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CULTIVATING SOCIETY'S CIVIC INTELLIGENCE: PATTERNS FOR A NEW 'WORLD BRAIN'

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Abstract

In spite of remarkable advances in science and technology, humankind is beset with a number of serious problems. These are not just problems that 'won't go away'; they are problems that are worsening considerably. These problems include the growing gap between rich and poor, between those who have too much and those who have too little, as well as a broad range of environmental issues that may have major consequences but, at the same time, are little understood. This essay explores the idea of 'civic intelligence'. What projects, perspectives, policy and technology might humankind develop that would help us collectively address these problems? This essay discusses six aspects of 'civic intelligence' (orientation, organization, engagement, intelligence, products and projects, and resources) as well as ways to make cultivating our 'civic intelligence' a practical – non-utopian – enterprise.

Keywords

civic intelligence, democracy, ICT, activist networks, advocacy networks, community networking, public sphere

> Societies are, and will always be, shaped among by social actors, mobilized around interests, ideas, and values, in an open conflictive process.
>
> (Castells 1998)

TECHNOLOGICAL AMBUSH?

In a recent issue of *Wired Magazine*, consummate computing pioneer Bill Joy (2000) unveiled a trio of apocalyptic scenarios that he believes could be unleashed in the not-too-distant future. These unpleasantries, resulting from unrestrained, unprincipled and unregulated genetic engineering, nano-technology and robotics (GNR), can be added to the list of big nightmares of the twentieth century (such as environmental disasters, nuclear and bacteriological warfare which may yet plague us. Each of these technologies, according to Joy, could abruptly unleash

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problems on so vast and unprecedented a scale that any of humankind's responses would be completely overwhelmed. That such a notable 'priest' had so seriously challenged the central teachings of the technological (and economic) church was not missed by the US media where the story was featured on the front page of the *New York Times* and other prominent newspapers.

Ironically, computers are at the forefront of the problems Joy describes; without them those catastrophes would be inconceivable. Computers are, in fact, the only indispensable element in each of three problems. Joy's scenarios centre on technological development outstripping humankind's ability to control it. Our 'fail safe point' may have been passed according to Joy. A variant on Malthusian predictions (much disparaged but impossible to disprove) may be finally bearing the bitter fruit that Malthus foresaw. The planet's burgeoning population and its deteriorating environmental condition, coupled with humankind's propensity towards disagreement and strife, its disregard for nature and its penchant for exploiting her innermost secrets may provide an ideal set of preconditions for a sudden and profound technological ambush.

Joy, of course, is not alone in his warnings. Indeed, our era could be characterized as the age of such warnings. Many scientists have documented the monumental changes that humankind is currently loosing upon the natural environment. In another recent article scientists concluded that the human-originated changes currently being wrought on the planet have attained the magnitude of a geologic force (Karl and Trenberth 1999). Nobody knows the consequences of ignoring these changes. Yet it is a matter of obvious importance to the inhabitants – human and otherwise – of the earth. A cavalier disregard may be catastrophic.

Anticipating and possibly averting ecological and other nightmares would probably require changes to our ways of thinking and acting; changes which, depending on their scope and severity, are likely to be extremely difficult to enact. People are loath to change habits developed, cultivated, and rationalized over a lifetime. Humankind, similarly, is unlikely to modify cherished habits to avert problems of the future based on contested evidence of new circumstances, especially ones that may not seem to appropriate to their lives.

Joy's predictions border on the apocalyptic; in his mind human extinction within a generation is possible. Assuming that his predictions have even a germ of possibility, the obvious question is what can be done to understand the situation, avert potential disasters and develop a more sustainable relationship with our social and natural environments. The equally important but less obvious issue is identifying the underlying conditions that would help make even a partial resolution of the problems become conceivable. This paper is an attempt at

describing these conditions and how the idea of a 'civic intelligence' might play a useful role.

