Methods in Single Projects. Agence Future: an Example from Futures Research

Maya Van Leemput

1. Research into complex social phenomena

1.1. The idea

With its work towards more useful and more well executed futures thinking in all domains of society/life, futures studies addresses a complex social phenomenon. Futures thinking by public administrations, individuals, communities or businesses and organisations brings complex contexts and questions to our field. The complexity of the subject matter of futures studies merits an approach that explicitly combines methods, disciplines and fields of practice with open ended research designs that pay attention to real life and experience. I do not argue for adopting such approaches to the exclusion of others but want to emphasise their usefulness and hope to stimulate their implementation.

The need to use multiple methods to address most futures questions is widely accepted. The issues at the heart of social and futures research merit not only the combination of methods and disciplines but also of diverse fields of practice. Different methodologies are good at achieving different things. Different fields of practice offer different perspectives on the object of study as well as different motivations for questioning the object at all. Scientists often work in/for/with the fields of business or governance and this cooperation has more to offer than merely funding. It brings specific questions and points of view to the research design and implementation. Combinations with other fields of practice such as journalism, the arts or design will bring other questions and angels yet again. Agence Future (AF) works in the fields of futures studies, journalism and visual art with a single research design. The project offers an opportunity to assess the advantages and disadvantages of such an approach.

Futures research tackles open ended subject matter, it is surprising to see how often this happens with closed ended research/project designs. Open research questions and designs have important advantages. They can provide different insight than closed questions and leave room for the element of surprise. Using the example of AF, I show how different the results are that such designs and questions generate.

The study of complex social phenomena requires attention for how they appear in people’s experience. In social science knowledge about a subject also requires knowledge of societies’ and peoples understanding of that subject. Research into how futures (as well as any other complex
social phenomena) are experienced and told in practical circumstances of varied environments is called for. Futurists tend to see painfully clearly the limitations and shortcomings of how their topic is dealt with outside the field. Sometimes we give non-specialists little credit on this score and overlook the fact that futures are already part of people’s varying approaches to their everyday reality or specialities. These approaches however are important to the actual possibilities for futures oriented action today. AF undertakes to chart some of them.

1.2. The practice

If futures studies is to arrive at more useful and more well executed futures thinking in all domains of society/life, it needs to take account of multiple perspectives on its subject matter. Futures are more multi-dimensional than the mere use of the plural can convey. AF tries to face the challenge this poses with a multi-faceted methodological approach and an open ended research design to create a composite image of the diverse ways people talk about the future.

AF’s main objective is to collect a varied and rich sample of non-media statements about the future. The research explores the potential for discourse on futures in real-life settings. The study tests interview schedules and techniques for futures studies by applying them in different cultural settings. To do the multiple possibilities of the resulting collection justice, we had to get to know its basic subject matter in more than one way. A strategy for achieving this was to combine an academic approach with media oriented (journalistic) and creative/artistic approaches in a collaborative process between a futures researcher and a visual artist. Additionally, we experimented in practice with some of the (lifestyle) suggestions taken from our interviews. We also let respondents guide us partly in our search for other subjects, locations and persons suitable for our collection of ideas on the future. We made a point of adding improvised conversations to our more formal (but nevertheless flexible) series of semi-structured interviews. Not insignificantly, the combination of fields of practice also made the set-up of the project financially viable. It has certainly helped us tackle the issues at hand from plural angles and as such encouraged broader insights and new interpretations of the subject matter.

This paper describes how the project came into being, what its main objectives and research questions are and how we have approached these questions methodologically. In the discussion advantages and disadvantages of the combination of fields of practice and methods are highlighted. To me, coming from a media studies background, the futures studies approach opened up possibilities for open ended lines of questioning and an unconventional combination of methods. In its attempt to take up some of these possibilities, the project described here leaves much to be desired. It was set up in relative isolation from the futures field, and is a first timers effort to incorporate some of the methodological ideas raised above. We had to feel our way through the opportunities and pitfalls presented by our working method. We had to review our own interpretations of the work along the way. Perhaps precisely our relative inexperience in futures studies is what made it possible for us to undertake this kind of research and allow ourselves to make mistakes to learn from.
2. **AF research set-up**

2.1. **How AF began**

I was introduced to futures studies when conducting Ph.D. research on representations of the future on British television in the mid nineties. The central analysis of that research concentrated on images of the future portrayed on television and the processes that made these images what they were. I was looking at television’s effort in presenting ‘visions of the future’ from a media rather than futures studies point of view.

