Coherent Policy-making Beyond the Information Barrier

Recommended Citation

Anthony Judge, "Coherent Policy-making Beyond the Information Barrier", Information Technology and Tools Global Disclosure Project, December 10, 1999, https://nautilus.org/information-technology-and-tools/coherent-policy-making-beyond-the-information-barrier-2/

Circumventing dependence on access, classification, penetration, dissemination, property, surveillance, interpretation, disinformation, and credibility

Anthony Judge
Union of International Associations

DRAFT - Please do not quote or cite - DRAFT

Internet and International Systems:
Information Technology and American Foreign Policy Decision-making Workshop
Nautilus Institute, San Francisco, December 10, 1999

Abstract: Review of possibilities to enable policy-makers, notably in developing countries, to embrace a strategically realistic vision of the networking revolution that harnesses the opportunities and confronts the challenges of that revolution. It is argued that it is vital that the advantages of networking technology be adapted to enable policy-makers and their constituencies to navigate fruitfully in a sea of conflicting initiatives, perspectives, overload, and unforeseen challenges and opportunities. Reviews the kinds of knowledge-base facilities that can capture contextual insights in support of action- oriented dialogue under such circumstances, taking into account the conceptual richness associated with non-linear, visual, aural and narrative presentations (that offer strategic advantages to non- western cultures) in responding to complex crises.

A. Introduction

This paper responds directly to the fundamental, and urgent, policy dilemma of the role of networking technology in the immediate future and the concerns expressed about its effects on those with limited access. It assumes that both of the extreme scenarios that have been identified

(viz. the reduction or increase in socio-economic gaps) will manifest to some degree over the next decade. Highly credible evidence for the preponderance of each will be available to those subscribing to, or opposing, either outcome. Contrary evidence will be discredited or denied by both. This corresponds to the evolution of the development situation over the past decade -- the condition of the few improves according to selected criteria and that of the many can be presented as static or declining dramatically. This has been exemplified in the debate over the crises and opportunities of globalization.

The paper is designed to contribute towards enabling policy-makers in developing countries and transitional economies to embrace a strategically realistic vision of the networking revolution that harnesses the opportunities and confronts the challenges of that revolution. It is therefore assumed that it is vital that the advantages of networking technology be adapted to enable policy-makers and their constituencies to navigate fruitfully in a sea of conflicting initiatives, perspectives and unforeseen challenges and opportunities. The paper indicates the kinds of knowledge-base facilities that can capture contextual insights in support of action-oriented dialogue under such circumstances, taking into account the conceptual richness associated with visual, aural and narrative presentations that offer strategic advantages to non-western cultures.

The paper argues that the challenge to policy-makers in developing countries and transitional economies is not one of more information but rather of surfeit of information with contradictory strategic implications. The networking revolution, as currently understood, promises to deliver even more information thus aggravating the problem to which it should supposedly provide some remedy. This dilemma is not resolved by producing more authoritative reports that will themselves be subject to their own challenges. The focus is therefore on how to adapt networking technology to facilitate the task of policy-makers and their constituencies in understanding and responding to the immediate challenges they face using new kinds of knowledge tools better adapted to their cultures and knowledge preferences. The approach is designed to elicit realistic low cost approaches relevant to the situation of those in developing countries.

B. Questionable information strategy dependencies

Policy-making can be claimed to be primarily focused, and dysfunctionally dependent, on the following approaches to information. Their limitations need to be explored in the light of the challenges to governance in the future.

In societies subject to rapid change and transformation, the dependencies below leave much to be desired in terms of viable information support for policy-making. With the rapid development of new information technologies, and their availability in many countries and at many levels of society, the question becomes how policy-making is to position and organize itself in relation to new opportunities. To facilitate the emergence of coherent policy-making, with respect to each of these dependencies, ways must be found to circumvent the constraints that they imply:

B.1: Access

Present: A major concern for any person or group in the policy process is "access". This is in most cases defined in terms of access to the person most capable of supplying valued information or most critically positioned to receive and act on information relating to a critical decision. But the efforts by policy-makers (especially as candidates) to gain access to the attention of voters through massive public relations (and increasingly electronic) campaigns is also a major consideration. Access-fixation is the prime mode of lobbyists. It encourages every form of bribery, subtle, legal or otherwise -- and influence-peddling in all its forms. The latter quickly engenders a class of policy-maker focused on the benefits to be derived from greater access -- a major challenge in developing

and transitional countries.

As the decision-making process increases in complexity in a democratic society, and the number of interested parties increases, "access" as an effective process becomes increasingly problematic. This may be simply described in terms of the difference between 5 people endeavouring to acquire access to one person, as opposed to the effort by 50, 500, or 1,000. Most democratic policy arenas currently operate under the naive assumption that the number of legitimately accredited lobbyists will not significantly increase (cf the case of NGOs seeking access to the United Nations). What is to be concluded from the 10,000 lobbyists supposedly active in 1999 in relation to the European Commission in Brussels -- and what will the number be in 10 years, when the EU increases to 25-plus countries? What is likely to be the response of someone being "accessed" by such numbers?

The classic fallback in the event of access-saturation, practised by court chamberlains throughout the centuries, is to impose filters. But whether in terms of policy-relevant information content or criteria of democratic process, it is questionable how much filtration can be realistically or usefully imposed. Concern with privileged access, reflects a fundamental lack of faith in the democratic process, in the capacity of its citizens, and in democratic procedures for making policy-relevant information accessible. It is ironic in 1999 that the new King of Jordan felt obliged to travel his own city in disguise to gather information -- after having being individually greeted by several thousand citizens on his accession.

Reframed: The access process needs to be reframed and transformed. Clearly networking technology enables much more effective, and precisely formulated, dissemination of messages to and from policy-makers. It also enables much more effective spamming. The challenge is to explore (notably through simulations) much more effective ways of filtering and channelling communications. On the policy side this implies structuring filters to forward incoming messages to appropriate destinations from which intelligent answers can be furnished -- whether or not their generation is automated.

The emerging vigorous efforts to communicate electronically with voters concerning policy options -- to gain access to them -- may soon be matched by the efforts of myriad government departments and lobbyists (eg surveys, communiques, information, etc). Citizens can expect to be the subject of access barrages far beyond current levels of commercial advertising. For policy-makers and others endeavouring to communicate with relevant external partners, the challenge is to find ways of personalizing such communications intelligently so as to be appropriately channelled by recipient filters. Given the future quantities of information and communicators, a key concern will be how to automatically redistribute (and respond to) communications to avoid dysfunctional overload of any individual. To the extent that none of these mechanisms is experienced as satisfactory, new approaches will be required to face-to-face communications.

It is to be expected that all these innovations will be accompanied by new kinds of abuse -- electronic replications of influence peddling techniques. A key question will be how to reduce the quantity of information to be disseminated and absorbed, especially through new ways of conceptual packaging so as to compress its significance. This is as true of the policy-maker highly reluctant to attend to "more than a page, double-spaced" as it is of other recipients with a cold-call attention span of "17 seconds".

B.2: Security classification

Present: Vast quantities of information are subject to security classification, notably information relating to access to information (cf encryption technology, cyberwar techniques, surveillance technology, etc) or on topics deemed to be "sensitive". In principle classified information is

especially relevant to policy-making or to the justification of existing policies. It is also deemed vital to maintaining competitive advantage, whether understood in terms of national physical security or extended to include economic security.

There is a marked tendency to classify information relating to any new threat in order to prevent "public panic" and to facilitate the already complex task of policy-makers. This effectively designs potentially vital resources out of the decision-making process and leads to a confrontational relationship with those to whom the decisions are eventually presented for approval and action. Examples include: health information relating to the BSE crisis in the UK.

Given the quantity of classified information, the impression is created that public policy is constrained by secrets too shocking to be integrated into the stated rationale of public policy and on which newly elected officials must be secretly briefed. Civil servants, even in intergovernmental organization, sign non-disclosure agreements. Classified archives of such organizations are shredded prior to their release date to avoid embarassment to member governments. Awareness of the degree of classification, and rumours as to their nature, continues to educate the public to be cynical about public statements by authorities endeavouring to motivate them.

Reframed: The issue of message security is widely debated, as is the challenge of circumventing it. The difficulties are almost certain to get much worse. To bypass these issues new approaches are required which distinguish between kinds of information that lend themselves to classification and those that do not call for it -- or for which the resources are not available.

The key here would seem to be a new understanding of the kinds of information that policy-makers can effectively process. It could prove to be the case that the challenges of governance do not depend upon the kind of information which tends to get classified and subject to restrictive distribution. In principle, at least, such information is necessarily excluded from democratic decision making -- however it may be used for certain "covert operations".

B.3: Penetration

Present: Where "access" cannot be obtained by due process, especially faced with security classification, intelligence agencies are called upon by policy-makers to penetrate into the arenas of concern, some of which may be labelled as unfriendly or actively hostile to such inquiry. This ranges from "research" through to classical and industrial espionage. Policy-makers, or those with appropriate security clearances, are then faced with the dilemma of how to act upon such information, especially when they are not able to release it to the public to seek justification for their actions. The mess surrounding the US missile attack on a factory in the Sudan, and the subsequent inability to justify it, "for security reasons", is an example.

Penetration raises major issues of right to privacy and confidentiality. As a mode it invites counter-penetration and the attention of hackers, all of which has established forms of cyber-warfare and cyber-terrorism which can only escalate in replication of the arms race and the Cold War -- with the added twist that it takes place between declared allies. The power, and legal right, to penetrate can be seen as significantly eroding the kinds of principles elaborated in international treaties.