THE WORLD BRAIN AND OTHER UTOPIAN VISIONS

Joy's concerns, and others like his, were formerly found only in science fiction for it is in that genre that technological and social possibilities are most creatively explored. For that reason I would like to invoke the memory of H.G. Wells, the English science fiction writer, historian, generalist and visionary, who did not live to see the Internet or other recent technological achievements. Wells was not just a science fiction writer who integrated technological scenarios with social issues and outcomes; he was also a historian who searched for broad historical patterns: 'I dislike isolated events and disconnected details' (Wells 1971). Wells was also deeply concerned about the human condition and devoted considerable thought to the prospects of enlightened social amelioration. He discussed, for example, in the 1930s a number of collective problems that would become increasingly apparent in the following seventy or so years (including environmental problems and weapons of mass destruction).

Wells believed that there was a 'conspicuous ineffectiveness of modern knowledge and . . . trained and studied thought in contemporary affairs'. As a collective body, we are failing to address collective problems in spite of immense individual talent and specialized knowledge. In his quest for possible antidotes, he dismisses all types of ideologies and religions as unsuitable. He also rejected rule by 'some sort of élite, in which the man of science and the technician will play a dominating part'. Joy, of course, would be a member of such a group, even though that group is responsible to some degree as the perpetrator of the challenges that Joy warns about. Wells places his faith in '*science*' and not '*men of science*'. Science, in his view, should 'enlighten and animate our politics and determine the course of the world'. To this end he asks, 'Is there any way of implementing knowledge for ready and universal effect?' His answer is a world encyclopedia which would provide an intellectual backbone for the human race, a 'world brain' that 'would do just what our scattered and disoriented intellectual organizations of today fall short of doing. It would hold the world together mentally'.

Wells placed his faith in the establishment of a world encyclopedia, a single artefact packaged as a series of bound volumes which would apparently be so accurate, that people would have little choice but to make the right collective decisions based on diligent study. Unfortunately very few people could afford to

purchase this set of volumes and fewer still would read them in their entirety and absorb the knowledge therein. Nor is the existence of facts tantamount to the existence of 'objective' interpretations of the facts or obvious policies or courses of action based on those facts. 'Facts' have meaning only when interpreted and they have power only when they have consequences. Without saying so directly, Wells suggests that society becomes more 'intelligent' by making its citizenry more mindful of the facts.

Perhaps the most ambitious project along these lines was the one proposed by the German philosopher Leibniz. Leibniz was an advocate for artificial intelligence some 300 years before its official inception. He conceived of an invention that would be a type of artificial patriarch, almost a god. He immodestly proclaimed in 1679 that his

> invention uses reason in its entirety and is, in addition, a judge of controversies, an interpreter of notions, a balance of probabilities, a compass which will guide us over the ocean of experiences, an inventory of all things, a table of thoughts, a microscope for scrutinizing present things, a telescope for predicting distant things, a general calculus, and innocent magic, a non-chimerical Cabal, a script which all will read in their own language; and even a language which one will be able to learn in a few weeks, and which will soon be accepted amidst the world.

The system had two extremely powerful components: a universal representation system; and a universal calculus for ratiocinating over the facts in the system's vast information stores. Leibniz anticipates Joy's concerns but, unlike Joy, appears to be an uncritical promoter at least of the particular manifestation that he envisions. He presupposes that some type of ultra-rational system could actually be constructed and that it could – and would – be used for decision making that was best for all; the idea that the system could be somehow subverted or misused was not considered.

History has indeed furnished us with a host of projects that would enlighten us in some near-mechanical fashion. These include Bacon's House of Solomon, Otlet's Office of Documentation and Palais Mondial. Some years later, in 1888, the prominent American pragmatist, John Dewey, also believed that what was wrong with society was a failure of intelligence and information. Dewey, along with support from Franklin Ford, a financial journalist planned to offer his own version of a 'world brain' in the form of a weekly newspaper entitled *Thought News*. This ill-fated idea was universally panned and Dewey and Franklin failed to produce a single issue of the *Thought News*.