In the six month sample period in 1994-95, representations of the future on television were more modern than post-modern. Non-fiction presented a positivist view of the world in which the future is determined to a large extent by science and technology and tomorrow is a kind of ‘new and improved’ now. Fiction presented a broadly similar view, often adding an optimistic interpretation of humanity’s ethical development alongside its scientific and technological achievements. Theatre films and animated series about the future on TV presented a darker image, often set in a post-apocalyptic environment.

The overview of how television dealt with the future resulting from the research, could be placed into context with an overview of the kinds of subjects that had not been treated in the programmes. Some of the missing angles were obvious. While non-fiction especially limited itself to a relatively short-term outlook, discussions of the future could actually include much larger time spans. Similarly, all non-fiction discussions concentrated on areas within the industrialised world while many issues relevant to futures clearly pertain to the world as a whole or specifically to non-industrialised areas of the world. To compile lists of all sorts of missing themes and attitudes in relation to futures, I used -amongst other sources- course overviews of subjects within the field of futures studies. It soon became clear however that my lists always remained incomplete. Any number of subjects and themes could be looked at in relation to the future.

Not only did television present a limited range of topics in relation to the future, it also presented these from only a few of many possible perspectives and in only a few of many possible ways. If this is how television presents the future, then how is the future dealt with by individual people? Are the numbers of ways in which they talk about it equally limited? Is it possible to find the virtually limitless possibilities of a subject like futures in statements made outside of the context of popular media? This was the initial perplexity that motivated the research presented here.

2.2. **Looking at ‘how people think about the future’**

The importance ascribed to images of the future in shaping social transformation is one of the main arguments for futurists to occupy themselves with assessing, imagining, planning, or creating futures. The idea that images of the future have a role in the mechanisms of change in societies has long since Polak’s\(^1\) work on the subject been taken up by futures studies. AF looks at the characteristics and components of current day conceptualisations of the future. It is not like Polak’s unparalleled work involved in the historical analysis of the characteristics of image of the future in broad societal/cultural trends. Nevertheless it does aim to provide insight into the way people are engaged with futures today.

\(^1\) POLAK, F. De toekomst is verleden tijd. Vol I-II. Utrecht, Uitgeversmaatschappij W. De Haan NV, 1955.
Bell suggests images of the future are studied in an effort to understand and explain people’s behaviour. The process of ‘image making itself, is studied to ”encourage people to rigorously explore alternative images of the future and construct images of the futures themselves.”2 He argues that "Futurists encourage people to look beyond the familiar and to search for opportunities for themselves and their organizations…"3 These are strong arguments for also trying to understand to what extent and in what manner people (in organisations or individually) already do so.

Futurists have taken it upon themselves to help individuals, organisations, communities and society as a whole to think about futures in a useful manner. Our understanding of the variety of ways in which futures are dealt with in these contexts underlies strategies and techniques applied when assisting and supporting efforts to include futures in other domains of theory and practice. Most often when futurists encourage people to think about the future they do so within well-defined contexts such as community projects, consulting in government (policy), industry and business. The methods and techniques used in these cases are varied. Commendably they are usually designed especially to suit the precise context of the work being done, the subjects tackled and the people involved. The research presented here is dissimilar even to the kinds of projects that examine specific population group’s ideas on (certain aspects of) the future. It asks what are the ways in which people from different walks of life will talk about the future more or less spontaneously and unprepared, without the context of workshops and guiding other than the clear intention to talk about the future and a set of questions to help this process along. It brings together a collection of statements about the future gathered during over 300 interviews in which a wide range of respondents from all around the world addressed questions about their ideas on the future.

AF is a study of people’s experience and conceptualisation of the future. More precisely, we are examining what people say about the subject and how they say it. In futures we deal with possibilities. This research then looks at possibilities too, not for future histories but for the way we think and talk about them. This is a survey not of what the future will be like or how changes will take place in each of the locations included in the research but of what people think the future could be like, how they think changes might happen and the extent to which they think about the future at all.