Reframed: Preoccupation with penetration could well prove to be a totally obsolete approach that assumes an ability to gain access, and maintain control, through a hierarchically orchestrated program. Just as there have been shown to be limitations to the effective depth of organization hierarchies for management purposes in modern society, it may become obvious that penetration is not what ensures the sympathy of the penetrated or their entrainment to a desired end.

Stated metaphorically penetration relies on "masculine" invasiveness that is liable to build resistance and resentment, denying "feminine" associative involvement vital to building sustainable community to which policy is supposed to be relevant. The strengths of intelligence penetration may be seen in the Kosovo and Gulf War campaigns, but its limitation may be seen in its subsequent irrelevance to the building of a sustainable community.

B.4: Dissemination

Present: Successful access and penetration is followed by preoccupation with dissemination -- "getting the message out". The obsession with mailing lists, unsolicited communication, and every form of advertising, is an indication of this concern. It has become fundamental to electoral campaigns and the communication of political intentions. Successful election is now closely correlated with the dissemination budget, as with any product marketing. Most intergovernmental agencies expend significant proportions of their budget on "public information". The 1990s "cash for questions" scandal in Westminster has demonstrated the extent to which parliamentarians -- even in the "Mother of Parliaments" -- can be purchased to disseminate particular messages.

Despite this, however, it is clear that both resistance to such messages ("propaganda fatigue"?), and competition between mutually contradictory messages, severely undermines the possibility of any coherent policy and its effective support. Where the totalitarian route is not followed, protagonists may be tempted to trash opposing policies or their supporters, thus creating further turbulence.

Reframed: As with penetration, dissemination places the emphasis on an active source and passive receptors, typically termed "targets" in marketing parlance. In a complex society, few people would choose to define themselves as static, passive targets. Consequently communicating policy is increasingly a matter of engaging some form of dialogue with elusive partners who are increasingly equipped to evade targetted messages, however effectively they may seem to be delivered. Some potential targets -- notably policy-makers themselves --are now effectively heavily armoured, "en-fortressed" and protected by guardians. (For a development of these points see: http://www.uia.org/uiadocs/targets.htm)

People are exposed to a variety of messages which are evaluated less for their impact than for their import and longer-term consequence. Ironically, "hits" in the music industry suggest that a product may "fly" for reasons other than the extent to which people may have been targetted by message dissemination campaigns. This is a challenge for policies of the future.

B.5: Property

Present: There is increasing focus on the potential of information as property, notably in the form of intellectual property (patents, copyright, etc). The ultimate form of "access" is "acquisition". Like voters, policy-makers may be bought, as exemplified in the process through which director-generals of intergovernmental organizations are elected (cf media astonishment at lobbying for election of the DG of UNESCO in 1999, or multinational "sponsorship" of the WTO gathering in 1999). Such accepted practices would be condemned by international observers in the case of elections in countries whose foreign policies are bought in this way. The acceptance of "quid pro quo" as a consequence of campaign funding support now completely conditions policy-making by elected representatives in many countries held to be models of democracy.

Ironically, political factions and parties derive their identities in large part from "their" policies -- effectively their property. Policies themselves can thus be treated as property so that one party may need to avoid at all costs any accusation that it is using the property of another party.

From a policy perspective, there is a conflict between information held as property and the potential value of that information with respect to the handling of a social issue or crisis. It is clearly in the interest of entrepreneurs to acquire information and make it available at whatever price the market will bear -- even if many are thereby excluded from this possibility. Many creative consultants have copyrighted models relevant to policy-making that may only be used under appropriate licensing arrangements.

The question arises as to how society could be held to ransom in order to acquire access to the ultimate policy model capable of solving multiple social problems. Similar questions arise with energy- or resource-conserving patents. In war time, government may be free to bypass the niceties of copyright law and seize such models "in the interest of national security". In peace time, as with encryption and military-relevant technology, legislation may be passed to ensure government control of innovation and dissemination to potentially hostile powers -- or competitors for market share.

Of central concern is the policy implications of intellectual property that may be of major benefit to those without the means to meet the market price (as with some pharmaceutical products, notably relating to AIDS in Africa). At what point does the issue of "global security" supersede that of commercial benefit?

Reframed: Is there a way for policy-makers to circumvent or reframe the challenges of intellectual property? Can copyright holders be made responsible for harmful impacts resulting from use (or withholding) of their intellectual property -- as with irresponsible sale of products to minors or rogue states? The key question is whether what can be copyrighted is what is vital to the processes of more coherent governance.

Conventional approaches assume that policy problems can be "solved" by acquiring control of key intellectual property or know how (and possibly disallowing it to others). Thus energy problems could supposedly be solved by a device to produce cheap energy; and bio-tech advances offer the possibility of disseminating patented viruses to inhibit human fertility in order to regulate population levels.

Whilst a policy problem may appear to be solved by such devices, this in fact distracts from the new policy challenges of governing use of any accessible device, those emerging, and especially their relationship to other social and technical innovations. Gadget-fixation distracts from the policy art required for a community to live with gadgets, their creation, their consequences, and their obsolescence. It is questionable whether that art can be converted into intellectual copyright.

B.6: Surveillance

Present: In order to anticipate events on which vital decisions may be required, the penetration process is increasingly systematized through electronic information gathering techniques. These may be implemented through simple phone taps and security cameras, or through much more complex systems and tracers on telephone and internet traffic -- including the supposedly non-existent Echelon system (now the subject of deep concern in the European Parliament, see:http://www.europarl.eu.int/dg4/stoa/en/publi/166499/execsum.htm). Isolated cases may be justified by local security considerations and as a constraint on crime. Systemic surveillance may be justified as a constraint on financial fraud and terrorism.

However the systems, themselves subject to security classification (like Echelon), may also be used to advance and protect economic, political and other interests without public knowledge or approval, or consideration by elected representatives supposedly responsible. Again it is seldom clear for whom surveillance information is officially prepared and who benefits from it unofficially. The

emergence of a Big Brother society, and the parallels with totalitarians systems have been frequently noted.

Reframed: It is questionable for how long policy-makers can effectively control a society through widespread surveillance. The East German use of Stasi informers is perhaps the best example of the strengths and weaknesses of this approach. It is doubtful whether an electronic version would be successful for longer. The social costs are very high and they again raise the question "to what end".

If the purpose of surveillance is to ensure that information is generated and transferred to bodies capable of acting upon it, it is useful to ask whether this is not accomplished far more efficiently (at far less cost) through a richly developed civil society. In such circumstances a very wide, and continually renewed, variety of groups is constantly checking and responding to initiatives that are felt to be inappropriate.

In a sense civil society is made up of "indicator groups" that monitor the checks and balances of society -- as well as each other. The role of policy-making is then to sustain the pattern of checks and balances by facilitating the activities of these groups, rather than taking over their roles and rendering itself immune to oversight. The relationship might be compared to gardener and garden -- with the gardener striving to improve the quality of the garden rather than to micro-manage the relationships between the species in it.

B.7: Central interpretation, collation and synthesis

Present: Massive information gathering, instigated in support of policy concerns, gives rise to major problems of collation, interpretation and synthesis in arriving at meaningful options. The process is also fraught with the possibility of major errors, as exemplified by the three "outdated map" issues of 1998-9 (cf. Italian cable car disaster, Chinese embassy bombing in Belgrade, and the map used in Helsinki to negotiate the Russian presence in Kosovo).

Methods of systematizing the task through personal profiling and other models can lead to abusive, invasive consequences that are a matter of increasing public concern. It is increasingly the practice for authoritative studies to be commissioned to support particular policy perspectives and dismiss alternatives. A highly respected advocate of alternative economic scenarios, Hazel Henderson, discovered that it was unnecessary to persuade economists holding views opposed to her policy arguments -- they could simply be hired to produce studies in support of these alternative views.

It is highly questionable whether intelligence resources of the appropriate quality can be applied in such a way as to highlight the most appropriate options for consideration. But by taking on this role, and applying vast resources to it, authorities take on a responsibility which they may not be able to fulfil.

Reframed: It is assumed that policy-makers develop and maintain bodies capable of interrelating and synthesizing all the information that can be gathered. The visible manifestation of this ability is the semi-official policy think-tanks. Can it be said that their processes and insights have proved of value to the challenges of contemporary governance? They have indeed been valuable in the drafting of specific proposals as a basis for legislation. But their success diminishes rapidly as the range of issues increases -- namely at the core of the challenge to modern governance of a complex society. It is not clear that the richly funded equivalent functions of secret intelligence agencies are able to do any better, however skilled they may be in undermining initiatives to which they are opposed.

Again the challenge is what is the nature of the integration of knowledge and insight that would offer meaningful new options to the policy-making process? How should information technology be

assisting the knowledge integration process across sectors? How should it be assisting the challenges to comprehension of complexity -- in anticipation of communicating insights to wider audiences with whom consultation and dialogue may be appropriate? Given the advances in modelling techniques, it is curious that the highly controversial (and much hyped) process of "globalization" does not seem to have been the subject of any form of simulation that might have identified vulnerabilities such as experienced in the 1998 Asian financial crisis, or others to come. Simulation seems to be significantly absent as a guide to major policy-making processes.

