 Stud. Tribes Tribals, 2(1): 45-53 (2004)

Local or Tribal Decision-making Given Global Uncertainty: Strategic Considerations

Robert J. Gregory

School of Psychology, Massey University, Palmerston North, New Zealand
Phone: 64 6 350-5799 extension 2053, Fax: 64 6 350-5673 E-Mail: R.J.Gregory@massey.ac.nz

KEYWORDS Decision making; local; global; issues; strategy

ABSTRACT Communities, tribes and individuals operate as best they can within the parameters of a larger environment surrounding and influencing them. Recent trends indicate an increasing number of large-scale issues that can and frequently do impact on local situations and individuals. Trying to negotiate a meaningful and satisfactory way through these perilous times and issues that can have enormous impact calls for strategies to minimize harm, and maximize well-being. A number of global issues are briefly discussed, and are followed with some ideas on ways individuals, groups, tribes and communities can cope and manage more effectively.

INTRODUCTION

"Think globally, act locally" has been a popular saying for several years now, as sweeping political, military, economic, social, and technological changes influence all aspects of our lives on Planet Earth. Exactly how to make use of global information in decision-making and in acting on a local or a personal level, however, is rarely discussed. Some may choose to ignore the problems emerging in the larger world, others may become frozen into indecision as a result of their deep knowledge of the complexity and content of global information. In between these extremes lie dozens of possible ways in which people handle complex, sometimes terrifying, globally based information as they seek to make personal, local, tribal, community-based and related group decisions that lead to action. Surely meaningful strategies by which incorporation of globally based information into locally made decisions can then lead to productive and positive tangible action. After all, given the nature of global and national issues, what is a network, tribe, or community of people to do? They have to proceed, just as do individuals, regardless of those global concerns. But, they can proceed with style and elegance, using rather than ignoring information, trends, and future scenarios, hopefully to the advantage of all.

Making a good decision based on information in a limited and defined situation is difficult enough in the best of times, but when global problems and uncertainty is added, complexity increases many times over. Currently, a significant number of global issues make planning for the future on local levels complicated. These issues include, at the least: 1) overpopulation, 2) nuclear weapons and the nuclear industry, 3) global warming, 4) the rich and poor gap, 5) corporate hegemony, 6) biological dangers, 7) peaking and coming decline of cheap energy, 8) surveillance, secret agencies, and state sponsored or other forms of terrorism (nationalism), 9) economic and financial volatility and occasional crunches (capitalism), 10) media propaganda, disinformation and hype, 11) violence, especially that linked with fundamentalism (religion), and 12) drug abuse resulting in mentally and emotionally impaired individuals, and sometimes entire classes, or groups of people. Other issues could easily be added to this list. The ranking of various items depends upon the particular culture and locality in which one resides, as well as individual perceptions and current events. None of these listed variables are static issues, but rather, each is capable of shifting and moving in ever confusing patterns, like the weather. The recent volatility of most of these issues has been, if anything, increasing rapidly. And, these factors combine and reshuffle daily, leading to a kaleidoscopic and cascading mix. As a result, decisions made by individuals, and by those in positions of authority in local communities such as tribal leaders, are likely to be influenced, but in ways that are confused and confusing at best. Virtually all of us are impacted in numerous ways so that good decision-making, based on "the facts" cannot take place easily or simply.

Strategic considerations and remedies may range from complete ignorance or purposeful denial of these global issues, to simplification as

for example, by use and consideration of only a few slogans, to partial knowledge of a few factors, on to near total awareness and incorporation of the information available. Ignorance is bliss, as they say, and that may enable individuals to function in their local setting with ease. The latter state on the other hand, that of having a great deal of information, rather than facilitating sound decision-making, may actually create a stalemate in decision-making when complexity (Waldrop, 1992) exceeds the capacity of the decision-makers involved. In addition, for those rare few who dare to look ahead and who have both a well informed and considered opinion or analysis as to what is likely, may be labeled and become alienated by others as "environmentalists," "kooks," or "doom and gloom" merchants. Relatively few highly intelligent and well informed visionaries have the strength and will to ignore public opinion, peer group pressures, and directed insults, for their numbers are limited and they often lack communication links and social support from like minded others. Undoubtedly "wise" people prevail on occasion, but not necessarily and not without difficulty.