2.3. The collection

The respondents that contributed to AF’s collection, come from different locations around the world, with different cultural, political, professional, religious and economic backgrounds. In selecting respondents we have kept in mind a degree of stratification as to age, gender, class and ethnicity even though this division of respondents into categories has no analytical power for the research set-up. So far we held 382 conversations about the future with a range of people in a range of circumstances and environments. Respondents were selected to include people with no previously known interest in the topic as well as experts in fields explicitly or implicitly related to (particular issues concerning) futures. Most pertinent is that the material is gathered with the clear goal to build a collection that is diverse, including unique, exceptional and original approaches to the subject in order to demonstrate the variety of approaches to the future that can be found. What was said, the stories told, the examples given and images

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2 Bell in Dator Advancing Futures, 2002, p.39
3 Bell in Dator Advancing Futures, 2002, p.39
portrayed, made each conversation unique. We have come across some singularly inspiring ways of talking about the future during the course of this research. We have sought and found diversity in guided conversations about futures.

Quite unusually within the context of surveys in social science we did not just look at the varying ways people talk about the future in the industrialised world but included the views of people from a range of locations in developing societies as well. The latter characteristic of our sample raises particular questions concerning cross-cultural work that will be addressed in detail elsewhere. The point here is that we included points of view from twenty four countries in five continents. Respondents from North and South, from our own -Western- culture, other cultures and from different layers of the population participated. We approached these people directly and talked with them in their own settings. (A list of the countries included in our field trip and the interviews we conducted is provided at the end of this paper).

We interviewed people individually and within organisations. As well as 295 lay people we interviewed 87 experts in fields explicitly related to issues concerning the future. The experts interviewed in the study include academics in sociology, demography, communications, political sciences, biology, IT, futures studies, engineering, seismology, astronomy, and more, they also include businessmen in sectors such as alternative energy, IT and B-2-B services, clerics, activists and project workers.

To help us achieve a suitably varied collection to demonstrate the potential of futures thinking, we have aimed beyond the boundaries of international languages as much as possible. Budgetary and practical constraints however have determined the extend to which we were successful in this as well as other aspects of the diversity of our collection. Many thinkable conceptualisations of the future have not made it into the collection. People in places where we could not find a voluntary interpreter or in places that were to expensive, dangerous or just merely cumbersome to get to, have not been able to contribute to the collection, even though we would have wanted them to. So while I recommend asking open questions that require a great amount of labour intensive data-collection, it would be wrong to pretend that such goals can always be achieved in full. The AF collection has already become quite large and has at least partially achieved its goal of diversity and range. It is not because it could never be complete, that it is not worthwhile exploring.

2.4. The analysis

If a collection of ideas on the future is diverse, then what aspects of these ideas make for that diversity? In what ways can statements about the future differ or be alike?

In the analysis we distinguish between conceptualisations on the future in the realms of the private, professional and public spheres and examine the differences between them. We look at conceptualisations of personal, local and global futures and compare their make up. Distinctions between common sense, everyday types of discourse on the future and specialist conceptualisations become apparent in the collection. Conceptualisations in which questions concerning the future are considered relevant and important and those that consider them irrelevant and unimportant are described. How the concepts of progress, change and development appear in each conceptualisation is looked at in detail.

To describe and compare the conceptualisations of the future that appear in the interviews and conversations we take into account several different characteristics of these conceptualisations, listed below.
The analysis currently being carried out on the material collected with AF does not concern the division of conceptualisations of the future into types according to the population group they originate from. Instead, subject position is central. We ask how eight characteristics of conceptualisations of the future can combine. We analyse these characteristic aspects in the statements about the future we have collected, pointing out the range of possibilities demonstrated in the collection. Thus this collection serves to show the variety of approaches to futures that can be found. This is an explicitly open-ended line of questioning that has allowed us to identify conceptualisations of the future that have so far remained uncharted: the contributions of a Chilean cleaning lady, a Syrian web-designer and an African dean to name but a few.

So the research does not provide generalisations on the views and opinions of specific populations or categories of respondents but shows the variety of possible approaches to the subject of futures. In presenting our findings we will highlight typical as well as exceptional, highly original and unexpected responses to our questions. It is quite unusual in social science not to set out to produce generalisations about groups of people within populations, to be paying attention not just to the typical, but even more so to the atypical. Because of widely held interpretations of what science is all about, we are used to determining types and making generalisations to enable us to formulate the rules or regularities to which human behaviour and societies comply. Consequently, in much of our work we want to make statements about what differentiates certain groups of people (social classes, sub cultures, males and females for example) from others and make generalisations about classes, categories of people or behaviour. AF wants to address the possibilities beyond the typical.