THE PROJECTS UNRAVEL BEFORE THEY BEGIN

Schemes like those advanced by the visionaries above always fall short of their utopian objectives; they usually fail to recognize one or more fundamental barriers that stand in the way. Their projects are often disconnected from social realities. Some of the projects, Wells's world encyclopedia, for example, would depend on the ability to mobilize large numbers of people in the development of some single artefact. On top of that, there is little or no social or cultural desire demonstrated for the product nor evidence that it would be used at all, much less with the utopian results envisioned by the encyclopedia's prime advocate.

What many visionaries fail to notice is that a grand idea, how ever obvious to the perpetrator as a 'solution', must be coherently embedded in a system of *existing* social forces, institutions and conceptualizations. While we ultimately will discuss some ideas for a 'world brain' that avoids the undoings of the other utopian projects, we will first examine two additional arguments why establishing a 'world brain' or other utopian scheme is difficult.

THE 'IMPOSSIBILITY' OF DEMOCRACY

The co-operation of the people is likely to be necessary for any required changes in our techniques for addressing the problems that Joy and others have presented. Co-operation that is willingly embraced through non-coercive means is more reliable and more easily sustained. For those reasons, it appears that democracy in one form or another may be necessary. In addition, the potential reach and malleability of the Internet and other new communication technologies further suggest that it may be possible to devise applications, services and institutions within the evolving world communication network that would support and strengthen these democratic approaches. Communication, certainly, is key to any effective democratic system. Projects along these lines, while reminiscent of Wells's world brain visions, would need to be more aligned with the preconditions that support conceptual and technological innovation if they are to be used and useful.

Democracy, as nearly everybody knows, is highly flawed in practice: the wrong people can become elected for the wrong reasons and do the wrong things once in office. Candidates can be favoured for their tousled hair, their dimpled smile, their lineage, the slogan *du jour*. Once in power, elected officials may acquiesce to special interests (Greider 1993) or be undermined through media-induced scandal (Castells 1998). Running for office (in the USA) is so costly that only the very rich have any chance of getting elected (it was estimated that the New York state Senate race would probably cost over one hundred million dollars). The

role of the media, lobbyists, rich patrons, professional public relations campaigns and dirty tricks further frustrate any attempt to understand or to participate meaningfully in the 'democratic process'.

The task of collective self-rule – democracy – has been called an impossible task. Indeed, its impossibility can even be 'proved', in much the same way that engineers had 'proved' that bee flight is impossible. The task of democracy – if it's done remotely well (so the story goes) – is so exacting, so all-encompassing, yet so frustrating and ultimately unpredictable, that it's been called an 'impossible' enterprise. Lippman (1925), in particular, was sceptical of the idea of an 'omnicompetent' citizen who possesses sufficient knowledge to participate effectively in the political process. Lippman notes that even though civic affairs was his professional avocation, he was unable to monitor the relevant data, initiatives and ideas that he believed would minimally be necessary for him to sustain competence in this area. To be minimally competent in the area that this paper addresses, for example, a person should be well acquainted with democratic theory, world systems, communication technology, political economy, public policy, environmentalism and the state of the world, and many other topics. Each of these areas is characterized by shifting opinions, initiatives and discourses, in addition to an overabundance of empirical, verifiable data (whose interpretations are then disputed). (Interestingly, as Wells points out, our elected leaders themselves are far from omnicompetent. Their chief skills, campaigning and political manoeuvring, are, in large part, responsible for their success, while their competency in other matters may be underdeveloped.)

