



THE ART OF FORESIGHT: PREPARING FOR A CHANGING WORLD

BY THE WORLD FUTURE SOCIETY

Foresight is the secret ingredient of success, because without foresight we cannot prepare for the future. Effective foresight has always been important in human life, but it is now much harder to come by, because our modern world is changing faster than ever before. Our technologies, jobs, institutions, even some of our treasured values and ways of thinking are all shifting radically, making it very difficult to plan ahead and prepare for future challenges and opportunities. Indeed, in our age of hyperchange, many people have no notion of what sort of world they should prepare for. They may decide, fatalistically, that they cannot know or do anything about their own futures.

Foresight, in contrast to fatalism, gives us increased power to shape our futures, even in the most turbulent of times. People who can think ahead will be prepared to take advantage of all the new opportunities that rapid social and technological progress are creating.

Success Through Foresight

The relation of foresight to success is poorly understood. As a result, we often think people are successful because of luck, when in fact it was their foresight that made them “lucky.” Foresight enabled them to take advantage of opportunities and to avoid problems that trap other people.

Alan Hald, a young Arizona banker with a strong interest in the future, attended a World Future Society conference in the 1970s. There he met the editor of a new magazine for computer hobbyists. At the time, nobody but governments and big businesses could afford to build a computer, but Hald had the foresight

to see that the future of computers would be very different from the past, and many new business opportunities would open up. Hald went home in great excitement to talk to his partner about starting a business in computers. In the following years, Hald’s business (MicroAge) grew into America’s largest microcomputer distributor, serving dealers around the world.

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Foresight is critical to success in all areas of our lives, including major life decisions. In contrast to Hald’s success, people who lack foresight are only too likely to find themselves unemployed when jobs are unexpectedly lost to new technologies, competition from overseas, or shifts in consumer tastes. Without foresight, we often have little idea of what to do next, so developing our foresight may be the best way to safeguard our current jobs and future employability.

Foresight may also save our lives. Here’s why: Scientists are identifying more and more ways for us to live longer, healthier, and happier lives, but we have to decide to follow their advice. People lacking foresight are only too likely to disregard the practices that would safeguard their future health and wellbeing. Millions of people are alive today because they paid attention when scientists confirmed the enormous damage that smoking cigarettes does to the human body.

Meanwhile, their neighbors and friends who continued to smoke have succumbed to lung cancer, heart disease, and strokes.

Education is another area where foresight is important. Students lacking foresight are more likely to neglect their studies because they see no connection between education and a successful future. But students with good foresight skills can recognize the importance of studying and can also select the courses most likely to help them meet their goals. Young people who do not learn to think ahead may find it difficult to plan for a successful marriage and family life. People whose foresight is weak are likely to have difficulty saving money for emergencies, down payments on homes, and retirement.

Foresight is particularly important for investments, and exceptionally good foresight can bring riches. Warren Buffett, one of the world’s most successful investors, won his wealth by being able to identify inexpensive companies that were likely to prosper in the future.

Foresight in Business and Government

People in business can use foresight to identify new products and services, as well as markets for those products and services. An increase in minority populations in a neighborhood would prompt a grocer with foresight to stock more foods linked to ethnic tastes. An art museum director with foresight might follow trends in computer graphics to make exhibits more appealing to younger visitors.

Foresight may reveal potential threats that we can prepare to deal with before they become crises. For instance, a corporate manager with

foresight might see an alarming rise in local housing prices that could affect the availability of skilled workers in the region. The public's changing values and priorities, as well as emerging technologies, demographic shifts, economic constraints (or opportunities), and environmental and resource concerns are all parts of the increasingly complex world system in which leaders must govern effectively.

People in government also need foresight to keep systems running smoothly, to plan budgets, and to prevent wars. Government leaders today must deal with a host of new problems emerging from rapid advances in technology. Technology-assessment expert Vary T. Coates notes that, "Technology-related issues today besiege Congress across the range of committee responsibilities—stem-cell research and human cloning, missile defense, cellular telephones, genetically engineered foods, the Internet, and much more—because technology has become a central part of modern life."