Even those individuals or groups with a great deal of knowledge and wisdom may err. A popular urban myth or legend is the story of the highly intelligent European who, in 1938, felt sure that a massive war would break out in Europe and result in many deaths. As a result, the man picked a remote island in the South Pacific, an island no one had ever heard of, and moved there to avoid the coming war. The island, Guadalcanal, was virtually destroyed and, of course, the man was never heard from again. Likewise, tribal groups who seek to understand and deal intelligently with the proverbial powers-that-be may make mistakes. Truly, the use of information from global issues does not mean that mistakes will not occur.

A wide variety of strategies, such as trusting in processes learned and used in the past, listening to and following the advice of those who pose as experts, a do-nothing bias, becoming a "mugwump" (Quinion, 1996) and sitting on the fence, or relying on personal feelings, may be adopted given the lack of other workable solutions.

Some sample arenas in which decisions are made may include making investments, building homes, locating new subdivisions, choosing new crops or plants, getting more education, choosing jobs or careers for young people, selling livestock, making major purchases, taking part in various boards and committees in communities, governing local communities, considering sites for new airports, investing in roads or advertising for new business, and so on. Increasingly it is likely that the global will directly or at least indirectly influence and affect the local and personal choices and options available, and the outcomes of decisions.

Although optimism and happiness may be culturally and socially desirable, realistic views may be more important for personal, tribal, community-based, and in the longer run, global survival and sustainability. As with those who have endured tragedy and trauma, a realization that each day is the best day available that we have ahead of us is an important coping mechanism.

THE ISSUES

This paper will list and examine twelve global issues, then turn to the study of local, tribal or community based and personal decision-making in the context presented. No exhaustive reference list is intended, but a few central resources for each global issue are presented so that interested readers can easily pursue the topics further.

1. Overpopulation represents a fundamental issue that affects all others, for the rapid, careless and mis-use of limited resources limits future sustainability, productivity, and balance with nature (O'Callaghan, 1997). As a direct result of human proliferation, other species are made extinct, natural resources are destroyed, and the land, seas and air are polluted (Ehrlich and Ehrlich, no date). At the time of writing, 6.25 billion people inhabit the planet (United States Census Bureau, Population Division, 2002: International Programs Center, 2002). The beliefs and teachings of Catholics about birth control (Ryan, 1999) have contributed to this situation, as have political or economic desires for growth that have led to larger and larger populations.
2. Nuclear weapons threaten almost all life on the planet whether one listens to physicians (Caldicott, 2001) or retired military leaders who have "been there, done that (Butler, 1998). One has only to scan a few copies of the Bulletin of the Atomic Scientists to know that close encounters have occurred many times, and that the confrontation near Cuba, and

both Three Mile Island and Chernobyl were only a few of the many accidents waiting to happen. The confrontations between the United States and the Soviet Union, India and Pakistan, Israel and the Arab States, and others only represent a small part of the many dangers from military nuclear weapons. In addition, nuclear ships and submarines, the nuclear power industry, and the disposal of radioactive waste represent extreme hazards. The dispersal through spreading fertilizers "enhanced" with low-level waste, and the use of depleted uranium (Uranium Information Centre, Ltd. 2001; Aitken, 2002), represent the extent to which long-term sustainability is being damaged in parts of the world. While some may claim nuclear power is safe and economical and ethical (Uranium Information Center, 2002) the majority of people, scientists, and nations have moved away from eagerly supporting nuclear power and associated madness.