A similar criticism can, of course, be directed towards any elite body, however humanely and well disposed they are towards governing the rest of the citizenry. But does Lippman's critique render democracy 'impossible' or merely the idea of 'omnicompetence' and its purported indispensability. I would claim the latter. Reality is unfathomably complex and we are each incapable of 'knowing' even one aspect in its totality. But, impossible or not, democracy or some approximation of democracy is not optional; decisions have to be made. We have no choice but to cultivate systems of governance that can help us constructively engage with our collective concerns. Lippman's critique is valuable, but not to support the conclusions for which it was originally marshalled. Lippman demonstrates the fallibility of basing a system of governance on the idea of omnicompetency. Indeed, any system of governance should assume the impossibility of omnicompetence and the inescapable reality of imperfect competence, while not allowing ourselves to be defeated by it. This means, in software parlance, turning a 'bug' into a 'feature'. It may be, in fact, the impossibility of omnicompetence that makes democracy the *only* viable choice for a system of governance.

DUMBING DOWN THE CITIZEN

In the early 1970s Harry Braverman's *Labor and Monopoly Capital* (1998) demonstrated how the process of 'dumbing down' workers, primarily through severely reducing their on-the-job responsibility, flexibility, and autonomy (often called 'de-skilling') increases management control and, hence, profits to the advantage of capital. Since the idea of civic intelligence will soon be discussed here, we may hypothesize briefly about whether these ideas may also have some applicability outside the workplace. Is it possible that the citizenry is being 'dumbed down' in similar ways? And, if so, can we 'run the processes in reverse' to undo the damage?

The key to Braverman's analysis is the decomposition of broad workplace responsibilities by management into discrete constituent parts, which are then used to force workers to perform within circumscribed ranges. This process, often in the name of 'efficiency', dramatically lessens the scope and directionality of worker power. How could this process be replicated in realms outside of the workplace? The first responsibility to be jettisoned (as 'outside' their primary work responsibility) in the civic sphere under such a redefinition would be the consideration of issues relating to general social implications. Thus workers and labour unions should focus exclusively on jobs and job security (and not, for instance, the social consequences of the jobs); artists should explore and express their *individual* feelings; scientists and researchers should pursue what is fundable within a narrow, specialized niche – computer science, physics and other 'technical' disciplines would expel implications of their subject matters from the curriculum, while measuring success purely in terms of monetary return on investment. Citizens, of course, would spend much of their non-working life shopping, buying items that will maximize their individual comfort and status while keeping the economic machine running at maximum capacity.

This general process removes the 'politics' of labour, leisure and learning; indeed it naturally results in the 'de-skilling' of the citizen. Economists are the pioneers in this process by adapting and advocating the use of an economic calculus as the sole determinant for all of our decisions. This is the ultimate dumbing down; it reduces human aspirations and agency to that of a greedy and unthinking automaton. The media 'de-skill' the citizenry in several ways as well, according to a variety of scholars. Castells (1997), for example, shows how the media's fixation with political scandal encourages cynicism and political disengagement on the part of the citizenry. The media often promotes 'the spectacle' (Garber *et al*. 1993) at the expense of the intellectually taxing. The ill effects of money on the media, politics and elections also further increase the distance between

citizens and public affairs (Schuler 2001). Furthermore, Robert Putnam shows convincingly that, at least in the USA, the virtually overnight spread of commercial broadcast television was a primary culprit in the steady degradation of US civic life over the last several decades (Putnam 1996). One can only wonder what effects this new electronic 'opiate of the masses' will have as it continues its spread on cultures outside the USA.

The questions as to whether and to what extent citizen 'de-skilling' has been orchestrated, and by whom, will not be discussed in depth in this paper (although the transformation of the USA from a country of citizens to a country of consumers is certainly an appropriate and provocative topic to contemplate in this regard). It is sufficient to say that civic de-skilling is likely to dampen civic intelligence by influencing the content of, and the conditions under, which issues are placed on the public agenda, and by trivializing and polarizing discussion and deliberation on important public matters. Certainly each de-skilling step introduces changes in both institutionalization, the prescribed processes through which actions are advanced and validated, and in conceptualization of what everyday life entails; each step helps erect the ordinary and the extraordinary barriers to civic intelligence.