Since we are not taking representative samples, this research can not yield results on how different type categories of people talk about the future, neither on what factors influence how people talk about the future. Of course we will be able to make some intuitive generalisations, in particular on some of the differences mentioned above such as how people in the developed world address the topic in comparison to how people in the developing world do. It is not within the scope of the research however to make general verifiable statements for instance on optimism and pessimism of certain population groups or on the factors that contribute to this optimism or pessimism. Instead the analysis concentrates on the combinations of characteristics that optimist and pessimist conceptualisations display. It can be seen as a disadvantage that the research design does not address questions about characteristic conceptualisations of specific population groups. Nevertheless, every research design has its own unasked questions and here it happens to be: which people generally hold what views?

2.5. Interview schedules

When we ask people to talk about the future, there is a wealth of possible ways in which they could respond. Respondents can in principle say anything, talk about any aspect of future life, discuss any topic, location or time. What the research wants to establish is how differently people actually do address questions about the future.
We have tried to deal with this overwhelmingly open research question by using a standard semi-structured interview schedule that could be adapted to individual respondents but always uses the same basic approach. The principle is to have people react first to the introduction of the idea of futures with as little input from the researcher as possible. Then respondents are asked to talk about personal, local and global futures. For each of these scales best and worst case possibilities as well as expectations are explored. In the last section of the interview, our conversation partners are asked to represent an image of an extremely long term future. To close the interview they are asked to indicate where in their country the future could already be visible today.

Asking people about ideal possibilities and then about the most undesirable possibilities for the future is a technique applied regularly in futures studies. The intention with this type of question schedule is to get the most extreme possibilities out of the way so that people’s minds are free to talk about more realistic possibilities. Most of the time our respondents talked about best and worst case scenario’s in comparison to their realistic expectations without prompting.

Given the multi-cultural setting of our series of interviews and keeping in mind the goal of representing the potential for discussion of the future, methodological questions presented themselves. With a diverse group of respondents such as in AF, the research goals would not be served by using the exact same formulations of our questions in every interview no matter its specific setting. Interviewees would need to be able to make suitably considered statements. Each of them would need to be able to make sense of our questions and we would need to be able to make sense of their replies. This is an aspect of strategies and techniques applied in the interviews as well as a more general question of understanding and dealing with cultural difference (and sameness).

2.6. Execution

We assume that while respondents may talk about anything in response to our questions their replies are determined by their conditions, by their daily lives, their speciality, their concerns and preoccupations concerning today. What they say depends in part of what they think we are interested in, what we expect from them, why we ask them and not someone else. Who the respondent is and in what environment s/he lives will affect his/her discussion. We can assume that the respondents personality, his reality and history is what makes for the differences in the replies we get. Several strategies have been put into place to facilitate a meaningful execution of interviews. The use of a semi-structured interview schedule as sketched above is the first of these strategies.

In the execution of the interviews we have adopted techniques to entice people to talk about the future also used in other futures studies projects. We have asked about positive and negative extremes before discussing expectations and desires, we have tried to make the period of time we wanted to hear about more manageable by comparing it to the same period of time in the past. We have had to gain people’s trust so that they could talk openly about their personal circumstances, hopes and fears. Our introduction to the interviews as well as our first approach of potential respondents had to give away as little as possible about our expectations of what we might find but had to be formulated each time so that the individual respondent could grasp what we were planning. Equally, we have had to prepare replies to questions in return to our interview questions and developed prompts that would not be leading.

An added difficulty was that the research design calls for interviews to take place in respondents’ own locations. Talking with people in their own environment, changes the
character of the conversation. It has respondents well at ease and makes it easier for them to relate the kinds of questions we ask to themselves. A disadvantage of interviewing respondents in widely varied locations however, is that there is very little control over the circumstances of the interviews. That it has always been us who have conducted the interviews, was one of the very few circumstances that were not beyond our control, the only factor we could keep constant, although we are sure that interpretations of who we are and what we want, differ widely according to where we are and who we are talking with. It is clear that when interviewing in a variety of locations, outside distractions and inputs cannot be constant. Likewise, it is impossible to keep what just happened to someone yesterday that may affect how they talk about the future constant. You can’t keep constant, what happened in the world in the recent past or what is happening in the present (the events of September 11th 2001 had a great influence on what people said). As a matter of fact, it is precisely this changeability of what impacts on how people talk about the future that makes for much of the diversity in our collection.

The use of recumbent bicycles for large overland sections of the field journey, is perhaps the most controversial strategy we used to tackle the demands of an open-ended research design. We wanted to take our time and to place ourselves in a relatively unique position that would be similar at all locations. We used recumbent bicycles as our primary mode of transport as one way to help force through these conditions of observation. This is a clear example of the introduction of an unconventional element from a completely different field of practice into the research set-up has had definite effects on the execution of the research.