3. The majority of reputable scientists argue that global warming is significant, poses a major danger to humanity and the environment, and unless changes take place, will have cumulative effects (Mazza and Roth, 2002; United States Environmental Protection Agency, 2002). A few skeptics continue to argue that there is no such thing as global warming (Global Warming Research Center, 2002). Given that temperature charts demonstrate an increase in higher temperatures associated with greater variability in weather patterns, as predicted, the likelihood is that something dramatic is taking place that will significantly influence our future. Gaining insurance for coastal housing is becoming more difficult, physical damage from natural disasters such as hurricanes is becoming far more expensive, and frequency of weather related problems appears to be increasing.
4. The disparity between rich and poor in the world is at an all time high. The top 1 percent of the wealthy has more money than the bottom 50 percent, or 3 billion people (Smeeding, 2001). The rise of violent crime, the feelings of frustration and anger, and slow death by starvation or food deprivation is adding up to a critical problem. In addition to an estimated 11,000 children who die daily, "There are 826 million chronically hungry people in the world 792 million in the developing world and 34 million in the developed world says a new report from the UN Food and Agriculture Organization" (Ward, 2000).
5. Corporations have taken control (American Association of Jurists and CETIM, 2001; Korten, 1995, 2001) of much of the globe, whether financial, physical, psychological, or otherwise. The top corporations are far more powerful than most nation states, and many have far more money and power than government officials and leaders. Those excluded from corporations may suffer not only unemployment, but what has been termed "economic horror" (Forrester, 1999). Even those within corporations however, are suffering from workplace cutbacks and redundancy, from stress and overload, and from related collateral damage through alcoholism, drug use and abuse, and poor diets.
6. Biologically, human beings, their animals, and their environments, are vulnerable to many diseases, viruses, bacteria, as well as other attacks (DaSilva, 1999; Goncalves and Marlatt, 1996; Center for Terrorism Preparedness, 2001; American Medical Association, 2001). Worse, the antibiotics so useful in the past have lost some of their effectiveness, terrorism has become a significant possibility for increasing the spread of these agents, and current research opens the doors for brand new micro-organisms that could easily kill large populations.
7. Energy has been cheap, particularly oil and gas, but this is due to change in the very near future (Hanson, 2001; Hubbert Peak of Oil Production, 2002). In fact, the peak of oil production has been passed in the West, and will soon be surpassed in the Middle East, certainly during the next ten or twenty years. Discoveries have lagged well behind use, and nothing available, or projected will be able to replace the cheap energy available from fossil fuels in sufficient quantities and qualities to enable life to go on as it has. As supplies decline, frantic efforts are likely to obtain control of remaining sources, and when the inevitable crunches arrive, the tens of thousands of products and uses of gas and oil will decline rapidly.

8. Surveillance is increasing. Several major global systems of surveillance have been reported, including Echelon, Tempest and Carnivore (Electronic Frontiers Australia, 2001, see http://www.efa.org.au/Issues/Privacy/surveillsys.html, also see Wright, (no date) and Campbell, 1988). Related to the above are the many agencies that spy on other people and groups, agencies that are run by many countries, many corporations, and some individuals. Hidden cameras, analysis of e-mail and records, and listening devices are only a few of the ways in which we are being watched. That all of us are subjected to on-going surveillance should come as no surprise, but few question the entire system, that is, exactly who receives the information, for what purposes, and what is done with the information once intercepted (Gregory, 2000). Most of all, few are asking exactly "why?" so much surveillance is being carried out. The other side of surveillance is terrorism and one has only to consult a newspaper or television news presentation to realize the scope and intensity of both state sponsored and other types of terrorism.
9. Ups and downs in the share markets are only one small part of the variations taking place these days. The US current debt, for example, is higher than ever, and has already passed any reasonable level. The use of fiat money, entirely separate from a gold or commodity standard, means that psychological and social panics could easily bring down what has become a "house of cards." Credit cards, corporate finance, derivatives, and banking scandals are rife around the world. Sustainability of the American economy is questionable (http://www.sdi.gov/ particularly given corruption (Zhang, 2002).
10. Media are systematically or inadvertently blocking free speech and debate, preferring to spread the news manufactured by the corporate elite and the government officials that typically own and usually control the media (Perdue, 1999; Disinformation, 2001). Various groups, of course, monitor and report on bias in the media and usually compete vigorously (www.fair.org, www.mrc.org, www.aim.org). However, few believe that the free press exists that can accurately and competently educate the world's population about the everyday issues, let alone the contextual background of the many global issues prevalent today (Aucoin, 2002).
11. Violence and the authoritarian personality is best exemplified in religious groups, promoting one or another ideology as a means of controlling people and raising capital to support a priestly caste (Moyers, 1999; Ali, 2002). The particular religion matters less than the fact that such ideologies create insiders and outsiders who believe different things or who have no particular beliefs, but who are then regarded as less than human, and therefore to be exorcised, murdered, shunned, or otherwise treated poorly.
12. Drug abuse, including use of alcohol, creates physiological, electrochemical, and anatomical differences in brains and nervous systems. Individuals are typically unaware of these differences, both in the short and long term. Yet obvious and subtle changes in cognition, perception, motivation, and emotion result and interfere with participation in on-going life, for example from ecstasy (NIDA, 1999; Crime Prevention Group, 1999). Whether corporations, or industries promote drugs whether medical, entertainment, self-medicating, or other purposes, or when governments promote drugs for the tax take, or whether individuals join in with the illegal use of various chemicals and botanicals, the effects on brains remain. These effects are rarely positive, and usually impair, sometimes severely.