WHO – OR WHAT – WILL GOVERN?

If the dire scenarios that Joy describes (or even the less dramatic, but no less worrisome, environmental catastrophes that atmospheric and other scientists warn us about) have even a minuscule chance of occurring, an urgent need to consider ways to avert them arises. Since 'solutions' to these problems are likely to be protracted and multi-pronged, and involve large segments of the citizenry, a correspondingly urgent need to analyse the preconditions underlying the development and successful implementation of these 'solutions' also arises. What 'environments' – social and technological – would be hospitable to the satisfactory resolving of these problems? If we could imagine humankind finding better responses to our myriad problems, old and new, what circumstances and resources need to be in place and what steps could be taken that would support these new responses? These preconditions and steps we can call 'civic intelligence' or perhaps a 'world brain.'

What choices face us in the design of this 'civic intelligence?' What attributes could it have? One hypothetical expression of 'civic intelligence' would be a massively complex computer system which would make intelligent decisions on society's behalf. This option would be a twenty-first century manifestation of Leibniz's dream, a terrifying cybernetic Frankenstein-on-a-chip from the same

cupboard of nightmares that Joy opened in his *Wired* article. The limitations of this approach are manifold but are worth mentioning briefly. The impossibility of accurately, adequately and comprehensively representing infinitely complex situations with discrete computer logic comes to mind, as do the problems surrounding the implementation of the decisions. Would police or other armed organizations receive their instructions from such an 'intelligent' system? The problem of the biases and assumptions of the system's creators becoming embodied (forever?) in such a system is also a sobering and disturbing thought. Imagine an International Monetary Fund (IMF) 'expert system' free to impose economic 'restructuring' on hapless regions according to the arcane theorems of economists!

Other approaches which rely more heavily on intelligence of the non-artificial variety include having a small elite group making the decisions, nobody making decisions (let the 'free market' reign, for example), or a system in which citizens play a strong role. Political scientist, Robert Dahl (1989), suggests that these three systems – dictatorship, anarchy and democracy, as well as 'polyarchy,' a hybrid of the others – constitute the entire list of possibilities.

Wells suggested that scientists (at least in his day) would sometimes yearn for a society that would apply their (eminently reasonable) principles and clamour for their leadership and Lippman believed that an elite group should govern because of the impossibility of omnicompetence. What Lippman didn't acknowledge was that omnicompetence is impossible for small groups as well as for individuals. America's 'best and brightest', for example, engineered America's tragic war with Vietnam. Regardless of the role of an elite, the non-elite citizenry will necessarily also have a strong role to play. If an elite group, for example, devises solutions or sets of solutions they'd then have the thankless and potentially impossible job of 'convincing' (through rational appeal, propaganda or force) the rest of us to accept their jeremiads and prescriptions. A democratic approach, on the other hand, would be to enlist the aid of the citizenry at the onset as part of the overall project. The population or at least a large majority may need to 'buy in' and adopt – without coercion or deception – ideas and actions that would be unacceptable without suitable participation in the process (Pateman 1970) that developed those ideas and actions. A more radically democratic view (and the one that might ultimately be seen as the obvious choice) is that the often neglected, sometimes 'dumbed down' citizenry might provide the intelligence, creativity, energy and *leadership* that is needed to recognize, formulate and reconcile the problems that we are faced with.