Even at the community level, foresight is critical: School officials, for example, need foresight to assess numbers of students to accommodate, numbers of teachers to hire, new educational technologies to deploy, and new skills for students (and their teachers) to develop over the coming years.

The Growth of Foresight Techniques

Many of the best-known techniques for foresight were developed by U.S. military planners, when the post-World War II atomic age made it critical to "think about the unthinkable" and prepare for it. Pioneering futurists at the RAND Corporation (the first think tank) began seriously considering what new technologies might emerge in the future and how these might affect U.S. security. These RAND futurists, along with others elsewhere, refined a variety of new ways for thinking about the future.

Futurists have recognized that the future is continuous with the present, so we can learn a great deal about what may happen in the future by looking systematically at what is happening now (see "Futuring: Profession

or Point of View?"). The key thing to watch is not events (sudden developments or one-day occurrences) but trends (long-term ongoing shifts in such things as population, land use, technology, and governmental systems).

Futurists also developed the use of scenarios as an extremely useful way to think about the future. A scenario is not a prediction purporting to state definitely what will happen in the future, but rather a plausible description of events that might occur in the future. Scenarios are fictional, but realistic anticipations of what may happen in the future. Using scenarios, we can think seriously about what we should do next. In some cases, we may want to prevent these potential future events from happening; in other instances, we may want to cause them to happen or even hurry them along.

Using these techniques and many others, futurists now can tell us many things that may happen in the future. Some are nearly certain to happen, such as the continuing expansion in the world's population. Other events are viewed as far less likely, but could be extremely important if they do occur, such as an asteroid colliding with the planet.

Ways to Anticipate the Future

We may not be aware of it, but we all develop, in the course of growing to adulthood, a variety of ways for thinking about the future. Most of us use these methods without being consciously aware of just what we are doing. Futurists anticipate, forecast, and assess future events by using a variety of rational, empirical, and scientific techniques. These methods are largely refinements of the common-sense techniques that people use in everyday life. But they are completely

FUTURING: PROFESSION OR POINT OF VIEW?

Futuring can be viewed as either a professional activity or a mind-set. Professional futurists are often consultants who must meet their clients' needs; they help draw the "maps" of the future and identify the obstacles (and opportunities) along the way.

But many "futurists"—in fact, most members of the World Future Society—are not professional futurists. Occupations and backgrounds are richly varied: students and deans, clerks and CEOs, architects and ambassadors, poets and planners, engineers and editors, musicians and marketers, farmers and fashion designers.

Futurists share a passion for ideas and a desire to look over the horizon to see what's going on in the world, what it could lead to, and what they can do about it. As former NATO ambassador Harlan Cleveland once put it, futurism should be everyone's "second profession." It is difficult to imagine anyone in any profession who would not benefit from mastering the tools of futuring.

different from supernatural fortune-telling practices such as crystal-ball gazing and astrology.

Here are a few of the most common techniques used in futuring. For more-detailed discussions of these techniques, see *Futuring: The Exploration of the Future* (World Future Society, 2004).

- **Scanning:** An ongoing effort to identify significant changes in the world beyond the organization or group doing the scanning. Typically, scanning is based on a systematic survey of current newspapers, magazines, Web sites, and other media for indications of changes likely to have future importance. Scanning focuses mainly on trends—changes that occur through time—rather than events—changes that occur very quickly and generally are much less significant for understanding the future.

- **Trend Analysis:** The examination of a trend to identify its nature, causes, speed of development, and potential impacts. Careful analysis may be needed because a trend can have many different impacts on different aspects of human life, and many of these impacts may not be apparent at first. Longer life spans, for example, increase the number of people for whom resources must be provided, but also increase the number of people who can contribute to the economy and society through paid and unpaid labor (see "Trend

Background

The world is experiencing an increase in elderly people. To clarify the implications of this trend, the staff of the World Future Society has identified a number of the causes of the trend and possible effects that the trend will have. This sample trend analysis is organized according to the six-sector “DEGEST” approach used by many business analysts and futurists and by *The Futurist* magazine’s World Trends & Forecasts section.

Demography

Causes: Women bear fewer children, allowing more resources for those they do have. Higher levels of education lead to better self-care and use of medical services.