Why is it that application of relevant technology is always much further advanced with respect to videogames than to policy processes -- to the point that the military in 1999 is commissioning videogame makers for realistic simulations? As with the brain itself, might it not be the case that distributed intelligence -- as illustrated by the development of the Web -- offers greater possibility of effective synthesis than efforts to acquire, interpret and synthesize such insight in one single cell at which it is held as a secret monopoly?

B.8: Disinformation

Present: One prime use of information collected is to gain competitive advantage through destabilizing policy opponents. This is especially useful when the quality of information collected is inadequate to suggest more creative policy options. Information may be effectively used to ensure that fruitful relationships in support of policy alternatives are rendered unsustainable, notably through the use of media "leaks", or more actively through a wide range of news management and propaganda techniques, extending into psychological warfare. Typically most serious opponents requiring military intervention are stigmatized as morally or sexually perverted, drug addicts, or even, in some cases, as cannibals.

There are few indications that information collection and collation leads to new insights into social organization of value as policy options, rather than as opportunities to reinforce current policies.

Reframed: Use of disinformation strategies by policy-makers has a long and honourable tradition. It was possibly first articulated by Sun Tzu. More recently it has been honoured by such names as "The Great Game", and as a game the value of bluff is admired and associated with good card playing skills. Efforts to destigmatize it are linked to its presentation as "news management" as an extension of normal public relations. It is in this respect that claims for its positive functions for society as a whole are made. It is interesting that the first director of the UN Public Information Programme was previously responsible for war propaganda in his own country -- presumably to maintain the motivation and spirit of the population in support of the war effort, as proved to be the case with NATO propaganda during the Kosovo crisis. To what extent is this approach appropriate in response to major crises of contemporary society?

When is it necessary for policy-makers to maintain an upbeat news flow (the "Good News") and to minimize any discouraging news? What happens when the population has increasing access to alternative sources of information that effectively question and discredit the information officially provided? What responsibilities are policy-makers taking upon themselves when they selectively present upbeat information (as in the case of the UK BSE crisis, or genetically modified food)?

It would appear that a more fruitful approach would integrate an understanding that the many disseminators of information are effectively engaging in selective presentations of policy-relevant information. Each has a "take" and an "angle" that they would prefer to others. The challenge is to create a context in which these different takes can play off against each other so as to encourage a richer approach to the issues, whilst protecting those who need to be sustained by upbeat news. It is the challenge parents face with regard to (dis)information concerning Father Christmas or the tooth

fairy.

B.9: Credibility

Present: In the presence of so much disinformation and hype, a traditional response is to focus on the credibility of the source. This is in fact a standard means of filtering out information, in the absence of any other means of assessing its inherent credibility. The difficulty for policy-makers is that the communication process has been so extensively exploited for political propaganda, military propaganda, commercial advertising hype, religious dogma, and obfuscation by "science" (cf regarding global warming or theories of evolution), that people have become increasingly skilled in questioning its credibility and forming their own opinions.

New information, especially from the highest authority, does not travel well through this turbulent semantic environment. Who is credible to whom about what? Hence the priority given to image management to distract from discreditable facets of a person, an institution, or its policies. Supposedly the image becomes the reality -- Potemkin people, institutions and policies! Unfortunately such image manipulation is increasingly suspect and devalued. People are learning to read behind the image -- and to infer what may not even be there (in the light of continuing exposure to revelatory scandals).

Afruther difficulty is that credibility is closely associated with being "known" -- especially to those receiving the information. Hence the access-fixation of lobbyists and the aggravation of its associated dysfunctionalities. This severely reduces the capacity of policy-makers to make use of insights emanating from (or authenaticated by) other than their immediate circle. This leads to a pattern of incestuous communication characteristic of many conferences on the policy circuit.

Reframed: Given the crisis of meaning, and increasing suspicion concerning any authoritative statement, the question becomes what form of insight can viably travel through the turbulent semantic environment as a vehicle for coherent policy-insights? Clearly information as such becomes severely denatured and transformed.

The transfer of humour, notably via the Internet, illustrates how a pattern can travel well, even though its elements may be vulnerable to degradation. The example of humour illustrates how a pattern that can be validated by the receiver may offer clues to the challenge of credibility. Electronic communication uses validation techniques at the receiver end to confirm the integrity of pattern transfer. The learning from this example is that where information is used to impose a particular pattern of understanding it has less chance of being received than when it is carried by a pattern that the receiver can verify and apply according to his/her own insights. In this sense the key to credibility lies beyond information.

C. Visibility and transparency

Threading through and underlying all the above strategic dependencies are information and policy issues relating to visibility and transparency:

- Access: fixation on gaining access to the visible in order to render one's own agenda visible
- Classification: concern that certain information, policies and projects (eg Echelon) should be covered up or rendered invisible. This includes many corporate financial operations. For those who are visible, there is a concern to control access and to avoid giving "recognition" to those who might gain advantage from becoming more visible.
- Penetration: Concern to penetrate both the visible (because of their perceived role) and the

invisible or non-transparent (in order to determine their strategy); hence the importance of "covert operations".

- Dissemination: concern to render an institution or program visible, preferably much more visible than others, and to wider publics.
- Property: concern to acquire control of the images through which a body or initiative is visibly identified (cf including the efforts to copyright skylines)
- Surveillance: this may be understood as a process of rendering visible and transparent, even against the desires of those observed.
- Interpretation: this may be seen as making visible ("discovering") a previously unknown pattern (of policy initiatives) through collation of information.
- Disinformation: as with any form of camouflage, this substitutes one form of visibility for another.
- Credibility: visibility is credibility for many ("negative press is better than none at all"); credibility is then acquired only through visibility.

Institutions, and their initiatives, as well as people, agonize over their visibility because of the manner in which it is used to assess their effectiveness and consequently their self-esteem (cf the debate on UNESCO's future in September 1999, 30 C/INF.12). Those that are not "visible" simply do not "exist"in the eyes of many, who feel fully justified in this judgement. Those affected by judgements that they are relatively invisible may buy into this logic and feel that their survival is at stake. That the "invisible" may be visible and valued elsewhere and to others (who may have better information strategies) is not a concern. This allows "America" to be "discovered" in 1492 and the "wheel" to be reinvented many times -- as is evident from the prolifereation of duplicate databases and policy initiatives. That many vital functions are performed in society by bodies "invisible" to the majority, or to elites, is only a concern when failure in their performance renders them visible.

The challenge of visibility is how many bodies and institutions can be simultaneously visible without leading to some form of saturation or overload -- "visibility fatigue". Like "market share", more is assumed to be good, and dominance is best. The consequence of this simplistic strategy in a complex society is that it thereby reduces the visibility of others (and their concerns), when collaboration may be essential to viable strategies. It also forces many bodies to adapt to invisible operation and stealth (as with uncivil society, terrorist groups, and organized crime). NGOs only moved beyond token visibility for United Nations agencies after the latter were forced to recognize the inadequacies of their own programs. But the mindset leads to a "visibility race" -- notably among NGOs -- analogous to the arms race, encouraged by the public relations industry and justified by its criteria.

D. Challenge of coherence

D.1: Coherence through the vision metaphor

As the previous section indicates, there is a fundamental reliance on visibility as a basis for a sense of coherence. Coherence is seemingly provided by visibility. Exclusive use of the metaphor of vision in this way, is extended through efforts to articulate a strategic "vision" to give coherence to the details of any policy initiatives. Use of this metaphor is rarely challenged. The "vision" metaphor, so characteristic of future strategy making and corporate training programmes, implicitly excludes insights which might be suggested by other senses.

As argued elsewhere (*Futures*, April 1993), dependence on this vision metaphor suggests the need to learn from the limitations of vision in reality. It is impossible to see round corners. Blindspots are a problem, as well as widespread defects of vision (short-sightedness, long-sightedness, colour

blindness, night blindness, etc), including total blindness -- which are the subject of testing and corrective lenses, where possible. All have their strategic equivalents -- but without any perceived need for opticians. This metaphoric reliance on single-sense strategy, fails to recognize the strategic strengths associated with others senses and is insensitive to the strategic vulnerability of the sight metaphor itself. Vision has little long-distance penetrating power in these turbulent times -- especially in not being able to see beyond its current horizon. This reinforces a "flat earth" mentality, inhibiting any sense of functional roundness.

Animals survive in nature by using a range of senses to maneuver through their environment under a variety of conditions. Ironically, it is their metaphorical equivalents that are often used to evaluate politicians and policies: "deaf" to advice, a person who "listens", the right "touch", his policies "stink", etc.

The question is whether policy information is not currently trapped within a vision metaphor, despite such lessons from practical politics. In the confusion of the present times, for which metaphors such as "darkness", "obscurity" and "fog" are commonly used, reliance on vision as a basis for coherence is perhaps a fundamental strategic error. Some strategies may "look good" (as in a glossy presentation or on a developer's billboard), but do not "sound" right and often "stink" in practice -- especially to those making metaphoric use of such senses and who have to experience the subsequent implementation of the strategies. Simply put, the vision metaphor relies on appearances at a time when appearances have frequently proven deceptive.

Given the possibility of such error, it is ironic that most policy debate between factions is based on information presented from particular "viewpoints" -- through presentation of the "views" of representatives. The challenge of coherence is then to provide some integrative framework for such views -- often in a "foggy" context in which they are effectively invisible to each other, or beyond each others horizon. Use of several complementary metaphors might make such policy integration possible and meaningful -- and give rise to strategies that "sound" right. It is important to remember that the vision metaphor is not necessarily the basis for coherence in cultures with a strong aural tradition, nor amongst the young.