As we have seen governance shouldn't be entrusted to an omnicompetent elite or an infallible computer system; both are impossible to achieve. Nor should

governance blind luck through the fantasy that the status quo and/or the 'free market' will miraculously solve current problems and avert future ones through benign and unanticipated side effects. A democratic system of governance, then, is the only viable alternative and civic intelligence that is strongly democratic – in spite of the problems previously discussed – shows the greatest promise for an effective and equitable system of governance. This approach increases distribution of creativity and attention while, at the same time, reducing concentration of power away from those people with vested interests in maximizing their gain (often short-term) over the (often long-term) gain of the larger population. There is mounting evidence that this democratization is occurring. As McKibben (2000) points out, the vast majority of Seattle's anti-WTO protesters were demonstrating on behalf of somebody else, an impossibility according to *homo economicis*. Keck and Sikkink (1998) report that 'advocacy networks often involved individuals advocating policy changes that cannot be easily linked to a rationalist understanding of their "interests"'. An effective and equitable system of governance would help promote the creativity of the civic sector which is, as Castells (1997) and others remind us, responsible for launching the major social movements of the last century, including the environmental, civil rights and the women's movement.

CIVIC INTELLIGENCE: TOWARDS A 'WORLD BRAIN'

Civic intelligence, as I propose it, is relatively prosaic: it refers to the ability of humankind to use information and communication in order to engage in collective problem solving. The term has nothing to do with the metaphysical musings on 'global consciousness', 'hyperintelligence' and the like, which are expected, by some, to emerge spontaneously at some time in the not too distant future ushered in by global communication networks. Like the 'intelligence' of an individual, civic intelligence is a relative form that can be less or more effective and creative. Thus it can be developed incrementally through human effort, not through sudden inexplicable revolution anticipated by faith or spiritual longing. Civic intelligence extends the notion of social capital (Putnam 2000) to include an agenda, an orientation towards action in addition to one of observation and study. By transcending the individual, civic intelligence adds another level to the idea of 'intelligence'. Civic intelligence is a form of *collective* intelligence. It is a premise of this chapter that this type of intelligence, probably to a much higher degree than an individual's intelligence, can be improved and made more effective. And how people create, share and act upon information is crucial to that.

Intelligence implies an orderly process for assessing situations, ranging over possible responses and determining and enacting appropriate actions. It also implies looking into the future insofar as that is possible, and making decisions in the present that will help make future situations advantageous at best, tractable at worst. Sometimes, of course, this will mean some postponing of expected benefit. Another important element of intelligence is the ability to acknowledge changing circumstances and to adapt appropriately. Plans and other templates for action are indispensable; unfortunately they are not infallible.

Intelligence is the latent capability to interpret, respond and survive. Its reference point is human and the seat of intelligence is the human brain. The human brain is, of course, a remarkable organ, one whose complexity is unmatched in natural or human-made products. The brain stores information in the form of memory and in reflexive and habitual patterns of responses. It takes in information about the environment in a variety of forms – from 'low-level' sensory data to highly symbolic and abstract conceptual information. It integrates all of this information, helps to regulate all the systems and functions in the body and is largely responsible for the body's thoughts and actions. Although the brain (and the nervous system) is the organ where thought and decision occurs in the human body, it is certainly not in charge of everything; it can't, for example, decide to deprive the left foot of nutrients. This contrasts with social systems which are more reconfigurable; at least in theory. The government, for example, can decide to stop funding health care programmes or subsidies to weapon developers. It is also important, for communication in the human body and for our analytic purposes, to realize that although the collection of systems that constitute the human body (or even the brain) is an *integrated whole*, the relationships of its subsystems aren't wholly co-operative; there are conflicting needs and requests that can't all be met. Conflict – and the need to resolve conflict – is crucial in both individual and collective intelligences.

Most of these activities of intelligence are below the level of consciousness and the decisions that the brain makes are generally habitual and definitely not optimum or correct in any sense. ('Correctness' by itself with no implied or explicit criteria is impossible to demonstrate. A 'bad' or 'incorrect' decision in the short run can arguably lead to a much better result in the longer term. But, similarly, better in terms of what? And *when* is the decision evaluated? And how much did a particular decision contribute to a situation?) There is simply too much (or too little) information, information that is misleading or inaccurate, inadequate time for processing information and under-defined criteria for evaluating decisions to determine whether decisions are 'correct'. 'Muddling through' (Lindblom and Cohen 1979) is not merely an interesting side note but

the defining characteristic of any 'intelligent' activity. For that reason, this is a core problem that 'civic intelligence' (or democracy) must contend with. This fact, however, does little to obviate the critical need to improve humankind's ability to evaluate and improve its collective decisions.