Effects: Declining percentage of children in population. Fewer elderly will have working family members to help them with their disabilities and living problems. Increase in percentage of disabled in the population. Elderly may face backlash from younger people forced to pay for their upkeep. Elderly may break up into new categories—octogenarians, nonagenarians, centenarians, and super-old (over 110).

Economics

Causes: Rising living standards—more abundant food, shelter, public-health measures, etc.

Effects: More years in retirement. Fewer resources may be available for children and working adults due to the increase in the nonworking population. Businesses may need to come up with more incentives to keep older workers on the payrolls longer.

Environment

Causes: Careful treatment of sewage and other sanitary measures. Protection of

soil, water, and other resources. Reduction of air pollution.

Effects: Need for more resources of almost every kind to meet needs of swelling elderly population. Special pressures on areas favored by elderly—e.g., Florida, Arizona.

Government

Causes: Social Security ensures basic support for needy; tax advantaged retirement programs also help elderly meet their needs. Government funding of medical research allows steady flow of new medical knowledge and treatments. Laws protect people against physical abuse or injury from employers, environment, criminals, etc.

Effects: Increasing burden on Social Security and government programs to assist elderly and disabled. Elderly grow as political constituency demanding benefits. People may agitate against laws requiring that they spend down their individual retirement accounts. Government finances strain under burden of supporting retirees paying few taxes. As less money is available for meeting other national priorities, policies might become increasingly drastic, such as completely privatizing Social Security.

Society

Causes: Communications media and educational system influence people to safeguard their health.

Effects: Families have more elderly to care for. Parents’ resources may be diverted from their children to aging relatives. Elderly may become increasingly prominent in TV, other media. More products, programs, and institutions will be designed specifically for the elderly.

Technology

Causes: New drugs and medical devices preserve lives. Communications and transportation improvements make resources more available.

Effects: Elderly will push innovation by providing a growing market for drugs and technologies to overcome their disabilities. Techno-furnishings—high-tech chairs, beds, tables, sinks, toilets, etc.—may become popular as elderly seek solutions to their living problems. If researchers gain understanding of senescence (aging process), a means might be found to extend human lives for centuries.

Implications

You don’t expect to live to 100? Neither did most centenarians, but it happened. If you live to be 90 or 100, will you outlive your retirement savings? Will you postpone retirement, or even experience it at all?

Governments in many developed countries are seeking ways to keep aging populations from becoming a drain on future national resources. For example, Japan, facing the most severe aging trend, has enacted substantial benefit cuts to its national pension system, which will require some workers to work to later ages. There is likely to be a growing market for services used by the elderly—medical, home care, etc. Products designed for disabled elderly people—drugs, prosthetics, etc.—should be in growing demand. These trends may suggest career and investment opportunities. Should you think about targeting the elderly as prospects for your products or services?

Analysis: The Increase of the Elderly in the Population”).

• **Trend Monitoring:** Trends viewed as particularly important in a specific community, industry, or sector may be carefully monitored—watched and reported regularly to key decision makers. For example, a rapidly rising unemployment rate or the appearance of a deadly new disease may have significant impacts on many different organizations and communities. On the other hand, fashion trends may be of keen interest to such people as

clothing manufacturers or fashion-forward consumers (see “Top 10 Reasons to Watch Trends” on p. 5).

• **Trend Projection:** When numerical data are available, a trend can be plotted on graph paper to show changes through time. The futurist can then extend the trend line or “project” it into the future on the basis of the recent rate of change. Such a projection shows where the trend should be at some point in the future assuming there is no shift in the rate of change. Example: A population

with a steady 2% rate of annual growth will double in about 35 years.

• **Scenario Development and Analysis:** We all explore future possibilities through our imagination. For instance, we try to imagine what would happen if we accepted a job at a certain company: What good things—and bad things—might happen to us as a result of taking the job? Scenarios are attempts to imagine future possibilities on the basis of what we know (or think we know). Scenarios are useful in helping us to

understand what might happen as a result of a decision we may make.

