Searching for the future
A short guide

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In five short chapters, this study takes an essay-like approach to a number of opportunities and dangers in searching for the future. The objective of this 'guide' is to provide knowledge on research into the future and at the same time to challenge us to strengthen the prospective nature of future research.

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Preface

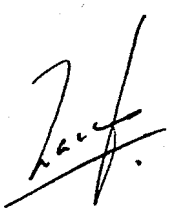
> 'The last months of 1999 were in any case a strange time for all humanity; a time characterized by a remarkably expectant attitude, a sort of quiet musing.' [1]

Today is 9 September 1999 – a pleasing date in the context of this study on research into the future. Coming after the recent eclipse, and before the new millennium, this too is a particularly meaningful day for many people. Not a few are giving it extra personal significance, for example by getting married today. Trend-watchers Salzman and Matathia themselves seized on the date of 9-9-99 for the New York launch of the English translation of their book on future trends, which is already out in Dutch and is referred to in the present study.

For the LEI too, today is a special day, because we now have this report on a study intended to demonstrate the value the LEI places on strategic research. This study also urges that research oriented towards future developments should be accorded importance throughout Wageningen University and Research Centre. In my view this is a challenging perspective.

The initiative for this study came from the research programme 'Changing society, changing land use'. This is no coincidence, given that long-term socio-cultural, land-use and economic changes are particularly affecting rural areas. More generally, many take the view that anticipating the future is vital for viability, competitiveness and policy-making. Research that recognizes this will be in tune with the fast-changing, knowledge-driven world of today and tomorrow.

The Managing Director,



Prof. Dr. L.C. Zachariasse

[1] Michel Houellebecq, *Elementaire deeltjes* (Elementary particles), De Arbeiderspers, Amsterdam, 1999, p315.

Summary

The future is something that fires our imagination. This is especially true on the eve of the 21st century, but in essence, the future has always held an attraction. This study in five short chapters is an extended essay on some of the opportunities and dangers in searching for the future. The aim of this 'guide' is to present information on research into the future, and at the same time to urge that research should become more forward-looking. Research with a strategic slant is important in a dynamic world. The few certainties we can have about the future include the fact that it is uncertain and changeable. Anticipating the future is therefore anything but simple. This study advances the thesis that the search for the future requires a both serious and sensitive approach. It is emphasized that chances and choices, contingency and chaos are often inseparable parts of the processes and phenomena studied. Taking this seriously will often limit predictability and also require us to acknowledge that unpredictability can be one result of increasing knowledge. However, if these modern ideas are respected, it will not be necessary to banish the search for the future to the realms of fable.

Complete scepticism about predictability is just as fruitless for the development of research into the future as a blind belief in the predictability of our physical and social environment. This study proceeds in the spirit of the 'predictability cautionists'. From this standpoint, restraint is urged on those who would apply a moralistic palette to our picture of the future. It also stresses that modern thinking on the future is more than the linear extension of a line of thought or development.

Accordingly, the study argues in relation to 'trendology' that the analysis of trends is more profound when the focus is on making connections between trends, which may well run counter to one another. Another 'methodological' tip is the usefulness of scenarios in developing and examining various possibilities for the future. Thinking about a particular scenario involves searching for the future through the consistent use of imagination and well-founded fantasies. In this way, better-founded answers, surprising or refreshing answers can be found to questions on future developments and their possible direction, force and duration. Although this study focuses on trends and scenarios in general, rather than mapping out specific images of the future using particular trends or scenarios, the 'guide' ends by setting out the titles of a number of publications and website addresses. These offer an insight into today's visions of the future and the issues currently preoccupying us in our search for the future.

1. Introduction

> 'I know of no people, however civilized, however underdeveloped, which does not recognize the existence of omens and also of some individuals capable of understanding these signs and making predictions based on them.'[2]

> 'Foresight is the product of insight'[3]

The primary objective of this study is to investigate research projects whose subject is the future. Presented in essay form, it attempts to provide a background to the carrying out of research with predictive content. Although this is a short guide, it is intended to give researchers – in the first instance those connected with the Wageningen University and Research Centre (Wageningen UR) – some insight into modern ways of thinking about the future. We shall examine both the achievements and the related mantraps and pitfalls.

It is to be hoped that increased familiarity with these will encourage researchers to be more forward-looking in their work. Our clients are likely to ask more insistently in future for research of a more strategic nature. Speaking of expectations for the future, this is one more reason to ensure we are reasonably up-to-date on the possibilities and finer points of future-oriented research. This report gives a short account of the modern ideas on this in circulation.

Chapters 2-4 acknowledge a number of considerations which should be given attention in thinking about forecasting the future. We will also examine the 'methodological' aspects of future-oriented research in relation to the use of trends and scenarios (Chapters 5-6). It may be useful to point out now that we will mainly be looking at strategic research, and trends. In other words we will not be analysing particular trends or scenarios on the basis of particular standpoints or lines of development. This study is more in the nature of a 'meta-analysis', rather than pointing out or using specific trends or analyses. This is partly because until now relatively little thought has been devoted to future-oriented research in itself. Most publications deal with specific visions of the future or are primarily concerned with pointing out one or more trends or scenarios. Here, we shall be content to give references to Internet addresses and modern publications that show how people are thinking about more or less concrete and distinct visions of trends and scenarios. The report ends by naming a number of sources of inspiration for the future (Chapter 7).