Since I am not a brain specialist (nor omnicompetent), I am unable to go into great depths relating brain-oriented intelligence to civic or socially oriented intelligence. It would be interesting to see how far others would go with this analogy and where they believe it fails. Certainly there is a rich vein – too rich to be mined here – of work in this area. My assumption is that the metaphor only goes so far and that a too literal interpretation and 'force fitting' of data into theory (and, perhaps ultimately, into people's consciousness and policy) would be counterproductive. Nevertheless, some additional exploration of issues raised would be useful. One of these issues is the relationships of the individual entities – people, to be less ambiguous – in a 'world brain' to each other. Are some of the individual people less important? What if their demise would lead to a better life for everybody else? Should the part be sacrificed for the whole? Also, what degree of autonomy should individuals be granted? Should people be treated as some type of functional unit whose freedom should be curtailed and behaviour routinized for some greater good? The fact is that society has, in fact, embraced many of these decisions already through innumerable mechanisms over the millennium. I will be arguing that relaxing some of these mechanisms, the current restrictions on behaviour and roles, and moving us away from both 'rationalized' and traditional constraints will actually be more 'intelligent' and this reconsideration will help engender a collection of civic information, processes and attitudes that will help society as a whole to deal with its collective problems.

I am now prepared to present some preliminary considerations for a new 'world brain' or civic intelligence that is based on and addresses current social and technological realities. Similar to the approach taken by Leibniz, Dewey and Wells, I am proposing an approach that relies to some degree upon the development and use of appropriate communication and information systems. Of course humankind's communication and information systems are currently undergoing massive changes at the global level. The civic intelligence challenge is to develop programmes, applications and policies that help shape this juggernaut into useful forms. We need to ask in what ways can connecting a huge and potentially unruly and fractious group of people from a multitude of cultures and life circumstances, help society as a whole deal more effectively and equitably with problems and other issues of shared concern.

PATTERNS FOR A NEW 'WORLD BRAIN'

Following the pioneering insights of Christopher Alexander and his colleagues (1977), I am proposing a creation of a set of patterns for the development of an improved civic intelligence. This discussion of patterns is tentative and incomplete as it is my first attempt at elaborating these ideas; it is not a 'general theory' of civic intelligence, but an assortment of ideas that, hopefully, can help undergird such a theory at a later date. There are six basic pattern categories in this proposal for increasing civic intelligence: orientation, organization, engagement, intelligence, products and projects, and resources.

- Orientation describes the purpose, principles and perspectives that help energize an effective deployment of civic intelligence;
- Organization refers to the structures, methods and roles by which people engage in civic intelligence;
- Engagement refers to the ways in which civic intelligence is an active force for thought, action, and social change;
- Intelligence refers to the ways that civic intelligence lives up to its name;
- Products and Projects refers to some of the outcomes, both long-term and incremental, that civic intelligence might produce; and
- Resources refers to the types of support that people and institutions engaged in civic intelligence work need.

Orientation

A thriving civic intelligence must stress values that support social and environmental ameliorism while acknowledging and respecting the pragmatic opportunities and challenges of specific circumstances. A central idea of a thriving civic intelligence is that an inclusive democratic mobilization and strengthening of the civic sector is necessary for the purposes of addressing social inequities, human suffering, environmental devastation and other collective concerns including the social management of technology. Castells (1998) describes how the civic sector has been responsible for initiating the major social movements of our era including civic and human rights, environmentalism, peace and feminism. Keck and Sikkink in their book *Activists Beyond Borders* (1998) state that networks of activists are 'distinguishable' from other players in international, national, regional and local politics 'largely by the centrality of principled ideas or values in motivating their formation'.