D.2: Information barrier and technocratic escapism

Policy initiatives find themselves, like aerospace vehicles, travelling just below the sound barrier. Ironically information from them can often only be communicated in "sound bites". Such initiatives are severely battered by information that makes them difficult to control and endangers their structural integrity, fundamental to their coherence. Such information is now highly dynamic -- the "winds of change" move at ever higher speeds. Gone is the ability of policies to glide gracefully -- characteristic of lower speeds. Breaking through, and travelling beyond, the "information barrier" requires new structures and controls whilst at the same time changing significantly the relationship to information and its sources. Friction-free policy can then only be envisaged and achieved by escaping from the conceptual gravity well associated with particular patterns of information. A technocratic constituency even anticipates this in its aspiration towards orbital habitats from which the world can be peacefully governed by benevolent, uncontested control of information. However, the future challenges of policy-making to be understood by extending the metaphor to include relativistic effects, remain to be explored -- although these effects already seem to be evident in a society characterized by major communication gaps.

D.3: Consensus on global frameworks

Another favoured approach to coherence is to formulate, advocate and campaign for global frameworks so that agreement is ensured -- and therefore coherence. This may be seen in the case

of ethics, technical standards, language, trading arrangements, ideology, religion, methodology, etc. Where possible these are defined with legal-type instruments of which the Holy Grail is some form of world constitutional government. Unfortunately these initiatives, ignore past experience and are based on simplistic understandings of the factors that make for meaningful cross-cultural consensus adequate for sustainable policies in a complex turbulent society. As such they also obscure the possibility of identifying and giving form to higher orders of consensus that might be sustained through configuring otherwise incommensurable insights and perspectives vital to the pyscho-social diversity of a complex society. The role of information technology in this respect remains unexplored.

D.4: Building images of coherence

The appearance of coherence may also be created through branding -- namely careful image building -- burnt into the mind of the perceiver. In the case of an institution -- whether the UN, IBM or Shell -- this leaves obscure the relationship between its image and the real coherence of its policies. How do the images of the many UN agencies form a larger meaningful pattern? To what extent do such bodies "exist"? Most multinational corporations exist only as a tangled web of contracts, holding companies, offshore arrangements, and letterheads, that even the financial press has difficulty disentangling. As a social reality their existence is a figment of legal and media imagination -- reminiscent of the tale of the Emperor's new clothes. What coherence is associated with shorthand statements such as "Washington is opposed to Brussels regarding hormones in beef"? What is "Brussels" -- or the "international community", for that matter?

D.5: Coherence through policy commitment and leadership

Coherence may also be created through strong policy commitment and strategic "leadership" -- as in election manifestos and other (inter)governmental declarations. Charismatic leadership remains a strong force, whatever the contradictions of the policies advocated (eg Saddam Hussein, Colonel Khadafi, Fidel Castro). Unfortunately this approach is proving increasingly meaningless as the collective memory of a previously deceived population is enhanced by public information. Policy promises are increasingly made to be broken, if only due to "force majeure". Commitments are diluted or implementation is rolled back or rendered toothless. Even commitments to bring delinquent government policy-makers to justice are eroded to a degree that is tantamount to guaranteed impunity (cf commitments to investigate the finances of former dictators).

Many of the largest corporations invest heavily in their commitment to articulation of forward-looking strategies capable of mobilizing their decentralized resources around the world in support of a coherent strategy capable of offering them a competitive advantage with respect to their competitors. In this context it is therefore important to note the results of a recent survey of 350 major corporations in the USA, most of which were in the midst of a major change initiative in response to economic challenges and opportunities -- whether labelled as a strategy or a plan. According to Peter Scott-Morgan, consultant to Arthur D Little, only 17 percent of the corporations were really satisfied with their initiatives -- even through they were free of external constraints. Almost 40 percent were positively unsatisfied, whether due to partial success or unforeseen delays. Nearly 70 percent reported unforeseen problems and unintended side-effects. Perhaps of most significance, 65 percent indicated that their initiatives had been damaged by lack of effective support from managers and employers, as well as by territorial battles of the usual kind. In commenting on these results, Scott-Morgan notes (in*The Unwritten Rules of the Game*, 1994) that they correspond to those of other similar surveys elsewhere. (see further comment at: http://www.uia.org/strategy/74unwrit.htm). However corporations tend to be lavish in their expenditure on supporting information systems.

D.6: Coherence through exclusion

A very common approach to coherence is to design out contrary policy perspectives, namely any insights which disrupt the coherence favoured by a majority. This is typical of initiatives to establish global frameworks and global dialogues. It might be termed "synthesis by exclusion" through which policy committees are "stacked" to preclude discussion of certain options. In this respect the significance of many policies lies as much in what is **not** stated (the "unsaid") as in what is stated -- a form of strategic denial (cf http://www.uia.org/strategy/72futled.htm). The policy "shadow" is then as much a part of the coherence of the policy -- and tends to emerge unpredictably and disruptively on implementation.

When combined with the formulation of global ethical or other frameworks (see above), such exclusion is especially deadly. This is best seen when such frameworks exclude an understanding of non-dominant perspectives (often articulated in other conceptual languages or cultures). The result is an exercise in blandness.

The tragedy of many modern policy debates, supposedly searching desperately for "new thinking", lies in the manner in which policy options are designed off the table before the negotiation process even begins. Examples include non-simplistic approaches to major territorial disputes (http://www.uia.org/uiadocs/mathbom.htm) and unconventional approaches to the challenges of unemployment and health. Agenda 21, as a major policy document is especially significant for the manner in which all feedback loops between policies in different sectors have been designed out of a framework that is being widely used as a basis for sustainable development. This leaves the departments of local government authorities responsible for distinct chapters to discover the nature of those loops in integrating their efforts with those of other departments responsible for other chapters. (On the strategic challenge of feedback loops, see:http://www.uia.org/strategy/53buddhi.htm)

D.7: Learnings from coherence in interpersonal relations

It is intriguing that the challenges to coherence exemplified by the factors above (access, penetration, etc) are well explored in the case of interpersonal relationships (or in animal reproductive behaviour), where they are better understood. Each term identifies an equivalent challenge and dilemma:

- access: obtaining some form of introduction to attractive potential partners
- classification: confidentiality (privacy) with regard to the fundamentals of the relationship
- penetration: getting to know a partner, in its varying senses
- dissemination: ensuring that the partner is a vehicle for one's insights
- property: possessiveness (the relationship, and the other, as property)
- surveillance: verifying the behaviour of the partner
- interpretation: interpreting the significance of information about the partner
- disinformation: representing oneself and the partner, to oneself, to the partner, and to others
- credibility: building up and maintaining one's credibility in a relationship

The coherence of a personal relationship typically transcends the specific dynamics of this communication pattern -- although carried and constrained by it. In a period of personal relationships severely challenged by the masculine interpretation of some of these terms, the

conceptual gender bias in the terminology of policy information suggests that other metaphors may be needed to ensure coherence and sustainability of policies in the future. For example ecofeminist Janis Birkeland (1990) argues for the need to articulate a new form of planning:

> "Planning is a wealth distribution process without a relevant normative basis, structure, or conceptual framework that can comprehend or resolve the fundamental ethical issues at stake. The existing decision-making concepts and processes reinforce economic inefficiencies and inequities, generate risk and conflict, and close off future options. A fundamental bias against environmental protection and conflict prevention can be traced ultimately to patriarchal values which underpin planning theory."

Policy-making based only on "one night stands", using what amounts to conceptual contraceptives, has little chance of giving birth to anything new or of providing an adequate context for its development. Do delinquent, alienated policies result from broken strategic frameworks? Dysfunctionalities in prevailing attitudes to personal relationships are reflected in dysfunctionalities in policy-making and vice versa.

E. Using unexplored advantages of networking technology

There are assumptions associated with the "networking revolution" that sustain the opposing policy perspectives addressed by this paper -- and thereby undermine sustainable policy-making, especially with respect to developing or transitional economies. It is clear that for those seeking hegemonic domination, whether of a political, ideological, religious, cultural or other form, "coherent policy-making" is well served by the networking revolution in ensuring them means of access, security, protection of property, penetration, surveillance, knowledge interpretation, disinformation, and credibility to that end. It is very difficult for those promoting development of such technology to prove that these are not the prime objective. There may be other benefits. Whether these adequately counter-balance those that result in such domination remains to be seen.

The particular focus here is therefore on the manner in which networking technology impacts on social and policy processes in a context in which the conceptual implications of the "networking revolution" are effectively ignored, resisted or denied -- or become the subject of uncritical hype.

Under such circumstances society is effectively becoming dependent on a technology without using either that technology, or the conceptual revolution it implies, to successfully manage the transition that it is engendering. Consequently it will be argued that the technology tends to be used to replicate existing dysfunctional modalities without ensuring that its implications for new socio-cultural benefits can be widely understood, explored or shared.

E.1: Sustaining new conceptual processes

The challenge is to highlight ways in which networking technology might sustain a new set of conceptual processes more appropriate to sustainable development. The focus needs to be on both the level of governance and within the disadvantaged communities of society -- notably "beyond the last telephone pole".