Numerous other issues could be added, such as pollution, soil erosion, natural disasters, asteroids hitting the earth, plagues, famine, conventional weapons, collapses of electrical power grids, and so on. The human mind is as fertile in thinking up global issues, as is the world in changing in ways such that humans and the environment are threatened.

DECISION-MAKING

On a local community-based, or tribal or even at a personal level, people live their lives in as positive ways as they can, as they make choices, plan various courses of action, participate in decision-making alone or more frequently by networking and in groups, and try to take responsibility for their actions. People use a wide variety of strategies in making choices and decisions.

One strategy is to simply ignore the larger global scene or context. Often people do that by maintaining a lack of awareness, others may have some awareness but an inability to connect global events with local action or their own destiny. Other criteria may outweigh context for some, such as process.

Another strategic response is to simplify by such cognitive methods as to adopt slogans, such as for example, "Buy American." Slogans or related simplistic methods reduce anxiety and generate choices without having to think through issues. When choices then appear, as for example purchasing a Japanese built vehicle as indicated by the sound of the label (Toyota), versus a Ford, some Americans might quite easily choose a Ford. However, in fact, it may be that the Toyota was built and assembled locally in the United States, whereas the Ford may have been built and assembled in Europe or Japan. The complexity of information can be and often is, simply ignored.

Another strategy is to rely on experts. Some people are self-motivated, as by internal processes, others externalize and place their trust in "so-called experts." Although governments and experts themselves may use various procedures such as certification, registration, testing, monitoring, peer-reviewing, licensing, regulating, and so on, failures, whether in individuals, groups, classes, and/or governments, do occur. Nevertheless, those who study, work in and gain respect for their knowledge in specific arenas may have greater wisdom, at least so far as their specific realm is concerned. Neophytes may be able to perform better in decision making and in taking action with the help of experts than on their own.

Still another strategy is to use a process, for example, the processes that a person has worked out in their own past, or for a group, the traditions (and culture) that existed and continues to exist. Again, this process orientation can simplify decision-making. Yet, given that events are not always a direct repeat of history, the processes of the past may not work well in the present or for the future. Still, a previously learned process that has produced successful results may well create better decision-making and actions than some other approaches.

Some people may look to outcomes, adjusting means to achieve particular results. For example, a corporation's leadership is almost totally focused on "the bottom line" or the amount of profits measurable (Mander, 1994). The means to achieve those profits count for little, it is only the results that matter, and everything is geared to maximize the profit margin. Even the truth might suffer, however. Feedback in the form of information about profits achieved (or lost) may be useful, particularly when compared with no feedback information that can be used in future decision making.

In that humans are emotional, as well as cognitive and rational beings, they may use emotionally based methods for making decisions. If it feels right, do it, has been a popular phrase, and a practice among some. Emotions are often regarded as "hot" when compared with "cool" intellect or cognition, and may reflect rapid response as compared with thinking things through carefully. Sometimes emotions work well, sometimes less than well.

When individuals or tribal groups are fully aware of the many global contingencies, they may become frozen by indecision. Having to choose is not a simple matter when one is knowledgeable about the various factors, their inter-relationships and permutations, and consequences. Too much information can be as debilitating as too little. On the other hand, however, having more information available would tend to produce better decision-making.

Throughout this analysis however, there is little firm and tangible handles to grasp. The vagueness prevalent does not ensure a scientific or rational or thorough approach to the decision making process. The ideas, though intriguing and worthy of discussion, fail to lead to significant results or processes that will endure and work positively.