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[2] Cicero, *Over het voorspellen van de toekomst* (On predicting the future). Ambo, Baarn, 1992 (44 BCE) p17. The second part of the quote reminds us of a remark of the author of *Vom Kriege* (On War), Carl Von Clausewitz (1780-1831): 'There are very few people – they are the exceptions – who are capable of thinking and feeling further ahead than today.' Quoted in Robert Greene and Joost Elffers, *De 48 wetten van de macht* (The 48 laws of power) Meulenhoff/Kritak, Amsterdam 1998 p283.

[3] The words of the philosopher Alfred North Whitehead in *Adventures of ideas* (1933), quoted in Nicholas Rescher, *Predicting the future: an introduction to the theory of forecasting*, State University of New York Press, Albany 1998 p88.

For the sake of completeness, we should note here that there is no intention to be exhaustive. Rather, this guide should be seen as the report of a first reconnaissance trip; an aid to increase our knowledge of thought on the future. Accordingly, this may contribute to bringing policy and research into the future closer together. It is often difficult to see the immediate relationship between practical policy problems requiring prompt action, and future-oriented reflection, yet this certainly does not mean that the connections are absent or irrelevant.

Rather it is the case that each affects the other more indirectly or unintentionally in ways that only become clear later. This does not make life, or indeed research, any easier. However it is clear that for government and business – both of which are important sources of work for Wageningen UR – being in control is about making predictions. That is why, mindful of the words of Cicero quoted above, it is desirable that Wageningen UR researchers should be seen as people capable of understanding signs and making predictions based on what they see.

2. Looking ahead

> 'Scientists (…) I should say that naturally they had the future in their bones.'[4]

> '(A) scientist looking out to the horizon must also try to identify the cloud no bigger than a man's hand that may grow into a deluge.'[5]

Although nowadays, at the end of the second millennium, it sometimes appears that our need to look ahead is particularly strong, in fact the attraction the future holds for us has always been there. Soothsayers, astrologers, readers of tea leaves and urine, of crystal balls and entrails, seers, interpreters of dreams, psychics and clairvoyants – they all carry our need to have a glimpse of the future. After all, the future is where we shall spend the rest of our lives, we are responsible for it, and it is a place no one has ever come from. These are some of the reasons why we are interested in oracles that address our imagination. And why we are ready to pay what is necessary – fortune-tellers are often money-spinners too. Perhaps that is not surprising, as great value attaches to increasing our ability to see what lies ahead, to anticipate or forecast the future – and this is just as true in modern times with the sciences of complexity gaining influence, as in those earlier days when predestination was a theory much subscribed to.

The appeal the future has for us by its unknown and uncertain quality, is in one way quite uncomfortable. It is not in our nature to cope well with uncertainty. We often feel better when we have circumstances 'under control' or 'in hand', when we are in charge, can make things happen, or 'know what lies ahead of us'. On the other hand, that same uncertainty can be both reassuring and exciting: how dull life would be if we knew everything in advance. And of course uncertainty excites our curiosity. So it is often instructive or enjoyable to find out what old and new trend-watchers and Dr Tomorrows have to say, or to read what writers from Plato to Nostradamus, Jules Verne, H.G. Wells, Aldous Huxley, Isaac Asimov or Michel Houellebecq have predicted.

Besides these general arguments, there are two further dimensions to add which are particularly significant for the current period. It is said that we live in a complex and dynamic world. Observations of this nature have become so common that they are fast becoming platitudes. This may not be a bad thing if it increases our recognition of the relative and subjective character of complexity and dynamism. After all, even in earlier ages our forefathers doubtless also thought of their own time as highly complex, hectic, confusing or 'hard to keep up with (mentally)'. And it is quite conceivable that our descendants will see the 20th century as quietly flowing stream with crystal-clear water.

And on the other hand… despite all relativism, it may be claimed that the last decades of the 20th century have seen an 'acceleration' of developments in certain areas for which there is no historical precedent. The developments in biotechnology are still at the stage of 'you ain't seen nothing yet', and are seen by many as the cutting edge of scientific

[4] C.P. Snow, *The two cultures*, Cambridge University Press, Cambridge, 1993 edition. p10.
[5] Freeman Dyson, *Imagined World*, Harvard University Press, Cambridge, MA, 1997, p9.

progress in the 21st century. More clearly in our midst are the practical consequences of 'revolutionary' developments in the field of information and communication technology (ICT). And the end is definitely not yet in sight. We can expect to see ICT penetrating deep into all areas of society and social interaction in the widest sense.

The idea of things 'accelerating' is supported by the fact that whereas agrarian society has existed for millennia, the dominance of the industrial period may add up to (a few) centuries, and we should not be surprised if the supremacy of the information era turns out to be a matter of decades. So even in more absolute and objective terms, we can certainly speak of our (shared) lives becoming more dynamic. It is sometimes concluded from this that there is little point nowadays in looking more than a quarter century ahead. Even starting out in easily quantifiable fields such as demography, it remains the case that if we want to anticipate the future, we shall find ourselves treading paths not yet surfaced or signposted, i.e. paths that cannot yet be validated. Evidently empirical argumentation and research into the future do not go well together.

None of this means searching for the future will necessarily prove bootless inquisition, nevertheless caution is advisable in any such quest, as well as modesty about what we think we may find on our way to the future. Analyses of alternative futures are therefore delicate matters which should be considered with some discernment. The fact that the current period may be called dynamic and the expectation that the world will remain changeable provide all the more reason to subscribe to this proposition.