There is much evidence that networking technology can enable **alternative social processes**, but little indication that the possibilities of that technology have been used to sustain significantly **different conceptual modes** through which more sustainable modes of socio-economic organization could be discovered and sustained. There are even features of the methodologies that might be applied to analysis of the networking revolution that reflect a mindset that the networking

revolution has in practice displaced. For example, emphasis tends to be placed on the creation and control of communication networks, in a manner consistent with equivalent military preoccupations regarding battlefield intelligence. A more interesting question is whether new forms of conceptualization are engendered and sustained. What forms might networked, or distributed, intelligence take? How might its emergence be recognized?

The policy-making reflex, influenced by its military origins, is to ensure the flow of insight to a focal point -- even if this is overloaded to the point of ineffectiveness. In principle at least, networking technology should both facilitate the operation of distributed intelligence and encourage other modes of knowledge management and creativity that obviate the need for knowledge centralization. Coherence would then emerge through some form of complementarity and resonance as is evident in the operation of the neural networks of the brain.

E.2: Avoiding distracting dependence on certainties

In the light of this approach, and in a period widely characterized as turbulent and subject to increasing social unrest, the effort to identify economic certainties over the next decade is itself a manifestation of conceptual processes that are resistant to the implications of the networking revolution. This is exemplified by the socio-economic status accorded the Internet in 1999 compared to its significance five or ten years previously -- on the basis of information then available. Generating any equivalent study for the next decade, based on today's information, distracts from the challenges of deriving and making use of insights relevant to the forthcoming decade from whatever information is currently available. Such a study would merely add to the range of conflicting information already perplexing decision-makers and their constituencies.

The challenge is to explore the advantages of the networking revolution in sustaining a process through which constituencies are able to identify what insights are relevant to their own sustainable initiatives in a period of rapid change, a surfeit of information, and conflicting views on what lies ahead. Irrespective of new insights, many significant constituencies will continue to act in the light of false certainties to which their current momentum binds them - and will be successful according to their own criteria, even if the certainties are subsequently proven false. The adaptability of market mechanisms to the networking revolution (notably with respect to information, finance, oil, arms, drugs, and entertainment) is such that their survival need not be a focus of concern.

How can policy-making sustain longer-term orientation in the presence of uncertainty without becoming trapped in a fire-fighting, knee-jerk response to challenges as they arise? This dilemma is becoming even more sharply focused for individuals in an uncertain socio-economic environment.

E.3: Vulnerability to surprises

If there is a single certainty it is that the future will not be surprise-free. For example:

- as the BSE crisis demonstrated in Europe, quite minimal revelations or incidents could invalidate most authoritative planning scenarios.
- a single EMP burst could undermine years of electronic innovation, as could more vicious forms of electronic virus.
- a biological example would be the discovery that the HIV virus could be distributed by mosquitoes -- despite current evidence to the contrary based on minimal research. Like other unforeseen biological surprises, this could completely reframe the situation of mosquito-ridden developing countries where AIDS is already endemic and which derive significant foreign exchange from tourism.

- the crisis regarding the suppression of information, over many years, concerning the health effects of tobacco illustrates how surprises may be hidden in "classified" information.

It is therefore important to highlight the policy challenges of what might now be appropriately called the "outdated map syndrome" -- irrespective of the resources that might have been devoted to collection of information. Policy initiatives can useful be understood as vulnerable to "O-ring" problems (it was failure to ensure communication of suspected problems relating to the O-ring that resulted in the explosion of the Challenger space shuttle, despite all the advantages of technocratic policy making). It is perhaps only the martial arts (aikido, etc) that offer appropriate training in the psychological discipline of anticipating surprises.

E.4: Beyond the single perspective

Pursuit of authoritative certainties designed to marginalize alternative perceptions and collapse dilemmas is a mark of the pre-networking era and a key feature of the current challenge to effective governance of democratic societies. In a complex society a diversity of perspectives is vital to ensure the possibility of effectively responding to unforeseen situations (cf Ashby's Law in cybernetics). The pursuit of a simplistic global consensus view denies the system learnings associated with biodiversity and the limitations of monoculture. It is essentially insensitive to the variety of conditions under which many live. Policy-makers cannot afford to depend on their ability to mobilize public opinion and align support behind a consensual perspective for any length of time. (see *Strategic ecosystem: beyond* "*The Plan*"http://www.uia.org/strategy/52ecolog.htm)

The emerging issue for decision-makers at every level of society (including rural communities) is how to make sense of conflicting information, and lack of information, without simply subscribing to a currently fashionable dominant perspective in a desperate bid for coherence. The issue is what kind of policy-making is appropriate and possible in a sea of conflicting initiatives and perspectives - and how networking technology can empower people under such circumstances.

E.5: Enhancing the ability to act in the absence of consensus

It is widely assumed that more information will necessarily increase the ability of decision-makers to achieve a greater degree of consensus on urgent issues. This is questionable in the light of the well-established pattern of delays on Yugoslavia and other humanitarian issues (including the earthquake in Turkey in 1999) -- leaving aside delays in response to many environmental challenges. The implication of the networking revolution is the ability of bodies in a network to act on their own initiative according to the information at their disposal - a process promoted under the term subsidiarity.

Given the poor track record of international consensus decision-making, there is a case for broadening explorations of "innovative consensus building" to include degrees of innovation somewhat greater than indicated by the following rather timid proposal from the NATO report on *Environment and Security* (1999):

> "...selected innovative approaches to consensus building exist that should be epaneded to exten the areas of common interest which will facilitate decision-making. Such innovtive mechanisms include the establishment of expert panels on specific questions that support seeking solutions by arguing rather than political bargaining. Also, round-table discussions on specific topics in the framework of negotiations reduce the likelihood of pure posturing and help focus negotiators on matters of substance. Such

> informal events promote a common learning process, support the establishment of a knowledge-based consensus and related scientific or expert communities and allow for non-governmental and expert input for the common good" (6.2.4.3, p. 156)

There is however a major conflict between commitment to prior consensus (before any action is possible) versus timely action (in response to dramatic need). The challenge is to adapt networking technology to facilitate this process of timely action whilst avoiding the current heavy investment in collective non-decision-making in vain expectation of consensus.(http://www.uia.org/uiadocs/nondec.htm)

To compensate for the challenges of consensus building, the NATO report adopts stronger language in speaking of instruments of implementation (6.2.3.2), majority decision-making (6.2.4.1) and democratisation (6.3.1.6) without effectively addressing the contradictions between these perspectives. Information technology can perform a vital role in addressing these issues -- see *Spherical configuration of interlocking roundtables: electronic enhancement of global self-organization through dialogue patterns* (http://www.uia.org/uiadocs/interlock.htm)

E.6: Building on existing initiatives - rather than undermining them

There is a momentum to development of the information society that implies challenges for both users and the many providers of new "authoritative" information. For example, it was recently estimated that there were 16,000 health sites on the Internet. Whereas the challenge in 1999 maybe what to do with calls from colleagues to "check out" 10 valuable new web sites every day, in a year or so the number may be 20-50, and soon perhaps even more. The easy response is to ignore such initiatives and develop new ones.

Attention is required to initiatives that build on the continuing emergence and interlinkage of foci of information and action. The challenge is to design information tools that work with the momentum of the information society, and the enthusiasm and commitment it engenders, rather than against it. In particular the challenge is to avoid implementing new initiatives with fresh resources that undermine existing initiatives with their own resource base, however inadequate.

F. Governance through metaphor

The following arguments are developed in papers accessible via:
http://www.uia.org/metaphor/metacom.htm

F.1: Metaphoric enhancement of policy-making in response to information overload

There is an inherent danger in reliance on acquisition of more information to resolve policy dilemmas and to focus action to sustainable ends. It is characteristic of major international policy conferences that it is through key metaphors that differences and possibilities of agreement are articulated. Striking examples in the development of the European Community have been the extensive reference to "pillars" and "baskets" during treaty negotiation conferences. It is through such metaphors that complex flows and patterns of information are handled. Policy debate cannot be effectively focused on the detail articulated in the thousands of pages presented at a conference. Ironically policy information is normally designed to be as free of metaphor as it is of any form of visual aid. No effort is made to identify richer and more fruitful metaphors -- as vehicles for the imagination, pillars and baskets date back several thousand years.

As suggested in an earlier paper (Judge, 1987: http://www.uia.org/uiadocs/govmet87.htm): Governance is then fundamentally the process of ensuring the emergence and movement of such

"guiding" metaphor-models through the information system, as well as their embodiment in organizational form. Such stewardship also requires sensitivity to the decreasing value of any metaphor-model (at the end of its current cycle) and the need to adapt institutions accordingly. The stewardship required of the metaphor-model "gene pool" is analogous to that currently called for in the care of tropical forest ecosystems - as the richest pools of species and as vital to the condition of the atmosphere.

The merit of this vision of governance is that it does not call for a radical transformation of institutions - which is unlikely in the absence of any major catastrophe. Rather it calls for a change in the way of thinking about what is circulated throughout society's information systems as the triggering force for any action. At present governance in the international community is haunted by a form of collective schizophrenia - a left-brain preoccupation with "serious" academic models and administrative programmes, and a right-brain preoccupation with the proclivities of public opinion avid for "meaningful" action (even if "sensational"). This schizophrenic battle between models and metaphors could be resolved by legitimating the metaphoric dimensions already so vital to any motivation of public opinion as a vehicle for the models. There needs to be a two-away flow however from model-to-metaphor and from metaphor-to-model, as in any interesting learning process.