Travelling by bike gives a particular edge to the research. It has several advantages. First of all, it offers great opportunities for contact with the local population. It gives you something to talk about, whether you are on the roads of Northern Europe, the plains of Senegal or the beachfronts of Australia.

Secondly, it helps in setting the scene for interviews in a manner that is closely related to people’s actual lives. It makes us more human in the eyes of the people we meet and that might become respondents that contribute to the collection. What they see is a couple of people who have been cycling from who knows where. We do not fit the stereotype of a research team. All this enhances our chances of holding interviews about the future that are different to what a more formal approach might achieve. The people we meet sometimes wonder if we might need food, drink or shelter for the night, and sometimes we do. That’s not a bad way to start. Granted, some might think how mad we must be to cover any sort of distance by bicycle but by using our bicycles we have been able to enter into many people’s actual settings more effectively than we could have otherwise. This in turn sets the circumstances of some of the interviews we held much closer to the everyday reality of our respondents.

Another useful extra for us is that our bicycles are not your run of the mill touring bikes, but futuristic looking recumbent cycles. In many places we have been, no one had ever seen such a contraption before. In the context of our focus on the future, it is interesting to observe how people react to something that is entirely new to them.

Last but not least, we feel that on our bikes we have a far better vantage point for gaining an intuitive understanding of a place and its circumstances than we could ever have travelling by public transport or in a car. Riding from point A to B we get to look around not just the two or three villages where we stop for lunch or spend the night. We get to see each and every village on our route, we spot where the wells are, which ones are dry, which ones are not. We notice what is for sale in different parts of the village, where the women sit and what the men are doing. This increases our chances of not letting subtle changes in environments and living conditions escape us as we progress from one region to the next.
3. Other examples from AF

3.1. Open research questions: the example of time scopes

Time scope is the most obvious characteristic to be considered when asking how people talk about the future. AF examines what periods of time our respondents mention in their discussions of futures. The future could be any time beyond now, but in daily life we think about the immediate future more often than about a time beyond the life time of say our unborn grandchildren. What we look at with AF is first of all, what period of time people will talk about spontaneously when asked about the future. Then we concentrate on the ways people can deal with questions about time ranges beyond the immediate and their own life time.

Recently results from a web survey conducted by B.Tonn indicated that “when the respondents hear the word ‘future’, they think about a point in time 15 years into the future, on average, with a median response of 10 years”. Such a survey about how people think about the future was long overdue. It also provides the perfect example for comparison with the work done with AF, in that it uses a closed ended research design and closed ended questionnaire to explore cognitive representations of the future.

Tonn et al’s portrayal of thinking about the future is not very life like. The use of precise numbers of years in their questions and the presentation of their results, suggests an accurate and objective way to relate ‘when’ people think about if they think about the future. That does not mean it represents the actual use of time spans in thinking about the future. With AF we found that in people’s conceptualisations the future is most often not a precise ”point in time”. People discuss a certain time span, rather than a precise moment. Usually certain events or processes are central to the discussion and it is the location of these events and processes somewhen in the future that determines the time scope of the discussion. People talk about their exams, their daughters marriage, the end of their life, or the melting of icecaps. They don’t actually, think: ”oh, the future, that’s approximately 5 to 20 years away from now…”. The representation in the survey results suggests that they do. Usually people don’t talk about a given moment or time span in the future in ‘numbers of years away from the present’. They talk about a time of their lives or of their descendants lives, they talk about portions of the earth’s or the universe’s history.

Most often when they refer to these times, respondents do not say how many years away from today they are actually thinking of. This has been difficult to code for analysis. This difficulty could be overcome by forcing expressions of time in years onto the expressions people have actually used to talk about the future. We are drawing up different coding lists, each one using a different kind of terminology that approach the kinds of representations we have come across in the conceptualisations in our collection. On each list we have indicated what kinds of time-spans in years they refer to approximately. Below two examples are provided to clarify the approach. This way we will not only be able to give account of the actual time-spans discussed but also of the kinds of terms in which these time spans were referred to.