Another novelty of this era is that modern research in what are known as the sciences of complexity, which include chaos theory, is collecting evidence tending to show that many phenomena and processes are *inherently* unpredictable. The fact that we cannot predict is, in short, not the fault of our lack of knowledge, insufficient information or research errors, but lies in the very mechanisms that underlie the phenomena investigated (which may themselves be deterministic in nature). Chaos, in the modern scientific context, has a different meaning from that given to it in our daily speech, namely a mess. Chaos is something out of which order arises: order that cannot be predicted. The most important characteristic is that chaotic systems are sensitive to minuscule changes. This is often referred to as the butterfly effect: a butterfly flaps its wings in Brazil and unleashes a storm in Texas.

The concept of the butterfly effect can be seen as a tribute to the mathematician and meteorologist Edward Lorenz, currently seen as the father of chaos theory, who entitled an article: 'Predictability: can the fluttering of a butterfly's wing in Brazil cause a tornado in Texas?' Beginning with meteorology in the 1960s, chaos theory spread with the coming of powerful computers in the '80s 'and 90s to other natural sciences. Social scientists have recently begun to move on this area, and literature in economics and management is now starting to feature words such as 'complexity' and 'chaos' and refer to the butterfly metaphor which speaks so much to our imagination.

Without addressing the value of chaos theory and its compatibility with social and economic research, we may see here an acknowledgement that predictability can be very limited, and that we are most likely to perceive this in fields we know thoroughly. Unpredictability is then, in other words, the result of research, not the consequence of insufficient knowledge and insight. This is, to put it mildly, a departure from the notion that prediction is the equivalent of explanation – an idea based largely on such key figures

of the scientific revolution as Isaac Newton (1642-1727) and Pierre Simon de Laplace (1749-1827).

The most obvious lesson for research on the future to be drawn from the study of chaos and complexity is that small causes or shifts in emphasis may have profound and widespread effects on the nature and direction of subsequent developments. Modern research confirms that dynamism and complexity are more than just fashionable words.

3. Beyond the future?

> 'The future is a story without an ending, and for now it ends somewhere in the middle of a sentence.'[6]

> 'If there's any message that modern science can be confident in trumpeting to the world, it's the sobering thought that there are limits – even to the human spirit. The age of absolutes, if it ever really existed, is now most definitely and permanently passé.'[7]

When we are confronted with complexity and unpredictability as essential characteristics of phenomena and developments, is there any sense at all in trying to look into the future? In other words, is the future already old hat?

To answer that question in the affirmative, we need not even seek refuge in deliberations on modern life and scientific thought. Evidence that we should stop indulging in futuristic visions can be found in all the prophetic ideas and pronouncements which have proved entirely mistaken. Any number of (often hilarious) statements have turned out to be wide of the mark. It was said that no one would ever succeed in going into space, the world market would only need about five computers, communism would never go under and we would soon encounter the limits of growth. With examples like that, it's easy to make fun of visionary thinking.

But examples like these need not mean the end of all thought about the future. The lesson to be learned from the past for modern futurological research is that thinking about the future needs to be approached and practised with more relativism. Nowadays, the conclusion is not that we cannot say anything about the future, but that thinking about the future is much the same as thinking and gathering knowledge about anything else – namely a tentative process of guesswork and trial and error, which has little to do with offering unassailable truths and certainties. To put it differently, it is advisable – partly with an eye to the latest developments on the scientific front, as just sketched – to have the necessary modesty about our visionary capacities.

This finds expression in the fact that we are more discerning, preferring to talk in terms of feeling our way towards the future, making out its shape. Nor is it a question of *one* future, but rather of presenting a range of *possibilities*. Working out a vision of the future will be dominated by identifying motive forces and elaborating conceivable consequences. Scenario study is an often-used method of shedding more light on images of the future (see also Chapter 6). Considering a number of future scenarios together means reasoning in a more relative way, and has the additional advantage that we can practise living with the irreducible uncertainties involved. Uncertainty as to what direction

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[6] Paul De Wispelaere, *Het verkoolde alfabet* (The charred alphabet), De Arbeiderspers, Amsterdam, 1997 p16.

[7] John L. Casti, *Searching for certainty: what scientists can know about the future*, William Morrow, New York, 1990 p404.

developments will take and whether or not intended or unintended effects will actually occur, is respected without resorting to the conclusion that it is impossible in principle to say anything about the future. This accords with the attitude to thinking about the future held by the 'predictability cautionists' as typified by Nicholas Rescher.

The implication is nonetheless there that the relative character of our theoretical ideas is underlined whenever chance and choice, contingency and 'chaos' are part of the empirical constitution. Although here we may think first of the social scientists and their fields of future research, this applies to the natural scientists' endeavours in equal degree. Of course, in physics for example, it is not uncommon to witness a scientific *tour de force* in which the operation and consequences of forces are determined with very high predictive power (in mathematical terms). Without such intellectual achievements, we should never have reached the moon, and every eclipse would take us by surprise. But in spite of, or rather thanks to such powers of thought, unpredictability has remained part of our understanding of nature.

Quantum mechanics shows this, but so does something as trivial as where a feather will land if it floats off the top of a block of flats. This may be an encouraging sign for those social scientists inclined to be envious of the results achieved by their colleagues in the natural sciences, but it confirms that there is little hope of perfecting the predictive power of research in the social sciences.

There is no doubt that social life relies on a certain degree of predictability, and necessarily so. This is achieved by customs, routine, the force of habit, rules of behaviour or social formalities and so on, which in turn are expressed in formal contracts, agreements, legislation and rule-making. Without qualifying these habits and customs, norms and values as absolute laws, they do make it possible to order social interaction and they offer a structure by which we can orient ourselves. And this is of vital importance for those participating in social interaction. If social life were entirely unpredictable, if we had to interpret our own and others' behaviour as based entirely on whim, human existence would indeed be, as Thomas Hobbes (1588-1679) saw it: solitary, poor, nasty, brutish and short. So human affairs are not total anarchy but, although it is often confusing or surprising, it is true that they are so uncertain and impermanent that by a small shift they can turn from one condition into another, entirely opposed one.