A DEEPER LEVEL OF ANALYSIS

Rational decision-making owes a lot to the notion of "economic man" or acting in such a way that one benefits to the greatest extent possible. Clear identification of problems, clear objectives, costs and benefits of various alternatives, and maximization of results for the decision-maker are assumptions. This "pig in the trough" style of decision-making may not always work however, as in situations where long-term versus short-term results differ. Incremental theory on the other hand, would hold that improvements from the existing situation will

gradually emerge, and good decision-making will build and grow through agreed upon steps forward. Others have studied variations that depart from rationality (Dawes, 1988; Royal Swedish Academy of Sciences, 2002). The Greeks had the idea of duty, and saw that some decisions could be based on moral obligations, as with Immanual Kant arguing that individuals should not be treated as means to an end. Of course the other end of the same spectrum would be that one should consider the ends or outcomes as the most important part of decision-making. Others still might use values to guide their choices, whether based on personal, ideological, organizational, professional or policy driven beliefs. Further, rather than choosing based on the very best model, most decision makers choose an approach that is good enough, or based on "satisficing" (Simon, 1976). This occurs when an analyst finds an idea that seems reasonable, studies the data that confirm or deny, and if it still seems reasonable, accepts the hypothesis. In addition to satisficing, other strategies include incrementalism, consensus, reasoning by analogy, and relying on principles that differentiate good from bad solutions (George, 1959, as presented in Heuer, 1999). Kaufman (1968, p. 36-37) listed 13 methods to guide decision making, including direct application of a theory, critical or dialectic, analogical transfer, prolongation, phenomenological, teratological, dichotomy, matrices of discovery, morphological and brainstorming. He claimed that, "there is no scarcity of methods on the contrary, there is a surfeit" (p. 34). Probabilistic modeling using Baysian statistics and risk analysis represent a more recent innovation in decision-making. Insurance companies in particular use risk analysis to predict, and with their databases, gain valuable insights into various strategies, while trying to make a profit. The recent Nobel Prize winner, Kahneman uses prospect theory (Kahneman and Tversky, 1979), noting that shortcuts keep decision makers from rationality or making use of the laws of probability. Further there are local effects due to reference groups in which "individuals whose reference group is wealthier then they are will tend to buy lottery tickets, while individuals whose reference group is poorer than they are will tend to buy insurance" (Harbaugh and Korienko, 2001). It is likely that information can be substituted in this approach, although getting to the level of mathematical formulae or precise details remains elusive (Neilson and Stowe, 2001). Decision analysts use "quantitative models and computation methods to formulate decision-problems, assess decision performance, identify and evaluate options, determine tradeoffs and risks, evaluate strategies for investigation, and so on" (Arsham, 2002), but given the vagaries of social science, community level and tribal decision-making, and contemporary events, precision and exactness is highly unlikely. Another technique to secure a more scientific, rational and accurate style is to simply be more systematic (Weiss, 1996) by reducing ambiguity through using structuring prose, flowcharts, decision graphics, decision tables, decision trees, logic boxes, and Nassi-Shneiderman symbols (Nassi and Shneiderman, 1973; Shneiderman, 1983; Zuckerman, 1998). These methods permit and even force clarity in procedures, steps, listing alternatives, and so forth. Still another approach is that used by intelligence analysts (Hueur, 1999). It is perhaps this method that fits best with the already listed global issues. Hueur (1999) in a larger body of work, identifies 8 steps to analyze competing hypotheses: 1) identify possible hypotheses, 2) list evidence and arguments for and against each, 3) design a matrix so that the hypotheses are across the top and evidence is down the side and then identify the value of the evidence, 4) refine the matrix, 5) state tentative conclusions and try to disprove hypotheses, 6) analyze sensitivity of the conclusion to critical evidence, 7) report conclusions with relative likelihood of each hypothesis, and 8) identify milestones for subsequent observations to elucidate expected and unanticipated directions (Chapter 8). This is somewhat similar to Kaufman's (1968) matrices of discovery method. In any case, it would seem that by adding a third dimension to the matrix method described, namely, the global factors that influence local decision-making, the value of any local analysis could be significantly enhanced. The systematic analysis of competing hypotheses, by careful study of the evidence for and against each, considered under the impact of the various listed and ranked global issues, might well enable an individual, tribe or other group to estimate and obtain more useful outcomes than would otherwise be expected. Further, transformation of decisions into action could be assisted with continued monitoring and feedback based on tracking milestones for subsequent