Codebook list: Scope - time (neutral)
- from now to the immediate future (anything between now and a years time)
- short term (up till five years)
- mid term (between five years and a couple of decades)

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- longer term (a couple of decades to 50 years)
- really long term (between 50 and 150 years)
- centuries and millennia (between 150 years and a couple of thousand years)
- more than millennia (from more than a couple of thousand years)
- and unspecified

Codebook list: Scope - time (experience)
- from today to tomorrow
- political term
- lifetime
- family term
- more than generational
- civilisational
- geological and cosmological
- and undetermined

3.2. Open research design: example adapting interview techniques

The third and sixth questions of the AF interview schedule ask respondents to talk about the future of their own locality. They were originally designed to be asked without specifying a time frame for the response, just like the first introductory question does. However, we found that people were very much inclined to reply in the present. More often than not respondents need prompting to talk beyond the short-term future of their location.

The open research design let us change the interview schedule to allow ourselves to indicate a time-span of at least several decades. For this to be a helpful approach however we had to vary these question to local circumstances. In Cuba for example, where the historic event of the revolution was approximately fifty years past, we asked about at least fifty years later, in Guatemala where a civil war was waged during thirty years, we asked about at least thirty years later. Sometimes (mostly in Western settings with educated respondents) we could be more general and ask about the possibilities for the location in ‘another several decades time’, sometimes adapting the latter to the neat sounding 25 years.

Perhaps surprisingly the formulation of questions with one time span or another did not seem to affect the kinds of replies we elicited. This emphasises again that people do not actually see the future as a specific time, but rather as a set of events and processes that still have to take place. Even with the specified minimum time spans, respondents mostly base their replies on the description of current circumstances and how they might evolve. In most cases, but certainly not all, they then go on to project towards the time frame of the question, and only very rarely beyond it.

Variations in interview schedules as the field research progressed and to accommodate for local circumstances, place high demands on the analytical process. In the analysis of the ways people have talked about their localities, we have to keep the different ways in which we have actually asked them to do so in mind. It would be unfair to claim that Cubans think approximately 20 years further ahead than Guatemalans do, just because the periods of time they were asked to talk about were indicated differently. Nevertheless, time-scopes can be related to other aspects of the statements made about localities. It is fair to say that longer time-spans are treated with uncertainty more often than shorter time-spans, that evaluations of desirability of change are more often related to the now and the immediate future than to the long-term and it is interesting...
to note the exceptions to these general ways in which time spans relate to other characteristics of the conceptualisation of local futures.

3.3. Combining practices: example numbers of respondents and reasonable questions

The original intention for AF was to interview only 15 people on each continent, or 75 people in total. We wanted to conduct only full in-depth interviews at least one hour long. We have ended up conducting many more interviews and also combined in-depth interviews with much longer orientation conversations with people in our surroundings as well as much shorter street interviews. This has improved the overall size and quality of the collection. The formal futures studies analysis takes place on 105 of the interviews but the remaining 277 conversations provide the context. Having held street interviews and orientation conversations has also improved the quality of the execution of the in-depth interviews and provided suggestions for the adaptation of the interview schedule to local circumstances and conversational styles.

The initial motivation for conducting more interviews than had originally intended, had little to do with these kinds of improvements however. It was the direct consequence of combining academic research with journalism. We found too little anecdotal material was generated with the initial research design. We needed to have many snip-bits of quotes about the future to use in publications around AF in popular media from the outset. Very early on in the field trip (in the second of thirty months on the road) therefore we decided on street interviews. Orientation conversations at first occurred naturally with hosts and other people we met and were gradually put into a more formal schedule to be followed.

A second way in which the combination of academic and journalistic motivations influenced the collection is that it stimulated us not just to ask questions that illicit reasonable answers. It has stimulated the use of humour in our work. The penultimate question on the interview schedule requires respondents to imagine a future not decades but centuries away. It asks to imagine, picture, describe the precise spot where the interview takes place in another few hundred years (time span depending on the previous time-spans used by the respondent). Some respondents take the task very seriously and will talk about their location 300, 500 or even 1000 years ahead in time. On occasion respondents have replied in a light joking tone and others have presented completely hilarious images. Some respondents however saw this question as too big to tackle and replied with what amounted to a refusal. Including this question has added much to the variety of conceptualisations in the AF collection. It has stimulated people who had been quite measured in their responses to go all out and it has completely blocked some of the more knowledgeable specialists we talked with.

4. Conclusions

The goals of the researchers and the motivations of participants in AF alike are relatively unusual, consequently the methods employed are so too. We added an extra something to the mix of which it was impossible to foretell how it would affect the end result: a good starting point for an open ended line of questioning on complex phenomena that certainly has provided added value to the AF research.