These are the thoughts of another philosopher of times past, namely Michel de Montaigne (1533 – 1592). After the foregoing, it will scarcely be surprising that Montaigne was generally little concerned with the degree to which the predictive powers of simple mortals matched up to the complexities of the world around them. But his Renaissance scepticism about every form or method of thinking ahead is of as little use to the development of modern future study as a total faith in predictability.

4. The dangers of thinking about the future

> 'In my philosophy there are no absolute or inevitable laws, no enduring certainties: every observation, every inference, every explanation, and every prediction is a matter of more or less probability.'[8]

> 'Some make predictions, guided not by the inspiration of a god, but by their own thinking. (…) You could call these people with vision – people with insight into what is to come; but it has nothing to do with divine inspiration.'[9]

These quotes from Henry Murray and Marcus Tullius Cicero are relativist in nature and therefore well suited to this chapter, which deals with limiting a number of risks which can be shown to be connected to thought about the future.

A first 'danger' of thinking about the future is that it can deteriorate into having the status alchemy now has in relation to physics. Trend-watchers and futurologists talking about the future with simple explanations devalue futurology as a serious area of scientific endeavour more than they contribute to it. It goes without saying that soothsayers of the old sort or of dubious character are disastrous for the status of futurology. But exchanging crystal ball, magic lamp or entrails for more advanced research instruments and well-founded conceptual constructs does not guarantee all danger is past.

The first risk in making predictions about the future is that the researcher is deceptively safe. Of course, the further into the future you predict, the longer it will be before anyone can show whether or not you are right. The future is not objectively verifiable. The other side of the coin is however that the researcher cannot look forward to early success. And in any case, if the prediction is correct many people will claim authorship, while if it is not, the scorn will be reserved for you, posthumously if necessary.

The future is only a relatively safe harbour therefore. Again, a planner or strategist, or trend-watcher is easily made out to be a charlatan or a dilettante and so distrusted, or worse. People who 'get ahead of themselves' do not always encounter understanding. Other people's goodwill is quickly used up, especially when your vision of the future is not quite up their street, or when the ideas start to go to the futurologist's head. The conclusion of this little diversion is therefore that the position of the forecaster is not as safe and free of obligation as it is sometimes made out to be.

Futurologists who let their ideas go to their head immediately provide another danger for the reputation of research in future studies. We refer here to the dogmatism that lurks in this area. Precisely because no one can directly prove how accurate any vision of the future really is, thinking about the future can degenerate into an absolute way of

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[8] The American psychologist Henry A. Murray in 1959, quoted in David L. Sills & Robert K. Merton (eds.), *The Macmillan book of social science quotations: who said what, when, and where*. Macmillan, New York, 1991 p169.

[9] Cicero, *Over het voorspellen van de toekomst* (On predicting the future), Ambo, Baarn, 1992 (44 BCE), pp63-64. For further relativist thoughts on predicting the future, see the second half of that work, in which Cicero systematically destroys the arguments in favour of predictions introduced in the first half.

looking at the (future) world. Utopian ideals become more important than the detailed view, probability and understanding. Conviction takes the place of doubt, fantasy replaces facts and visions replace insight.

Considering the future can have its less innocent aspects. Anyone not well aware of this is referred to *The open society and its enemies*, a two-volume work composed by Karl Popper during the Second World War. This book may still be seen as one of the most forceful arguments made against striving for the ideal state, utopia or the classless society. On the way to the 'promised land' just over the horizon, everything getting under the feet of the 'chosen ones' gets trampled on, is the core of Popper's thesis, which also has little time for predictions because, as just pointed out, they exclude strict falsification. Fanatical adherence to any non-existent and ideologically based paradise turns a tolerant seeker into a totalitarian seer. As a relevant diversion here we may draw attention to the fact that prognoses or opinions reached in total neutrality and integrity can yet be made off with by others, who may make one-sided use of whatever appeals to them while ignoring or denying the rest.

Even where a dogmatic view of the future is not based on a deeply held belief in the possibility of creating society, it at least assumes that would be desirable. The necessary relativism is appropriate again here. A too megalomaniac idea of guiding all sorts of developments in the desired direction is rather unrealistic. Of course what we do today partly shapes the form and content of tomorrow and the day after. But that is very different from saying that the future can be created. Nor does it mean that the future will unfold according to any plan or simulation model we can create, nor that we can control or understand it. A pragmatic input acknowledges limits to how far society can be created.

Dogmatism and straight-line thinking are no strangers to each other. This is an opportunity to point out the danger of the mechanical extension of present conditions into the future. The future does not generally develop in a straight line: it takes side turnings, circuitous routes and turns down dead ends. In an attempt to meet this, we should depart from predictions based on the simple extension of straight conceptual lines. Instead, these are replaced by the most structured possible development of reflections on a *plurality* of alternative futures.

Dogmatism is relevant to prognosis in another way. There is a long tradition of looking at the future from a moralistic or normative perspective. Here too, a healthy dose of pragmatism may act as a counterweight, preventing our thought being limited to one particular standpoint. To a certain extent it may be desirable – as well as inevitable – to reason on the basis of a frame of reference containing normative elements. The point is that all too easily, a one-sided moral standpoint is adopted in relation to humanity and society. For example, it is said that modern cultural critics reason too strictly from a technophobic vision connecting technological progress first and foremost with the loss of social cohesion and the dignity of human behaviour ('dehumanization', 'anomie', 'dumbing down', 'commercialization').