The future development of a trend, a strategy, or a wild-card event may be described in story or outline form. Typically, a scenario seeks to show one plausible way that the future might unfold. Scenarios are particularly useful in futuring because of the general uncertainty of the future. Typically, several scenarios will be developed so that decision makers are aware that future events may invalidate whatever scenario they deem most likely and use for planning purposes.

• **Consulting Others (Polling):** Since “two heads are better than one,” we may ask other people—often experts—for their opinions about the future. Other people can also advise us on whether we are likely to enjoy a trip to a certain city, for example. Business executives and government leaders constantly use consultation as a means of understanding the possibilities of the future and making better decisions. Data may be collected through face-to-face conversation, telephone interviews, and questionnaires sent by electronic or ordinary mail. Delphi polling, popular among futurists, uses a carefully structured procedure to generate more-accurate forecasts.

• **Models:** Events that occur in the real world can be imitated in ways that help us to understand them better. A model of a building can help people to understand what a future building may look like. A map is a two-dimensional model that enables us to tell which streets we will come to if we go in a certain direction.

• **Simulations or Gaming:** A model is a static representation of something, but it has a dynamic twin—the simulation. Generals and admirals simulate battles when they move their model ships and aircraft about, either on large maps or during “war games” that involve real troops, materiel, and even live ammunition. In war games, real soldiers may become actors in a mock battle, which helps them to understand what actual combat is like and helps generals to test out alternative strategies and tactics they may

World Future Society members recently explained why they study trends:

1. **To get investment ideas and save money.** A group of “angel investors” reports finding new ideas by studying trends and reading World Future Society publications: “You have saved us money!”
2. **To get early warnings.** Scanning the environment for emerging opportunities and crises is like looking both ways for traffic before crossing a busy road. It just makes good sense.
3. **To get confidence.** A solid foundation of awareness about trends can give you the confidence to take wise risks.
4. **To get an edge on the competition.** Seeing what’s coming before others do can give you lead time to establish a foothold in a new market.
5. **To get at the heart of a trend.** Analyzing the details within a trend can help separate truly significant developments from rapidly appearing and disappearing fads.
6. **To get goals in balance.** Thinking about the future is an antidote to a “profit now, worry later” mentality that could lead to trouble in the long term.
7. **To get informed on forces affecting your field.** Health-care planners, for instance, need to know what’s going on in biotech and medicine, values and public policy, labor supply and population aging.
8. **To get informed on forces in many fields.** Educators, for instance, may follow trends in the economy and the workforce to know how best to guide their students.
9. **To get a glimpse of emerging futures.** A trend is a glance at potential futures; we can then take actions to turn those trends into opportunities.
10. **To get yourself and others ready for the future.** Many futurists serve as consultants or counselors; they must keep abreast of trends not only for their own sake but also to help their clients.

later use. The game *Monopoly* simulates the real estate market. Games can also be played with real people playing various roles: In the game *Sim-City*, one person might be the mayor while others play the roles of urban planner, transportation manager, landlord, city council, and so on.

• **Computer Simulations:** Complex systems such as the U.S. economy can be modeled by means of mathematical equations, which can then be fed into a computer. Then data can be entered to express the situation in the economy at the present moment. After that, policy makers can ask various “What if” questions, such as “What if we increase the income tax rate by 20%?” This policy change probably will have numerous results, many of which might never have been anticipated, due to the complex interaction of the many variables. The computer might show, for instance, that a proposed increase in the income tax would reduce automobile sales by 30% and cut the GNP by 10%.

• **Historical Analysis:** Futurists may study historical events in order to anticipate the outcome of current developments. Often a current situation can be compared to one or more situations in history that seem to be similar. For example, the U.S. invasion of Iraq in 2003 was compared by some commentators to the Vietnam War, with the implication that the Iraq War would also prove disastrous. Many government leaders have relied heavily on what they learned from history to guide them in making key decisions.

• **Brainstorming:** The generation of new ideas by means of a small group assembled to think creatively about a topic, such as a problem to be solved, an opportunity to capture, or a direction to take an organization. Group members are encouraged to build on each other’s ideas and withhold criticism. Brainstorming is useful in identifying possibilities, opportunities, and risks. Other idea-generating or problem-solving methods are also common, such as idea mapping,

impact analysis, and the systematic identification of all possible variables. Professional futurists may use brainstorming with their clients to help stretch their minds beyond the present and to promote continuous innovation and long-term strategizing.