Above I have elaborated on the advantages of the set up of AF even though some important drawbacks have been mentioned as well. Overall, in our attempt to conduct social science in an innovative manner, by combining it with other fields of practice, with open-ended research design and research questions and the main focus on experiences of futures by specialists and
non-specialists alike, AF has brought together a varied and useful collection of statements about the future.

The understanding of other social phenomena, such as change that have been central issues of social theory, could benefit from similar approaches. Is social science going to get to grips with such phenomena by measuring and/or describing specific aspects of contemporary society in detail without considerations for other fields of practice’s approaches to these same phenomena?

During my PhD research into images of the future on television I was often asked in seminars and evaluations if the study could work with another theme than ‘the future’. I argued that while the same mechanisms of television production would have been apparent using another theme, the choice of futures was crucial to the design and the course of the research. Because futures appear in both in fiction and non-fiction, the theme was particularly suitable for a cross-genre study. The theme’s relevance to socio-political debate made it suitable for the examination of the use of criteria of socio-political responsibility in the selection of television content. Moreover, it was important that the future has to be made up before it can be shown on television and encompasses a variety of sub-texts and possible narratives, so that it is exceptionally suitable to the study of selection processes in media production. It was the fundamental openness of the future that gave it these attributes that made it so suitable to that study. It is the same openness that suggests open-ended approaches to the study of futures themselves and inspired me to design AF.

Perhaps for these reasons I consider futures studies one of the disciplines most suited to the exploration of less conventional research methods such as proposed in this paper. At least in futures studies we are already accustomed to using our imagination; often we are literally in the business of imagining stuff. This seems like a good terrain to test the boundaries of a boldly imaginative approach to tackle complex social issues.
Bibliography

During the Prague workshop on futures studies methodologies a methodological experiment was conducted inspired by Ray Bradburry’s 1984 short story the ‘Toynbee converter’.

The central question for this experiment was: if it were possible to acquire a (visual) record of the future state of affairs of two European cities (Brussels and Prague), then what record would be most useful today?

We invited conference participants to imagine that it would be possible for the two man team presenting the experiment to travel in time and go to the towns of Brussels and Prague of the year 2035. Moreover, they could go to any of the possible futures of these towns today and bring back visual records from those futures. We asked: which images would be most useful to you? Images that portray positive or negative developments? Images representing the activities of what sectors, showing what kind of changes in the physical environment, depicting what aspects of daily life, could be put to use in your work of today?

Workshop participants reacted in many different ways to these questions. Fourteen participants placed an order for an image, eight of those wanted an image from Prague, six wanted an image from Brussels. These orders included elaborate and precise as well as quite open formulations. The majority of orders where for both positive and negative images and the past is quite prominent in many. Half of the orders literally puts people in the picture.

**Image details**

A few participants placed detailed orders, specifying what precisely should be the content of the image they ordered. One participant so clearly saw his order for Letna (the open space in Prague where the mass events of the socialist era were held) filled with commercial neon-lights (fast food and sex shops), that he proposed to produce the image himself. Another participant wanted to receive an image from a rundown neighbourhood of Brussels today. She described some of the features of this neighbourhood in great detail, imagining the combination of old buildings some beautifully renovated, others run down. She also made specific suggestions for the nature of houses as more autonomous systems, with their own power systems as well as food growing, with new materials of a semi-permanent and more flexible nature. This participant requested that the image would show a mix of different domains that are today more separate, like healthcare, work and private life and education. Less elaborate descriptions have been just as precise. A non-futurist participant requested an image of Brussels Grand Place (the central square in the old town where the town hall is located) to show “public life in a public square:
working, dancing, talking, loving, etc” in a physical environment that is “all very old-fashioned, almost medieval”.

Most respondents however did not place an order with such specifications. Many suggested what the central subject would have to be, but not what precise characteristics this subject should portray in the image. Quite a few provided details without filling in the nature of these details in the image. Two participants asked for images of the European Parliament, both knew they would like to see how meetings would be conducted in 2035, they mentioned the role of ICT and would like to receive an image that conveys the character of the work environment of the future. Here images were ordered that reply to a question, e.g. How is decision-making done in the future? Do people need offices any more?

The fact that there were quite a few such more generally defined and open orders, suggest that some of the futurists involved in this experiment did not judge any particular and precisely defined image of the future more useful than an other possible image of the future. The idea of an open future with multiple possibilities does not exclude that different use-values can be ascribed to different kinds of images of the future. Despite involvement with alternative scenario’s and attention for possible, plausible and preferable futures, the futurists who participated in the experiment perhaps deal in ‘real’ futures. Presented with the idea of time travel, they are more tempted by the idea of being able to find out the truth about the future than about the idea of being able to demonstrate a future.