Moralism also plays an important role if we think of traditions within future studies implicitly or explicitly based on man's inherent sinfulness and badness, or alternatively on the natural goodness and justice of humanity and society. Some such moralistic vision is then used as the foundation on which to erect the edifice representing the future. As a result of this, there is a great variety of utopias and dystopias. They are built by the

congenital optimists, who are incapable of seeing catastrophe, downfalls or decay, and who see their castles in the air through rose-tinted spectacles, and the purveyors of doom and gloom who cannot see the reflection of the sun in water because of all the dark clouds in the skies. The no-man's land of the future stretches all the way from Sodom and Gomorrah to Walden, and from Armageddon to Cockaigne.

All sorts of Arcadian or apocalyptic visions of the future may speak to our imagination, raise a laugh or frighten us, they also bring the danger that better thought-out ideas about the future may be tarred with the same brush as the fruits of diverse optimistic and pessimistic doctrines. A pragmatic and scientific approach must avoid discrediting itself by proceeding too much from a simplistic or one-sided view of things as a blueprint for the world of tomorrow. The world is altogether more complicated and subtly arranged.

This will also be the message of the next chapter, in which we turn to 'trendology'. We have just seen that thinking about the future is not the same as preaching a moralistic view of it (which does not mean no opinion may be formed as to the relative merits or value of different visions of the future). We shall now propose that a view of the future will be more focused if simple lines of development are extended and related to each other. Insight into the future will be facilitated if trends identified individually are given perspective by relating them one to another.

5. Trendology

> '(W)e must do more than identify major trends. Difficult as it may be, we must resist the temptation to be seduced by straight lines. Most people - including many futurists - conceive of tomorrow as a mere extension of today, forgetting that trends, no matter how seemingly powerful, do not merely continue in a linear fashion. They reach tipping points at which they explode into new phenomena. They reverse direction. They stop and start.' [10]

> 'If you analyse changes taking place in society, business life and consumer behaviour, it is crucial to take the whole spectrum into account in your research, not just to follow each trend individually, but also to be able to place it in a broader scheme of things.' [11]

Awareness of a past and a future is highly characteristic of who we are. It is supremely human to ask oneself where we come from and where are we going to. Trend analysis is useful here in finding answers. Research into trends makes use of the past and the present to gain an insight into the future. Although the impression is easily gained that trends are increasingly used to think and look ahead, trends in themselves are seldom thought about. The emphasis is on identifying trend-like developments and subjects.

The result of this is that a plethora of distinct trends of all sorts have been identified. It is hardly surprising that little in the way of trendology is to be seen on a first acquaintance with the field. If we look at the subjects of different trends, there are large differences in level of analysis, scope and field. One trend may be about home furnishings or a niche market, the next may relate to global demographic or economic changes. We refer below to a few basic principles of what we would like to call 'trendology', which are intended together to help uncover logic in trends.

A first basic principle of trendology is that trends can relate to convergent or divergent changes. Individualization, regionalization or decentralization are divergent trends. An example of a convergent trend would be globalization. Economic, social, cultural and technological changes and processes are put together in the interests of creating order in the midst of chaos, and in this case, placed under the heading of globalization as a trend. This is also a good example to demonstrate that a trend is often an umbrella term. This is no coincidence, given that in fact, that is one of the characteristics of a trend. Although on the one hand a trend obviates the necessity of giving a description, or on the other hand makes this unnecessarily complicated, a trend can be simply defined as a direction of development, a movement within the field of human and social dynamics. In other words a trend is the result of behaviour, of individual and collective thought and

[10] Alvin Toffler, *The third wave*. Collins, London, 1980 p143.
[11] Marian Salzman and Ira Matathia, *Trends voor de toekomst: werken, wonen, leven na 2000* (Trends for the future: work, home and living after 2000). Anthos, Amsterdam, 1997 p20.

action. In short, it is a consequence of the power and dependency relationships which govern social life. A few supplementary remarks are in order here.

The first of these is that 'social' should be taken in its wider sense. Economic, technological or demographic changes may be involved as well as social, cultural or political ones.

Another is that not all trends are equally easy to spot. A trend may be very clear or all around us, or it may be latent or only perceptible locally. There will also be differences in how much trends are predicted to gain or lose strength. But in any event, a trend has roots in the present or past. Trend analysis follows the arrow of time in the usual way: the future is a function of present and past (which does *not* mean that the past gives a blueprint determining the future exactly, but that the past *is* a useful source of inspiration and insight for thinking about the future, as recognized by such diverse thinkers as Confucius, David Hume and George Orwell). Trends do differ in the time period they cover. One trend may have an expected life of a number of decades, another of only a few years.

This second remark leads us directly to what we would present as the second basic principle of trendology, namely that trends have different life-spans.

From the duration of trends we come on to a third remark, which is related to a distinction between trend-watchers and trend analysts. A trend-watcher generally operates with fairly short periods of time. The search is for what is now or will shortly be 'in' or 'out'. A trend analyst is concerned with longer time periods. Besides this 'neutral' criterion, we may think we see a further reason for drawing this distinction: a question of hierarchy among the ranks of trend trackers. A 'trendhopper' will attract less respect than a trend analyst working in a more sophisticated way. At least, this appears to be the association beginning to gain hold. Meanwhile, to get away from the rather over-used word 'trend', recently many people have chosen instead the title of strategic adviser.