In a sense this proposal is only radical in that it advocates the legitimation and improvement of processes which already occur -- if only in the sterile and demotivating manner highlighted by Johan Galtung. New metaphors are constantly emerging in the arts and sciences. They are used by politicians. Presumably some of them are used in the existing policy-making processes of governance. But the ecosystem of metaphor-models is an impoverished one. It is totally divorced from the cultural heritage of the world.

It is precisely through using networking technology to enhance disciplined use of insightful metaphor that policy-makers will be able to comprehend more complex issues and possibilities, dialogue more effectively with those holding opposing positions, and communicate coherently with their constituencies. Policy-making is, ironically, faced with a challenge of metaphoric impoverishment that inhibits ability to draw on rich metaphors (possibly more readily accessible in developing cultures) capable of charting pathways through policy minefields.

Rather than the sterility (repeatedly remarked by the media) of Summit communiqués, is there not a case for such events to highlight new metaphors through which policies may be framed and given coherence? Although not a metaphor as such, "sustainable development", like "networking", is perhaps only successful in providing coherence to the extent that it is used as a metaphor.

F.2: Metaphoric empowerment of the disadvantaged

Both internationally and nationally there has been a marked tendency to promise much more than it has proven possible to deliver: "health for all by the year 2000", "employment for all", "education for all", "freedom from hunger", "justice for all", "security for all", "shelter for all", etc). This has severely undermined the credibility of the institutions in question and contributed to increasing political apathy with regard to their programs. The danger of the networking revolution is that it will promote "communication for all" and "information for all" for a conveniently distant future time -- and face similar delivery problems in practice.

There is a need to focus on what kinds of enabling knowledge can be effectively communicated that will bypass the inherent obstacles to empowering the disadvantaged to respond more effectively and immediately to their own condition when promised deliveries are postponed or seem likely to fail.

F.3: Networking technology as a metaphor

One of the most striking features of networking technology is that metaphor is explicitly used to guide understanding of the process of its software and hardware innovation. Less recognized, but equally striking, is the manner in which use of networking technology provides an extremely detailed metaphor to guide understanding of possible new forms of social interaction and the conceptual processes that underlie it. In effect built into the current use of networking technology are behaviours which, as suggestive metaphors, have yet to be adapted to the kinds of exchange of insight that would be most directly beneficial and empowering both to policy-makers and their constituencies.

The challenge is to identify a set of distinct activities characteristic of those intimately engaged with networking technology to demonstrate how these behaviours suggest analogous behaviours relevant to sustainable development. These are behaviours already characteristic of any (young) person engaged in constantly responding to the opportunities of the information technology environment -- independently of any particular bodies of authority and critical of the information they purvey. In effect the information technology offers strategic options to which people learn sophisticated responses. Examples include: responding to software and hardware "upgrades", adapting older equipment, "downloading" new software (including "shareware"), locating and loading new "drivers", user discussion groups as a source of "do-it-yourself solutions" to practical technical difficulties (rather than depending on inadequate information from producers), resolving "compatibility" problems (converting between formats), "filtering" e-mail messages, avoiding viruses, etc.

The degree of empowerment offered to people to upgrade their relation to the information environment in a do-it-yourself mode is what is required with respect to other social concerns. How can people (or groups) locate and download more relevant concepts as they emerge and when they seem appropriate, if only on a tentative trial basis -- before buying into them? By comparison, in what ways is access to non-computer knowledge of social relevance hindered by vested interests (educational authorities, professions, academic disciplines, labor unions, etc)? How much of this obstruction is a reflection of information policies that directly hinder sustainable development?

G. Strategic alternatives for information

G.1: Evoking resonance patterns

The quantity of policy-relevant information will continue to increase exponentially. For the policy-makers concerned with governance -- who are obliged to have a cross-sectoral perspective -- the only possibility is to enhance the ways in which information and knowledge are patterned. In effect what is required are techniques for information self-organization to bring out such patterns. It is not information or knowledge that is required. There is already a surfeit. Rather what is urgently needed is more fruitful ways of looking at patterns of information.

The challenge then is to find new ways of communicating a new perspective. The policy-maker needs new ways to shift between perspectives and to acquire "poly-ocular vision" (as suggested by Magoroh Maruyama,http://www.uia.org/strategy/124alt16.htm) in order to acquire depth of perspective. Especially in the case of strategic dilemmas, and sets of radically opposed policy options, the challenge is to be able to configure all options within larger frameworks that justify the conditions under which each is relevant as a complement to the others -- namely a context for partisan perspectives (cf http://www.uia.org/transfor/a11.htm). It is within such larger frameworks that forms of resonance between incommensurable options can emerge as a basis for higher orders of consensus as well as new kinds of knowledge or social structures (cf http://www.uia.org/strategy/171alt54.htm). Information technology is required to provide conceptual scaffolding for such structures, especially when their coherence and integrity is only partially

recognized and understood. The work of Stafford Beer in this respect merits attention.

It is ironic that policies tend to be formulated and supported by a "party", exemplifying the partisan nature of a policy supposedly of benefit to the whole. Even when parties successively achieve power through a process of alternation, it is unclear that the alternation between policies they support is an adequate design solution to the more complex challenges of society. Using information technology to maintain the coherence of such "policy cycles" does however merit exploration (cf http://www.uia.org/transfor/64envpat.htm and http://www.uia.org/transfor/71envmod.htm).

G.2: Strategic cross-fertilization - beyond the delivery model

The networking revolution is presented, with its supporting technology, as something that needs to be "delivered" to developing countries and transitional economies to enable them to benefit from the economic advantages of global civilization. Almost no serious attention is given to the possibility that non-western cultures may have their own conceptually unique content and their own preferred ways of working with that content. The networking revolution may be more significant under such circumstances through the new ways it enables those cultures to take advantage of their own content for their own socio-economic benefit. However it may also be of great value in terms of unforeseen beneficial patterns that can then be used to order western content - a cultural analogue to the pharmaceutical products currently derived from rain forest diversity.

There is a need to focus on ways in which non-western cultures can use networking technology to empower their own styles of action and on how their approach may be of benefit in the current crises of the western paradigm favoured by the international community. In particular attention should be given to the use of such technology by aural and visual (in contrast to text-dependent) cultures in a period when there is a widespread shift to multi-media and entertainment uses of networking technology and away from text. This may offer a strategic advantage to such cultures.

G.3: Configuring strategic dilemmas for intersectoral dialogue

In preparation for the 1992 United Nations Conference on Environment and Development as a follow-up report to his involvement as Secretary-General of the World Commission on Environment and Development, responsible for the Brundtland Report), Jim MacNeill articulated for the Trilateral Commission the policy options for sustainable development in terms of "shaping global bargains" (Beyond Interdependence, 1991). He notes:

> "The notion of a 'global bargain' conjures up many images, especially within the broad context of sustainable development...In its simplest terms, a bargain involves at least two parties and two issues. It implies a trade-off between the parties on the issues. The group of nations, developed and developing, that have come together to form a bargain must agree to give up something in order to get something else. As a rule, they would give up a path of development in a given sector that is unsustainable and thus represents a threat to themselves and the other negotiating nations or the global commons."

In this sense a global bargain involves at least two parties and two issues, implying a trade-off between the parties on the issues. However according to this perspective the arenas to be subject to bargaining emerge haphazardly as a result of conventional political processes. There is no systemic sense of how the bargains interweave to ensure the sustainability of development as whole. There is no sensitivity to issues which can be conveniently ignored by powerful majorities. In a real sense this corresponds to the traditional paradigm of ad-hocery which has contributed so much to the

emergence and maintenance of the present crisis. In particular there is little understanding of how to deal with a set of strategic dilemmas -- and the possibility that information technology might be used to configure such sets to highlight unforeseen strategic opportunities that are obscured by simplistic ad-hocery.

The difficulty is that bargains are typically discussed in the verbal and textual mode. In this mode, notions of "giving up" in order to "get something else" are understood in the simplest terms and therefore readily evoke opposition. This opposition is indeed legitimate in terms of the "two-dimensional" images (of "sides") through which they are currently discussed. It would not however be so necessary in terms of more complex configurations (of "sides") as advocated above and discussed in detail elsewhere (http://www.uia.org/transfor/a11.htm). It is intriguing that from a design perspective such disagreement can be usefully designed into global solutions as an essential feature of their integrity -- consistent with principles of both architecture and biodioversity. The obsession with policy consensus is extremely dysfunctional, obscuring exploration of alternative approaches vital to complex crises.

G.4: Enhancing comprehension of complexity through multi-media information interfaces

Multi-media information facilities regularly used by children currently offer possibilities for comprehension of patterns of information more complex than those that policy-makers choose to address. Corporations are currently investing heavily in the challenges of visualization of information and are marketing products accessible only to the few. There is little evidence of their use in public policy-making.

It is curious that the major NATO review of *Environment and Security* (1999), places stress on the importance of data and data bases (5.3), non-linearity of complex systems (4.2.1), and developing decision-making in international institutions (6.2.4). But, despite a focus on reciprocity/feedback loops (2.3.2), it fails to comment on the total absence of such connections in the data normally used for cross-sectoral policy-making, as typified by the organization of *Agenda 21.* It is these loops which are supposedly fundamental to modelling environmental stress (5.2.1) as a basis for decision support systems (5.4).