observations as above. Although the more precise approaches of mathematics, physics and chemistry do not fit neatly with analyses of psychological, social, economic or community level decision-making with current knowledge and capabilities, the ideas can help us in understanding complexity, pressures of time, and the technological progress we have experienced (Kaufman, 1968). Simple formulas, such as A X B C/D = X do not appear sufficiently robust to work, nor do more complex formulas, systems analyses, or measures of chaos appear suitable. But the matrices that could be formed might ensure that key decision makers are at the least, aware of major issues, that they try to take those issues into account, and that they consider all possible options for action. Further they can then make intelligent and aware choices, even if decision-making by rational criteria is too complex. Opportunity to research decision-making by individuals, groups, tribes, and local communities is readily available virtually around the world. New configurations are emerging, whether based on locality, race, history, ethnicity, common interests or otherwise (Hughey, 1998). In fact, "the more primordial bonds of racial, ethnic, and nationalist loyalties and identities were often regarded as irrational anachronisms" but increasingly, "the older ethno-racial tribalisms, as well as some newly invented ones, have seemingly everywhere broken through our illusions of a rationally manageable world to find expression," claimed Hughey, (1998, p. 1). Arming themselves with good mechanisms for decision-making to assure survival and sustainability in the face of global uncertainty and crises piled upon crises at the international level is perhaps the key and most essential task challenging all local groups.

CONCLUSION

Intelligence, levels of education, levels of awareness, and abilities to analyze deeply influence the strategies chosen and used effectively by local communities, tribal groups, and individuals. Transforming globally based information into good locally made decisions calls for strategic thinking, planning, analysis, and ultimately, action. The prevailing analytic methods fail to attain systematic and rational levels, let alone the precision of mathematical approaches. Some more recent efforts to improve analysis, though they too fail to attain the precision of mathematics, offer promise of leading to better and more systematic results.

REFERENCES

Aitken, Malcolm. 2002. "Gulf war leaves legacy of cancer." http://www.studentbmj.com/back_issues/0999/news/312a.html, accessed 3 October 2002.

Ali, Tariq. 2002. *The Clash of Fundamentalisms: Crusades, Jihads, and Modernity*. London: Verso.

American Association of Jurists and CETIM. 2001. "The Activities of Transnational Corporations (Seminar Briefs) Acts and Conclusions of the Celigny Seminar (Château de Bossey, near Geneva) 4-5 May, 2001." http://attac.org/fra/toil/doc/cetim6en.htm accessed 1 October 2002.

American Medical Association. 2001. "Report 10 of the Council on Scientific Affairs: Genetically Modified Crops and Foods." http://www.ama-assn.org/ama/pub/article/2036-3604.html, accessed 2 October 2002.

Arsham, Hossein. 2002. "Probabilistic Modeling: Decision analysis with applications," http://ubmail.ubalt.edu/~harsham/opre640a/partIX.htm. Accessed 7 October 2002.

Aucoin, James. 2002. "Questioning our world." http://www.spj.org/awards_sdx_gallery/01_journ.asp, accessed 9 October 2002.

Berry, David. 2002. "U.S. Interagency Working Group on Sustainable Development Indicators." http://www.sdi.gov/, accessed 9 October 2002.

Butler, Lee. 1998. "Beyond nuclear madness." *Noetic Sciences Review*, 46: 38. See http://www.noetic.org/Ions/publications/review_archives/46/issue46_38.html, accessed 2 October 2002.

Caldicott, Helen. 2000. "Nuclear Madness: What you can do. An Address to the Global Network Against Weapons and Nuclear Power in Space "Keep Space for Peace" event held at American University, Washington, DC. 15 April 2000." http://www.globenet.free-online.co.uk/articles/madness.htm, accessed 2 October 2002.

Campbell, Duncan. 1988. "The National Security Agency and Global Electronic Surveillance." *New Statesman*, 12 August, 1988 http://www.google.co.nz/search?q=cache:WvFMsxnHIJ8C:www.abovetopsecret.com/pages/echelon.html+surveillance+systems+ global&hl=en&ie=UTF-8, accessed 2 October 2002.