However trivial these skirmishes on professional titles may be, they do not occur in isolation. They are connected with the divergence brought into our picture of humanity and society by trends. This strengthens the idea of a hectic and heterogeneous world. When this is added to the number and diversity of the trends paraded before us, an unintended side effect can be 'trend fatigue'. The way to avoid the worst sort of 'trendspotting', breathless and contentless, is to spend less time chasing breathlessly after everything 'new' and concentrate on larger-scale, longer developments.

Trends can have convergent or divergent function and content. Trends follow the arrow of time and last for different periods of time, or have different life-spans. Having recapped on the first two basic elements, let us go on to the next.

The third basic principle follows on from the life-span of trends just mentioned. Long-term movement takes place on a higher level (of analysis) than short-term change. Trends in the form of hypes, fashions or 'rages' focus on goods, whether physical or conceptual. Think for example of the merchandising around a new Walt Disney film or Star Wars, books on the Montignac diet or *feng shui* for the home. In short, with trends it is good to remember that one trend is not the same as another – not only are they of different lengths, more importantly they exist on different levels of analysis and abstraction. Independently of content, trends differ in scale or scope. We include this here as a basic element of trendology as it is an aspect hardly ever given any attention.

One good reason to be alert to such distinctions, besides the clarity it brings, is that keeping this firmly in mind helps ensure that trends are seen in connection with each other. A trend on one level can be shown to be the source of another, which in turn has an influence on a third. The increase in women's participation in the labour market is a consequence of the process of emancipation. The 'megatrend' of individualization is paired with the growing number of one-person households and one-parent families. Convenience foods, microwaves, lack of time and increasing material welfare all influence each other, while they are trends on different levels. And we could continue to think of examples.

The first and greatest importance of these examples are to show that, on closer examination, one trend is directly or indirectly a more concrete version of another. And conversely, one trend in a more abstract form produces another. This is important, because besides stimulating our curiosity, it gives another dimension to trend analysis. A dimension which may contribute to the descriptive and explanatory power of trend research, and gives support to the search for the future. Trends are parts of a larger whole, and a trend which forms the 'hard core' of one field of research may be on the periphery of another. There are connections between trends, and positive and negative feedback relationships. If, from an integral approach, we give attention to the degree and way in which trends on the macro or micro level or in between relate to each other, this should contribute to further increasing our understanding of the human and social interactions of today as well as tomorrow and beyond.

It should be remarked that much is said and written about trends without any further intention of giving an explanation. People seem to feel enough explanation is given by simply *naming* a trend. Trends are seen as explanatory in themselves, and trend research is therefore not primarily about explaining the trend and its development. To put it academically, a trend is often seen as the *explanans* (that which explains) instead of the *explanandum* (that which is to be explained). However, trend research is capable of being more than making simple pronouncements on trends for the future, if we try to discover the 'how' as well as 'that and what'. In that sense, there is no doubt that trend research can be made more profound. The dynamics of trends (their rise and fall) will then be more prominently on the agenda for discussion, as well as what forces are steering or driving trends from behind the scenes, to what extend a trend is related, whether or not coherently or consistently, to other developments, or in what way trends influence one another, and so on. The quote from Alvin Toffler given at the start of this chapter by way of motto, refers to these issues.

The fourth part of this brief treatise on 'trendology' follows from the above. Searching for connections will mean finding that trends do not always relate to each other logically or consistently, or at least not simply. We have already seen how extrapolating from certain lines of development in a linear way is only relatively successful. Besides the possibility of small changes having large effects at a later time (chaos), a trend researcher must also take account of counter-trends, interruptions of trends, inertia and constants. Trends may concern towards changes in one direction, but they are not independent of trends tending in the opposite direction. Each trend has its opposite in a counter-trend, and counterparts in other fields or on other levels.

It is therefore a basic fact of 'trendology' that trends and counter-trends are two sides of the same coin. And trends that can weaken each other may also be found on different

levels of abstraction as well as on the same. For futurologists, the presence of counter-trends and interruptions to trends easily rebuts the propositions they put forward, other things being equal, in their speculations and model-building: anything kept constant changes. Moreover, it can happen that precisely those aspects presumed to change, maintain the status quo – for example because they are kept in equilibrium by counter-movements.

The analysis of trends and counter-trends need not be limited to a summing up of individual developments. Trends come to life and acquire colour when they are given a place and a meaning in a dynamic context. Where trend research devotes itself to this, it is working with a mature objective. Trendology helps to approach trends in this way, and will allow trends and research into them to become more fascinating and do better justice to the complexity of the world we live in.

6. Access to the future

> 'In order to think and act strategically, we must first understand the context in which our decisions are being made. We need to see and understand the world as an interconnected whole, where our thoughts and actions influence and are influenced by many *unknowns*.' [12]

> 'The value (of forecasting) is not in the predictions, but in that it challenges straight-line thinking.' [13]

Searching for the future is an inherently uncertain occupation. The future is an unwritten page. This chapter addresses a few ideas and ways of meeting that uncertainty, without trying to get rid of it.

Although the future is uncertain, gaining access to this *terra incognita* is not without difficulty. As a passport, we may think first of the power of imagination. Imagination brings us directly to a point it is important to deal with at the beginning of this chapter. Imagination is often rejected and scorned when it comes to acquiring knowledge. On the one hand, there is the (Einsteinian) thought that imagination is of vital importance for the growth of knowledge.