• **Visioning:** Since futuring is about more than predicting, many futurists engage in the systematic creation of visions of a desirable future for an organization or an individual. Typically, the futurist will start with a review of past events and the current situation, move on to envision desirable futures, and then identify specific ways to move toward the desired future. A visioning procedure often prepares the way for more-formal goal setting and planning. ■

The World Future Society (info@wfs.org) is an association of people interested in how social and technological developments are shaping the future. The Society was founded in 1966 and is chartered as a nonprofit educational and scientific organization in Washington, D.C. The Society strives to serve as a neutral clearinghouse for ideas about the future, which include forecasts, recommendations, and alternative scenarios. These ideas help people to anticipate what may happen in the next five, 10, or more years ahead. When people can visualize a better future, then they can begin to create it.

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Resources from the World Future Society

Books

- *Futuring: The Exploration of the Future* by Edward Cornish (WFS, 2004)
- *Thinking Creatively in Turbulent Times*, edited by Howard F. Didsbury Jr. (WFS, 2004)
- *Foresight, Innovation, and Strategy: Toward a Wiser Future*, edited by *Futurist* managing editor Cynthia G. Wagner (WFS, 2005)

Reports

- “Outlook”: The World Future Society’s annual roundup of thought-provoking forecasts covers trends in business, education, technology, values, world affairs, and much more.

Among recent forecasts: Genetically modified crops may surpass natural crops in acreage planted by 2020. Two-thirds of the world’s population will be chronically short of water by 2050. Earthquakes will become deadlier in the future since they will have growing numbers of heavily populated megacities to target. And polar bears could become extinct in the next 100 years as global warming melts their Arctic hunting grounds.

- “53 Trends Now Shaping the Future” by Marvin J. Cetron and Owen Davies (WFS, 2005). The world’s population will double within the next four decades. Important medical advances will continue to appear almost daily. The global economy is growing more integrated. Future seniors will be healthier and wealthier. And water shortages will plague much of the world. These are among the 50 key trends that will change our world over the next two decades, according to veteran forecaster Marvin J. Cetron and science writer Owen Davies.

- “Future Careers: The High-Potential Jobs of Tomorrow.” What types of jobs will there be in the future, and how will we prepare ourselves for them? *The Futurist* magazine asked workforce trend analysts to share their insights, speculations, and recommendations for succeeding in the workplace of tomorrow. This special report comprises three articles originally published in the November-December 2005 issue of the magazine:

- ★ “Hyperjobs: The New Higher-Level Work and How to Grow Into It” by Richard W. Samson;

- ★ “Working in the Future: How Today’s Trends Are Shaping Tomorrow’s Jobs” by John A. Challenger; and

- ★ “Career Planning for the 21st Century” by Joyce Gioia and Roger Herman.

Periodicals

- *The Futurist: A Magazine of Forecasts, Trends, and Ideas about the Future*. This

fully illustrated magazine presents the ideas of scientists, government officials, educators, and others concerning what may happen in the years ahead. Published continuously since 1967, *The Futurist* is the largest and best-known futurist publication in the world.

- *Futures Research Quarterly* publishes scholarly or technical articles dealing with futures research. The journal is refereed by an editorial board consisting of leading future-oriented scholars.

- *Future Survey*: A unique monthly newsletter summarizing and commenting on 50 of the most significant current books, reports, and articles dealing with the future. This useful publication makes it easy to obtain a quick idea of what current thinking is in many areas of policy, from defense to family planning, from computers to the environment.

- *Futurist Update: News and Previews from the World Future Society*, a monthly e-mailed newsletter featuring concise reports on trends and ideas about the future, as well as brief book reviews, news from the Society, and links to useful Web resources.

Courses

The World Future Society’s annual meetings typically include many sessions of use to participants wishing to develop their futuring skills. In addition, more-advanced courses before and after the conferences cover such topics as:

- Systems thinking
- Technology forecasting
- Futurizing an organization
- Thinking like a futurist