Positive and negative images

Both positive and negative images have been ordered. One participant wanted an explicitly negative image and five wanted explicitly positive images. The choice of a negative image of Prague was motivated by the idea that “it reflects the real (though not the only or prevailing) feature of the Prague future...”. The use value of this image was described as serving as a warning. The orders of positive images were motivated primarily by personal preference.

In the majority of orders both positive and negative aspects of the future would have to be portrayed in the image. This choice seems to reflect a form of realism on the part of many participants. One wrote “Who knows if positive or negative?” Another argued she chose an image that would depict both positive and negative aspects of the future “to keep a feeling of realism and also because negative/positive is in the eye of the beholder (maybe in the future they think it’s positive but for us it must be a mixed bag).” Elsewhere she added a remark on the use-value of such a mixed image: “The image should give people confidence but also inspire them to actively and constructively work on positive solutions (not too rosy: you could become lazy, not too dark: negative stimulus) Puzzling aspects to intrigue people and make them curious and actively look to understand and/or work with complexities. It [the image] could contain something we now see as positive working out negative and vice versa.

Prof. Masini was the only participant who explicitly ordered two separate images, one positive one and one negative one “as images of the future are always alternative or they should be at least for future thinkers.”

The past in the future

Seven of the orders were for images that show preservation of or return to something of the past. One participant wanted the image to be “very old-fashioned- almost medieval” and motivated this choice personally, adding “Why should the future not look like the past – in the most positive sense?” He didn’t want many similarities between today and the image he
was ordering. Another respondent wanted to see an image of the National Theater or Smetana Museum that testified to the revitalisation of the Czech repertoire as given in 1935. Five orders, both for Prague and for Brussels, were for images of the old town and monuments. The tension between the preservation of the old character of these towns, the idea of living in/with its monuments on the one hand and destructive commercialised consumerism tourism on the other, was central to most of these orders.

Prof. Masini emphasised the importance of the link to history in the images first in the motivation of her choice of the old city as their location: “…it represents the history and culture of central Europe and maybe Europe as a whole” and added the comment: “images cannot be detached from either history or the changing present as the opposite builds futures with no roots, hence un-realisable.”

**People in the picture**

Seven out of the fourteen orders explicitly wanted to put people into the image. One positive image of Prague asks “space for meeting people, intergenerational cooperation; space for open discussion, Prague space for teaching and learning (using parks, streets)”. Another order specifies “If possible, close up of people’s faces, eg a child, an older person, a young man or woman, because after all, that is what matters more.” In other orders for images of architecture or transport the human dimension is also important.

**ICT**

Six orders referred to ICT or science and technology to be considered in putting the image together. Both orders for images related to the European institutions in Brussels, as well as an order concerning urban planning in Prague for instance referred to ICT. The order for an image of the Atomium in Brussels, was the only one to put science and technology central. That order specifies: “The A symbolizes at the same time human beings’ attempts to improve life with the help of technology and our inability to understand risks involved in new technologies.”

**Conclusions**

This descriptive account of the make up of the orders elicited in the experiment, highlights some of the main characteristics of images of futures of Brussels and Prague considered worthwhile by a self-selected sample of futurists participating in the second Prague workshop on Futures Studies methodologies. The overview below sums up the characteristics of images in the orders placed. It suggests some of the images we might employ and some agenda points for developing strategies towards drawing together Europe’s futures. They are images that:

…show positive as well as negative aspects of the future,
or…show negative images to serve as a warning
or…show positive images to demonstrate possibilities

….have realism
….pay due respect to the past
….put people in the picture
….tell us about the blurring of different spheres (public, private; work, education, health)
….tell us about the preservation of historical parts of Europe’s towns
….tell us about spaces in Europe’s towns and the way people use them
Finally, the experiment was designed to combine methods and motivations from the field of futures studies with an explicitly creative and artistic take through the collaboration of futurists with a visual artist. Bram Goots was present during the whole experiment, processing order forms and filming the interviews. He is putting together a selection of pictures to fulfil some of the orders. A link to that selection will be communicated as soon as it is up. Bram has already produced a short series on searching for the future in Prague today, that is inspired by the workshop but does not specifically address individual orders. It can be found on: http://picturetank.com/praguefutures.
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### 2005

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### Připravujeme/To be published:

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