On the other hand, there is scepticism that when the power of imagination is given too free a rein in the increase of knowledge, this can easily lead to thoughts which have strayed too far from any empirical foundation. And it is precisely this controversy which is important in attaining a view of the future. A serious approach to the future means steering a middle course between the Scylla of entirely unbridled imagination and the Charybdis of linear forecasting based on fixed existing data. Making free with two concepts from Blaise Pascal (1623-1662), we can say that futurology requires both *l'esprit de finesse* and *l'esprit de géométrique*. If we agree with the physicist Richard Feynman that imagination should be consistent with existing knowledge, then the golden mean we need to find is the path of disciplined imagination, solid speculation and well-founded fantasy.

In developing scenarios, creativity and control are frequently combined to gain access to the future. Regardless of the quantitative methods, computer or other models or Delphic or other qualitative approaches on which these scenarios are based, they have in common that each scenario is focused on the formation of a consistent vision of the future. In building a scenario, one attempts to sketch out and elaborate on a future *possibility* in the most consistent way possible. Scenarios are conceptual frameworks, helpful in extrapolating lines of thought in an exploratory way. Nowadays, the ultimate goal is no

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[12] T. Irene Sanders, *Strategic thinking and the new science: planning in the midst of chaos, complexity, and change*. The Free Press, New York, 1998, p. 4.

[13] Paul Edwards, chair of the Henley Center of Forecasting, quoted by Rolf Jensen, *The dream society: how the coming shift from information to imagination will transform your business*. McGraw-Hill, New York, 1999, p159.

longer to reduce uncertainty to nil. The emphasis is on planning and thinking ahead (*foresight*) rather than predicting (*forecasting*).

It's a question here of thinking through, or calculating chances and hindrances for phenomena and processes in given conditions, or what the more or less likely consequences are assuming certain initial configurations. Then preconditions can be changed, presumptions altered or crisis situations introduced. The impact of certain forces or the nature of the feedback and other relationships between variables can be varied so that trends speed up or evaporate.

It is here in particular that creativity comes into the game, and attempts are made to arrive at exciting or surprise scenarios. As scenarios become increasingly well-founded, it will also be easier to determine which factors and players are most important. And after the points emphasized in connection with chaos, we realize that it is important to identify the factors and players that are sensitive to even small changes in the initial values which have large consequences for consequent directions and outcomes of the development process.

Using scenarios as future possibilities – most studies work with two to four – we are stimulated to train ourselves mentally in increasing our anticipatory powers. These are therefore aids for both learning and pleasure. Scenarios play a role in generating discussion and *eye openers*, assessing the merits of familiar world views (*Weltanschauungen*) or confronting stimulating, surprising or 'painful' consequences which may lie in the future. Scenarios can promote fresh thinking, improve intuitive understanding or empathy, bring opportunities to light at an early stage – 'make your own future' – or fulfil a warning function – mostly in the form of worst case scenarios.

In fact, scenarios are models of social dynamics. 'Social' here is used in a wide sense, as indicated in the previous chapter. Independently of whether the working method used constitutes *forecasting* or *backcasting*, scenario studies generally concentrate on a limited number of motive forces. The variables or mechanisms deemed to be of leading importance for the dynamic route to the future often fall into discrete disciplines. Many scenarios will tend to be dominated by economic or technological (particularly IT) innovations.

This last is particularly the *modus operandi* favoured by futurologists, especially those who had their peak in the 1960s to mid 1970s. (Some feats: the journal *The Futurist* was set up in 1966, the term futurology was introduced in 1971, Alvin Toffler's *Future shock* and *The limits of growth* of the Club of Rome both came out in 1972). To continue our metaphor, at that time the Charybdis of the mechanistic search for the future was the more real danger. To put it a little polemically, uncertainty was the enemy which had to be destroyed by the then (militarily oriented) think-tanks. These were the years of the Cold War and the rise of computers and cybernetics.

In later years, developments of economic or demographic origin acquired more importance. Until today workers in these fields tend to look for firm footing and a stable operating base when looking at the future. For example, it is entirely possible to calculate fairly accurately how many pensioners there will be in the Netherlands in say 2030, and we can predict with almost total certainty that by half way through the next century, the population of India will be greater than that of China.

Such developments can in turn provide material from which economic predictions can be made, say about the growth of the Indian market or the idea that in 15 to 20 years

the Chinese will be queuing up to exchange their bicycles for cars. Of course, the more detailed the predictions you ask for – e.g. which car it will be, which models and accessories will win favour with the average Chinese – the more other factors will intervene directly or indirectly.

Despite all the power of computers and all the technical data, anyone hoping to hit the bull's-eye in sketching future patterns is likely to manage only an outline. In other words, the technocratic approach to the future has come under pressure. With respect for the complexity of reality, in the modern scientific sense of the former word, this has turned into the current conception that scenarios are a reconnaissance of possible futures.

Differences of opinion remain about the nature of the factors to be taken into account, the number of variables, and the value attributed to them. At the same time friends and foes of scenario studies alike emphasize that there are more possibilities than just growth, shrinking, disaster or doom scenarios. There is also general agreement that scenarios have greater descriptive power if they are given multidisciplinary input. Neither straight-line nor one-dimensional thinking does justice to the social reality which is characterized by turbulent patterns of development and multilinear processes.

The social relevance of systems of knowledge is increased if these are adapted or better adapted to it. Then scenarios will indeed be analytical instruments capable of strong as well as subtle answers to questions on future developments and their possible direction, strength and life-span.

7. Sources on the future

'One must be extremely careful of predictions, especially those regarding the future.' [14]

'If you can look into the seeds of time,
And say, which grain will grow, and which will not:
Speak then to me.' [15]

Publications

As stated earlier, it is outside the scope of this study to go into specific developments, concepts and themes likely to be important in the future. What is offered here is a list of references to sources which, in the writer's view, offer inspiration in searching for the future. What follows is therefore a personal choice, from sources available recently.