In the light of the arguments above regarding configuration of strategic dilemmas, it is worth noting the significant advantages of very modest experiments by the Union of International Associations in providing visual interfaces to its extensively hyperlinked databases on 30,000 world problems and 35,000 strategic responses, as well as on the 20,000 international organizations from the information is essentially derived (accessible via: http://www.uia.org/data.htm). These ongoing experiments (funded during 1997-9 within the EU Info2000 project of DG-XIII), currently make use of virtual reality techniques and spring map Java applets. They are being extended to use of sound (http://www.uia.org/dyna/vizexp.htm). In every case the concern is with cognitive (rather than decorative) use of multi-media to enhance comprehension and navigation of complexity. Further developments should involve configuring the displays and mnemonic sounds in the light of the possibilities with respect to configuring strategic dilemmas. A project to extend and orient this initiative to developing countries, and with their participation, has been approved by the World Bank InfoDev program.

G.5: Promoting strategic short-cuts through networking technology

In the many arenas in which development programs have promised to deliver (health, education, food, employment, etc) the emphasis is placed on fully educating people to acquire the qualifications to be considered competent to act. In a period of potentially severe humanitarian crisis, this is a fundamental trap that has emerged as a result of the irresponsible assumption that cultures can best

develop by imitation of western models and western-style "qualification". Given the difficulty of enabling people to acquire either the appropriate information, or the qualification assumed necessary for its appropriate use, it is useful to ask how people can acquire, what knowledge, enabling them to act usefully (in their own terms) without relevant qualifications. The markets of West Africa are full of extremely successful entrepreneurs whose success is not due to acquisition of an MBA. Similar statements may be made with regard to their garages and factories.

In many cases the emphasis on a particular style of education has the effect of disempowering people who would otherwise be able to take initiative to respond more appropriately to their local circumstances. This is in marked contrast to the entrepreneurial initiatives of many apparently disadvantaged people and groups able to short-cut this conventional model and the dependence it creates on external assistance. It is especially to be regretted when the education has been designed in response to challenges of the past and on the basis of educational resources that are not available -- and are very unlikely to become available.

A turbulent society can neither be navigated nor governed using conceptual tools which seek to rely on prediction of certainties and outcomes in a period of accelerating change. However the networking revolution is capable of sustaining processes relevant to more dynamic forms of management and sustainability. In a period when the Internet offers do-it-yourself information on every topic (including bomb construction), it is appropriate to consider how such short-cuts may work with respect to the areas in which the delivery model has been less than successful. In particular it is important to explore the possibility that some cultures may be more skilled at deriving socio-economic benefit through interacting with information in the visual or aural modes to which they have a predisposition, than in the text modes alien to their tradition and increasingly to younger generations.

The concern is therefore to identify the characteristics of the conceptual tool kit that will enable people, communities, corporations and governments to act in response to emerging crises. What is becoming "street-wise" for people and communities who have to survive in information-rich contexts where the strategic issue is what information to focus on and how to make use of it? What are the minimum sets of concepts from the various disciplines (economics, etc) necessary for survival and thrival?

G.6: Enabling perception-sensitive policy-making

Major incidents such as the BSE crisis in the UK (followed by that on genetically modified organisms), have made it apparent that policy-making needs to take account of perceptions as much as "proven" facts. As noted by the NATO report on *Environment and Security* (1999):

> "Whether or not environmental stress contributes to the potential incidence or escalation of conflict depends heavily upon the perceptions of the actors. Perception influences the position regarding environmental stress. Resource scarcity is not a scientifically defined benchmark; it is largely a factor of perception....It is also important, whether the stakeholders perceive another group as responsible for their impaired well-being." (2.4.1, p. 104)

The question is then how to combine perceptions with harder data, especially when both perceptions and data are subject to challenge from different strategic perspectives. This is the basis for the initiative, initiated in 1972, of the Union of International Associations in gathering concerns articulated by the full range of international bodies identified in its*Yearbook of International*

Organizations. The information profiles have appeared in a succession of editions of its*Encyclopedia of World Problems and Human Potential* and are currently availabe on the web (viahttp://www.uia.org/data.htm).

G.7: Supporting strategic nimbleness through networking technology

The strategic challenges of an uncertain future are increasingly articulated using terms such as "nimbleness", "flexibility" and "agility" - and the ability to "turn on a dime" - notably in the case of Internet-oriented organizations. This is in striking contrast to the style of many major institutions whose survival is often cushioned from shocks - in marked contrast to initiatives in developing countries and transitional economies.

The question is how to make use of networking technology in a manner consistent with such a nimble strategic style. It is one thing to organize information systems to allow rapid reconfiguration of organization units and collaborators. It is quite another to combine that with the ability to reconfigure relationships between substantive preoccupations in the light of emerging, or tentative, insights into more powerful integrative perspectives offering strategic advantage in response to new challenges.

G.8: Using networking technology to channel social unrest

The challenge of the policy dilemma addressed by this paper lies in the consequences of increasing socio-economic gaps - whether or not these are a matter of perception rather than fact. The failure of the delivery model in the eyes of the disadvantaged is widely recognized as a potential source of considerable social unrest in the immediate future. Networking technology has not been designed to transpose social unrest (even in democratic societies) into forms from which creative responses to crises can emerge in a sustainable manner - although there are a number of examples of such use.

There is a need to focus on the uses of networking technology to facilitate expressions of concern and their articulation within new forms of social organization capable of responding to those concerns - minimizing, to the extent possible, the usual destructive expressions of social unrest.

In a world where the level of investment in "research and development" is considered an important indicator of the probability of "being left behind", it is amazing that the there is no equivalent category of investment in psycho-social "research and development". Whereas tax and other advantages are accorded in support of scientific research and technological development as a matter of standard policy, those engaged in the psycho-social equivalent are discouraged, hindered and even criminalized. Policy options relevant to social unrest and "sustainable community" are expected to emerge from established modes of thought in a manner which would be considered ridiculous in the case of technical innovation. Whereas a laboratory explosion is treated as a strong indicator that some parameters need to be changed if an experiment is to give new insight, a disaster in an experimental community is treated as a strong indicator that community experimentation of any kind should be forbidden. Knowledge structures need to be sustained in new ways to facilitate exploration of new styles of community organization.

G.9: Enabling emergence and integration of new policy paradigms

Those frustrated by the track record of policy and information initiatives, especially in the light of emerging challenges, increasingly emphasize the need for "new thinking" and "a new paradigm." Seemingly the current dominant paradigm provides the wrong kind of coherence. There is however the danger of switching (even if that were collectively possible) from one inadequate paradigm to another whose inadequacies will take time to be recognized.

Ways of organizing knowledge need to be developed to sustain the emergence of paradigms and of the ecology of such paradigms. In a complex society this is essential to avoidance of information system design that entraps policy thinking in a single inadequate paradigm (as the basis for "The Plan"). Failure to do so merely guarantees the emergence of incompatible policies and the information systems to sustain them. Society is then faced with the challenge of integrating these disparate knowledge systems or suffering the consequences of failing to build on their complementarity. It takes a knowledge ecology to respond effectively to a psycho-social or environmental ecosystem (cf Ashby's Law of requisite variety).

G.10: Ensuring emergence of integrative mnemonic cues

Policy-making with regard to global systems relies on very simplistic mnemonic cues to carry and integrate the detail and interrelationship of its preoccupations. Thus Agenda 21 is a complex maze of relatively impenetrable legalistic jargon. The mnemonic cue by which it is carried for wider imaginative appreciation is the ubiquitous image of Planet Earth (typically on the binding of the document). Together these reinforce a form of schizophrenia between a holistic image that cannot be grounded in any policy detail and a tangle of policies for which there is no memorable structure.

Both for policy-makers and their publics, there is a need to use the multi-media facilities of information technology to hold conceptually a variety of integrative images that can be mined (in the sense of knowledge mining) for the complex patterns of policy arrangements and the issues to which they respond. The mnemonic organization of such cognitive devices needs to be continually improved -- it is a new frontier. Are policy documents singable? Do they have the cultural status of a great poem like the Kalevala or the Mahabarata? If not, why not -- if they are to be experienced as moving and motivating?

Much contemporary policy-making may be usefully compared to a "flat earth" mindset unconcerned with what it cannot see (often because of a deliberately restricted mandate). This is at a time (analogous to the 15th century) when the implications of the functional roundness of the global system have yet to be understood -- even if images of Planet Earth provide symbols of such understanding. Despite "globalization", the World Wide Web, and the *Lonely Planet Guide*, who has circumnavigated the psycho-social system as a functional globe, rather than a geographical one? Who would know by what maps to guide such exploration, and how to navigate its roundness?

Without mnemonic organization, and reinforcing patterns of associative resonance, the coherence and integrity of a policy cannot be communicated, comprehended, or sustained. The concept of sustainable development has yet to be rendered sustainable.

G.11: Enhancing strategic dialogue through networking technology

The ability of a group of policy-makers to process information in order to engender strategically coherent policies is highly dependent on the nature of the dialogue within which supposedly complementary perspectives are interrelated. It is only a slight exaggeration to suggest that the effective rate of innovation in this process is several orders of magnitude less than the societal and technological innovation that the dialogue process is intended to manage.

In theory innovations in groupware are designed to facilitate this dialogue process. In practice such groupware is helpful only when its discipline is effectively imposed (or contractually accepted by participants) and when the range of issues is susceptible to essentially mechanical selection and prioritization. The more challenging issues of governance, involving peer groups whose relationship is to be determined as part of a non-mechanical group process, are not assisted by available forms of groupware -- or those on the drawing board. To a large extent the markets for groupware, and thus

the principles governing its design, are derived from the corporate sector in which the awkward factors (faced by societal governance) can be excluded from any policy process by fiat. It is noteworthy that facilitators (with their patented dialogue processes) are excluded from complex policy-making arenas where no implicit contract exists between participants and where key roles are attributed as part of the negotiation.