Center for Terrorism Preparedness. 2001. "The ABC's of bioterrorism, Bibliography." http://www.nceem.org/bioter/bibliography.htm, accessed 1 October 2002.

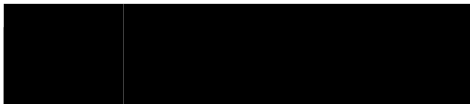
Crime Prevention Group. 1999. "Prevent tobacco-caused brain damage." http://medicolegal.tripod.com/preventbraindamage.htm, accessed 25 October 2002.

DaSilva, Edgar J. 1999. "Biological warfare, bioterrorism, biodefence and the biological and toxin weapons convention." http://www.ejb.org/content/vol2/issue3/full/2/bip/, accessed 2 October 2002.

Dawes, R. 1988. *Rational choice in an uncertain world*, NY: Harcourt, Brace & Jovanovich.

Disinformation. 2001. "Corporate control of the mass media." http://www.disinfo.com/pages/dossier/id22/

pg1/, accessed 3 October 2002.
Electronic Frontiers Australia. 2001. http://www.efa.org.au/Issues/Privacy/surveillsys.html, accessed 2 October 2002.
Ehrlich, Paul and Anne Ehrlich. No date. "The population explosion." http://dieoff.org/page27.htm, accessed 3 October 2002.
Forrester, Viviane. 1999. *The Economic Horror*. Oxford, UK: Blackwell Publishers.
George, Alexander. 1959. *Propaganda analysis: A study of inferences made from Nazi propaganda in World War II*, Evanston, IL: Row, Peterson.
Global Warming Information Center. 2002. http://www.nationalcenter.org/Kyoto.html, accessed 4 October 2002.
Goncalves, George and Greta Marlatt. 1996. "Chemical , Biological, and Nuclear Terrorism/Warfare: A Bibliography." http://library. nps.navy.mil/home/bibs/chemtoc.htm, accessed 2 October 2002. Also see http://www.itpapers. com/cgi/SubcatIT.pl?scid=328, accessed 4 October 2002.
Gregory, Robert J. 2000. "Internet as the new, and oh so human, community." *Social Alternatives*, 19(3): 56-58.
Hanson, Jay. 2001. "Synopsis." http://dieoff.com/synopsis.htm, accessed 1 October 2002.
Harbaugh, Rick and Tatiana Korienko. 2001. "Local status and prospect theory." In *Claremont Colleges Working papers in economics*. http://econ.claremontmckenna.edu/papers/2000-38.pdf, accessed 10 October 2002.
Hubbert Peak of Oil Production. 2002. http://www.hubbertpeak.com/, accessed 3 October 2002.
Heuer, Richards J. Jr. 1999. "Psychology of intelligence analysis." http://www.odci.gov/csi.books/19104/index.html, accessed 8 October 2002.
International Programs Center, US Census Bureau. 2002. "World POPClock Projection." http://www.census.gov/cgi-bin/ipc/popclockw, accessed 4 October 2002.
Kahneman, Daniel and Amos Tversky. 1979. "Prospect theory: An analysis of decision under risk." *Econometrica*, 47: 263-291.
Kaufman, Arnold. 1968. *The science of decision-making*. London: World University Library.
Korten, David C. 1995, 2001. *When corporations rule the world*. Bloomfield, CT: Kumarian Press.
Mander, Jerry. 1994 "Eleven inherent rules of corporate behavior." In *The Absence of the Sacred: The Failure of Technology and the Survival of the Indian Nations*. San Francisco, CA: Sierra Club Books. http://www.nancho.net/bigbody/corprule.html, accessed 15 October 2002.
Mazza, Patrick and Rhys Roth. 2002. "Global warming: The scientific evidence." http://www.sdearthtimes.com/et0599/et0599s6.html, accessed 4 October 2002.
Moyers, James C. 1999. "Psychological issues of former members of restrictive religious groups." http://www.peopleunitedforreligiousfreedom.org/psychological_issues.htm, accessed 9 October 2002.
Nassi, Ike and Ben Shneiderman. 1973. "Flowchart techniques for structured programming." *SIGPLAN Notices* 12 1973. http://www.geocities.com/SiliconValley/Way/4748/nsd_home.html, accessed 10 October 2002.
National Institute of Drug Abuse. 1999. "News Release: Long-Term Brain Injury From Use of "Ecstasy"." http://www.drugabuse.gov/MedAdv/99/NR-614b.html, accessed 25 October, 2002.