Achterhuis, H., *De erfenis van de utopie* (The legacy of Utopia). Ambo, Amsterdam, 1998.

Beek, W.J. et al., *De onvermijdelijke culturele revolutie* (The unavoidable cultural revolution). SMO, The Hague, 1998.

Buzan, Barry and Gerald Segal, *Anticipating the future: twenty millennia of human progress*. Simon and Schuster, London, 1998.

Castells, Manuel, *The rise of the network society (Vol. 1 - The information age: economy, society and culture).* Blackwell Publishers, Oxford, 1998.

Celente, Gerald, *Trends 2000: how to prepare for and profit from the changes of the 21st century*. Warner Books, New York, 1998.

Fukuyama, Francis, *The great disruption: human nature and the reconstitution of social order.* The Free Press, New York, 1999.

Jensen, Rolf, *The dream society: how the coming shift from information to imagination will transform your business.* McGraw-Hill, New York, 1999.

[14] Baseball legend Casey Stengel, quoted by Stephen K. Sanderson, *Macrosociology: an introduction to human societies*. Harper & Row, New York, 1988 p449. The following words are also attributed to Stengel: 'Never make predictions, especially about the future.' The quotation given by Sanderson seems closer to Allan Lamport (Mayor of Toronto in the 1950s) who is supposed to have said: 'It's hard to make predictions – especially about the future.' It seems two remarks may have been conflated here, and the quotation may even be partly apocryphal. In any event, this does not change the import.

[15] William Shakespeare, *Macbeth,* Act 1, Scene 3.(*Complete works.* Atlantis, London, 1980 p282).

Kelly, Kevin, *New rules for the new economy: 10 ways the network is changing everything*. Fourth Estate, London, 1998.

Lopiano-Misdom, Janine and Joanne De Luca, *Street trends: how today's alternative youth cultures are creating tomorrow's mainstream markets.* HarperBusiness, New York, 1998.

Mazarr, Michael J., *Global trends 2005: an owner's manual for the next decade*. Macmillan, Houndsmills, 1999.

Meehan, Mary, Larry Samuel and Victor Abrahamson, *The future ain't what it used to be: the 40 cultural trends transforming your job, your life, your work.* Riverhead Books, New York, 1998.

Pine, B. Joseph and James H. Gilmore, *The experience economy: work is theatre and every business a stage.* Harvard Business School Press, Boston, 1999.

Popcorn, Faith and Lys Marigold, *Clicking!: strategieën voor een nieuwe lifestyle* (Clicking! Strategies for a new lifestyle). Contact, Amsterdam, 1996.

Rescher, Nicholas, *Predicting the future: an introduction to the theory of forecasting*. State University of New York Press, New York, 1998.

Ringland, Gill, *Scenario planning: managing for the future.* John Wiley, Chicester, 1998.

Ritzer, George, *Enchanting a disenchanted world: revolutionizing the means of consumption.* Pine Forge Press, Thousand Oaks, 1999.

Salzman, Marian and Ira Matathia, *Trends voor de toekomst: werken, wonen, leven na 2000* (Trends for the future: work, home and living after 2000). Anthos, Amsterdam, 1997.

Sanders, T. Irene, *Strategic thinking and the new science: planning in the midst of chaos, complexity, and change.* The Free Press, New York, 1998.

Slater, David, *Consumer culture and modernity.* Polity Press, Cambridge, 1997.

Thurow, Lester C., *The future of capitalism: how today's economic forces shape tomorrow's world.* Penguin, Harmondsworth, 1997.

Weiner, Edith and Arnold Brown, *Insider's guide to the future: the powerful forces shaping our future, and how to profit from it*. Bottom Line Publishing, 1997.

Wolf, Michael J., *The entertainment economy: how mega-media forces are transforming our lives.* Penguin, Harmondsworth, 1999.

Periodicals

It will suffice here to mention one Dutch language and one English language journal:

eYe: zicht op trends
The Futurist

Internet

It is easy to find out through the Internet how people are thinking about the future, for example by using a search engine and filling in words like 'trends'; 'future trends'; 'future world'; 'scenario'.

Another method is simply to put in names of trend-watchers or institutions. Some examples: 'Marian Salzman'; 'Faith Popcorn'; 'Tod Maffin'; 'Gerald Celente'; 'John Naisbett'; 'Peter Drucker'; 'Robert Heilbroner'; 'Peter Schwartz'; 'Joseph Coates'; 'Institute for the Future'; 'World Future Society'; 'FutureScope'; 'Futurefile'; 'Young & Rubicam's Brand Futures Group'; 'BrainReserve'.

A large number of Internet addresses may be found in *Trends voor de toekomst* (Trends for the future) by Marian Salzman and Ira Matathia.

The following websites are recommended to give an idea of the diversity of what is on offer:

Copenhagen Institute for Future Studies: http://www.cifs.dk
Economist Intelligence Unit: http://www.eiu.com
Elite Group: www.elite-research.org
Everything 2000: http://www.everything2000.com
Fast Company: www.fastcompany.com
UK Foresight programme: http://www.foresight.gov.uk
Institute for the Future: http://www.iftf.org
Maffin's Future File: http://www.maffin.net
MIT Media Lab: http://www.media.mit.edu
Rheingold's Brainstorms: http://www.rheingold.com
Society of Actuaries: www.soa.org/sections/soabk.html
The Futurist: http://www.wfs.org.wfsfuturist.htm
Trendsresearch: http://www.trendsresearch.com
Which World: http://mars3.gps.caltech.edu/whichworld
Wired: http://www.wired.com