The opportunities for technical enhancement of dialogue are considerable. The challenge is that it is not clear what kind of dialogue needs to be enhanced to achieve coherent policy-making. There is a tremendous investment in achievement of consensus at all costs, prior to the any possibility of action. This consensus assumption tends to develop skills in non-decision-making and collective avoidance of responsibility in the face of urgent issues. There has been almost no exploration of opportunities for coherent policy-making with designed-in disagreement, although this can be reframed as necessary complementarity of perspective to encompass complex issues.

Factors to be interrelated include:

- meaningful juxtaposition of cross-sectoral information,
- validation of cross-cultural perspectives (and their associated linguistic challenges),
- different preferences for styles of communication and information,
- differing tolerances for complexity and simplicity,
- need to be able reframe insights into higher orders of coherence and consensus for appreciation by constituencies external to the dialogue.

These challenges and opportunities are explored in: *Spherical configuration of interlocking roundtables: electronic enhancement of global self-organization through dialogue patterns* (http://www.uia.org/uiadocs/interlock.htm)

G.12: Enabling governance with a lighter touch

Traditionally, especially in classical Chinese philosophy of governance, the art of governance is to do as little as possible. It might be inferred that this can only result from cultivating a mindset that ensures sustainable relationships throught society. The intriguing possibility is that information technology might facilitate articulation of patterns of insight that embody the rich variety of concerns and strategic trajectories. This might well involve aesthetic dimensions as much as conventional statistical indicators and systems analyses. Information technology would then assist the integration between aesthetic and scientific insights in response to unforeseen challenges and opportunities.

In a period when education and entertainment are being integrated as "edutainment", and policy issues are often flavour-of-the-month fashions cultivated by spin-doctors, there is a strong case for exploring new approaches to strategic articulation. Reframing the pattern of information dependencies (identified at the beginning of this paper), this might give:

- access: transformed with the use of new forms of match-making technology to ensure appropriate and mutually beneficial interaction
- classification: transformed with insights typical of a gardener sensitive to the need for some new initiatives to be protected from the glare (of publicity) by appropriate filters and electronic protocols
- penetration: transformed into a mode more reminiscent of courtship (than rape), as is increasingly

evident in some forms of negotiation (and exemplified by "handshaking" between electronic systems)

- dissemination: transformed into dialogue and exchange rather than unilateral information transfer and insensitive conceptual spamming -- perhaps a form of knowledge barter
- property: transformed through recognition of other forms of relationship to products and estates (real or virtual), inspired by insights from mathematics and the arts (rendered coherent and comprehensible primarily with the aid of information technology)
- surveillance: transformed into a pattern of mutual checks and balances sustained, and developed by an enhanced civil society (in which such ecological relationships are clarified by information technology)
- interpretation: transformed into the constant search for more comprehensive framings to integrate the diversity of understandings in society (and primarily rendered feasible through information technology)
- disinformation: transformed into the generation of fruitful stories through which established understandings can be sustained or challenged in order to enrich public dialogue through potential alternative insights
- credibility: transformed through greater insight into the variety of essential roles in society and how they sustain or challenge each other.

All the above could contribute in some way to giving meaning to the art of "**governance with a lighter touch**". In no way, however, should this undermine more conventional uses of information in specialized areas. The strength of such governance would lie in the richness of the patterns it offered -- with more flexibility and opportunity than the conventional approaches entrapped in the linearity more valuable for specialized concerns. Through becoming a source of better "strange attractors", governance would then pull society into the future rather than vainly endeavouring to push it (http://www.uia.org/uiadocs/values93.htm). This is a classical function of leadership.

H. Conclusion

The core theme of this paper focuses on the need for policy-making to shift from an information-focus to a pattern-focus -- especially with respect to the governance of society. The powerful non-technical variant of this is metaphor, already widely used to capture and communicate insights into policy alternatives -- and in which non-western cultures (and the disempowered) have proven strengths. There is a very strong case for enhancing use of metaphor at all levels of society as a means of enabling new responses to complex crises. This enhancement could usefully be facilitated through networking technology, especially where this opens the way to insights into more complex patterns (to which many are already being exposed through video games, "special effects", and virtual environments). Metaphor is a recognized key to creativity and innovation, notably in information technology. It has yet to be directly applied to social and knowledge organization in response to complex crises . information technology can be used to support this, especially in order to build new structures rather than simply to analyze existing ones.

At this stage, and increasingly in the future, it is becoming clear that even the most insightful strategies, formulated in sensitive dialogue between representatives of appropriate constituencies, cannot be heard or comprehended as credible in wider society -- even if people listen to presentations of great skill. But even if authorities are nevertheless able to engage in their implementation, such strategies cannot effectively deliver what is required in response to complex crises -- other than to those predisposed to accept this implementation process.

Briefly the paper argues that policy-making can only achieve the necessary coherence required in response to complex crises through shifting from information obsession to a lighter pattern-oriented touch through which constituencies are themselves empowered to act in new ways. This has been exemplified by the phrase: "Don't push the river; guide the canoe".

References (provisional; web references contain extensive bibliographies)

Birkeland, Janis. The Inherent Bias of Planning Methods. University of Tasmania, Department of Geography and Environmental Studies, 1990. (also *Trumpeter* (Vancouver), 8, 2, Spring 1991, pp 72-84)

Dror, Yehezkel. Crazy States : a counterconventional strategic problem. Periodicals Service, 1980

Dror, Yehezkel. The Capacity to Govern: report to the Club of Rome (1995)

European Parliament, STOA. An Appraisal of the Technologies of Political Control: Updated Executive Summary prepared as a background document for the September 1998 part-session (European Parliament) (http://www.europarl.eu.int/dg4/stoa/en/publi/166499/execsum.htm)

Judge, Anthony:

- The challenge of cyber-parliaments and statutory virtual assemblies 1998 (http://www.uia.org/uiadocs/cyberass.htm)
- Enhancing sustainable development strategies through avoidance of military metaphors 1998 (http://www.uia.org/uiadocs/targets.htm)
- From statics to dynamics in sustainable community: navigating through chaos by playing on polarities as attitude correctors 1998 (http://www.uia.org/uiadocs/statics.htm)
- Future operation of international organizations within an electronic environment: framework for reflection on intra- and inter-organizational issues of relevance to both intergovernmental organizations and NGOs 1997 (http://www.uia.org/uiadocs/electron.htm)
- The quest for uncommon ground: beyond impoverished metaphor and the impotence of words of power 1997 (http://www.uia.org/values/common97.htm)
- The art of non-decision-making and the manipulation of categories 1997 (http://www.uia.org/uiadocs/nondec.htm)
- From information highways to songlines of the noosphere: global configuration of hypertext pathways as a prerequisite for meaningful collective transformation 1996 (http://www.uia.org/uiadocs/songline.htm)
- Coherent organization of a navigable problem-solution-learning space 1996 (http://www.uia.org/uiadocs/ithree2.htm)
- Poetry-making and Policy-making: arranging a marriage between Beauty and the Beast 1993 (http://www.uia.org/uiadocs/poetpol0.htm)
- Metaphor as an unexplored catalytic language for global governance 1992 (http://www.uia.org/uiadocs/govwfsf.htm)
- Future coping strategies: beyond the constraints of proprietary metaphors 1992 (http://www.uia.org/uiadocs/coping.htm)

- Guiding Metaphors and Configuring Choices. (Paper for the Development Administration Division of the United Nations Department of Technical Cooperation for Development UN/DAD/DTCD) 1991 (http://www.uia.org/uiadocs/guidmet.htm)
- Through metaphor to a sustainable ecology of development policies 1990 (http://www.uia.org/uiadocs/polforum.htm)
- Metaphoric revolution; in quest of a manifesto for governance through metaphor 1988 (http://www.uia.org/uiadocs/metrev88.htm)
- Societal Learning and the Erosion of Collective Memory a critique of the Club of Rome Report: No Limits to Learning (Introductory report of Panel III on "Utilisation of international documentation" of the Second World Symposium on International Documentation) In: Th. Dimitrov (Ed.) International Documents for the 80's: their role and use (Unifo Publishers, 1982 in an incomplete version) (http://www.uia.org/infodocs/uninfo.htm)

NATO, Committe on the Challenges of Modern Society. Environment and Security in an International Context. Bruxelles, NATO, March 1999 (REport No. 232)

Sagasti, Francisco R. Techno-economic intelligence for development. *IFDA Dossier*, 35, May-June 1983, pp 17-26

Scott-Morgan, Peter The Unwritten Rules of the Game, 1994

UNESCO. Summary of debate on UNESCO in the 21st century. 24 September 1999, 30 C/INF.12

Union of International Associations:

- Encyclopedia of World Problems and Human Potential. Munich, K G Saur Verlag, 1994-5, 3 vols (http://www.uia.org/uiapubs/pubency.htm)
- Yearbook of International Organizations. Munich, K G Saur Verlag, 1999, 5 vols (http://www.uia.org/uiapubs/pubyear.htm)
- INTERCEPT: Interactive Contextual Environmental Planning Tool for Developing Countries. Brussels 1998 (approved for funding by the InfoDev program of the World Bank)