Neilson, William S. and Jill Stowe. 2001. "A further examination of cumulative prospect theory parameterizations."http://faculty.fuqua.duke.edu/~stowe/bio/Professional%20Page/Further%20Examination.pdf, accessed 10 October 2002.
O'Callaghan, Michael. 1997. "Sustainability: Positioning the concept as a global goal," In *Global Vision's NGO position paper for the International Conference on Environment and Society: Education and public awareness for sustainability*, UNESCO and Government of Greece, Thessaloniki, Greece, 8-12 December 1997. http://www.global-vision.org/un/position. html, accessed 3 October 2002.
Perdue, W. D. 1999. "The New Totalitarianism: Cyber-hegemony and the Global System." Paper presented at the International Roundtable on the Challenges of Globalization (Munich, 18-19 March, 1999. see http://i-p-o.org/perdue.htm, accessed 1 October 2002.
Quinion, Michael. 1996. "Mugwump. World Wide Words." http://www.quinion.com/words/weirdwords/ww-mug1.htm, accessed 7 October 2002.
Royal Swedish Academy of Sciences. 2002. "Foundations of Behavioral and Experimental Economics: Daniel Kahneman and Vernon Smith." http://www.nobel.se/economics/laureates/2002/ecoadv02.pdf, accessed 10 October 2002.
Ryan, John A. 1999. "Theories of population." *Catholic Encyclopedia*, Volume XII, http://www.newadvent.org/cathen/12276a.htm, accessed 3 October 2002.
Shneiderman, Ben. 1983. "Direct Manipulation: A step beyond Programming languages." *IEEE Computer*, 16 (8): 56-69. http://www-ist.massey.ac.nz/~plyons/711_html/vpl%20papers.html#anchor1095204, accessed 10 October 2002.
Simon, H. 1976. *Administrative Behavior*, NY: Free Press.
Smeeding, Timothy M. 2001. "The gap between rich and poor: A cross-national perspective for why inequality matters and what policy can do to alleviate it." http://www.sprc.unsw.edu.au/seminars/japan.pdf, accessed 4 October 2002.
United States Census Bureau, Population Division. 2002. http://www.census.gov/main/www/popclock.html, accessed 3 October 2002.
United States Environmental Protection Agency. 2002. http://www.epa.gov/globalwarming/index.html, accessed 4 October 2002.
Uranium Information Centre, Ltd. 2001. "Uranium and depleted uranium." http://www.itpapers.com/cgi/PSummaryIT.pl?paperid= 18934&scid=328, accessed 3 October 2002.
Uranium Information Centre, Ltd. 2002. "Sustainable Energy: Nuclear Issues." In *Briefing Paper # 54 dated April 2002*. See http://www.uic.com.au/nip54.htm, accessed 3 October 2002.
Waldrop, M. Mitchell. 1992. *Complexity: The Emerging Science at the Edge of Order and Chaos*. NY: Simon & Schuster.

Ward, Christina. 2000. "New Report Calls for Stronger Fight Against World Hunger." see http://www.disasterrelief.org/Disasters/001023hungerreport/, accessed 4 October 2002.

Weiss, Edmond H. 1996. "Reducing ambiguity and increasing readability with structured prose and decision graphics." Paper prepared and presented at the 10th Annual Workshop on Inter-cultural Communication at the East-West Center, Honolulu, Hawai'i, 23 July-2 August, 1996.

Wright, Steve. No date. "Technologies of Universal Surveillance & Control." http://www.world-information.org/wio/program/events/990642477/992799118/992799416, accessed 2 October 2002.

Zhang, Huiyan. 2002. "Corruption, Economic Growth and Macroeconomic Volatility." *Perspectives*, 2, 1. http://www.oycf.org/Perspectives/7_083100/corruption.htm, Accessed 9 October 2002.

Zuckerman, Adam. 1998. "Adam Zuckerman's Nassi-Shneiderman home page." http://www.geocities.com/SiliconValley/Way/4748/nsd_home.html, accessed 10 October 2002.