Unlike many previous 'utopian' projects that ignored social realities, a realistic approach to cultivating civic intelligence must be more pragmatic by recognizing

what factors promote innovation and by developing programmes with these in mind. It is also possible to help develop and promote the factors themselves. Basalla, writing in *The Evolution of Technology* (1988), suggests that three preconditions must be present in order for a technological innovation to succeed:

- Existing models to extend and build on
- Social environment that values the innovation
- Intents, skills, etc., of innovator

To these three I would add a fourth:

- Adequate resources for innovator

This fourth factor acknowledges the important role of resources for promoting innovation.

Although the innovations we are considering are primarily social and secondarily technological, Basalla's observations are pertinent. A civic intelligence would help promote social innovation by helping to ensure that these four preconditions were met. Each of these preconditions should be in place for civic intelligence innovations in all projects, large and small, and one of the objectives of any civic intelligence project should be improving the base of preconditions for future innovation. As a matter of fact, the entire civic intelligence endeavour might be summed up as a way to ensure that these preconditions are continuously improved and strengthened and made to reflect abiding human values. In terms of Basalla's preconditions a civic intelligence orientation would help foster a social environment that values civic intelligence innovations, motivate the creation and marketing of suitable models, inspire and educate potential innovators, and identify and distribute resources.

Organization

Since the purview and resources of this project are distributed throughout the world, a global 'civic intelligence' project is also distributed all around the world. It needs to be undertaken 'everywhere at once' to be successful. Also, since there is no central force or institution with the skills, resources, or authority to direct the effort, the idea of a centrally controlled hierarchical organization is irrelevant. The organizational structure of a critical intelligence becomes a medium of people and institutions who communicate with each other and share information. This network is necessarily composed of a wide variety of dissimilar institutions and

individuals who co-operate with each other because of similar values and commitments to similar objectives. Neither authoritarian directives nor market transactions could provide the adhesive that would hold this evolving, shifting, growing network together.

This particular type of organization has, of course, unique strengths and weaknesses. As Keck and Sikkink point out (1998) in their discussion of advocacy networks, a network's lack of 'power' in the traditional senses has made these networks largely invisible to the research community. Yet it is a result of these 'weaknesses' that the individuals and organizations constituting the network must employ different strategies and organize themselves differently to get their jobs accomplished. Indeed 'intelligent' use of information and communication has evolved and become a significant feature. The number and effectiveness of what Keck and Sikkink call 'transnational advocacy networks' has exploded in recent years. In 1909 there were 176 international organizations according to the Yearbook of International Organizations. By 1996 the number had swelled to over 20,000 (Runyan 1999). The success of the open source or Free Software Movement (GNU, Linux, etc.) also demonstrates the feasibility of large, distributed, loosely organized networks oriented towards the development of technologically sophisticated not-for-profit products. The preconditions that Basalla mentioned are doubtlessly contributing to this growth: motivated innovators, a somewhat receptive audience, and the resources to develop and maintain the necessary information and communication capabilities all currently exist.

An effective network depends on many factors and understanding these factors will be key to improving the existing civic intelligence and to anticipating and countering any threats to it. Probably the most important pattern to keep in mind is consciousness of the network itself. To a participating individual or organization, this means that they need to be an active, respectful and intelligent member of the network. They also must know that the network is in some sense *alive*; it must be sustained as well as used. Although some competition exists between members or nodes in the network(s) or civic intelligence, success in whatever endeavour will depend to some degree on others. This will vary according to the skill, interests and philosophical outlooks of the individual members. Providing ideas, contact information, references or other information that other members of the network can use is an important way to contribute to the network. Discussion among network participants helps identify critical issues and resolve internal divisions. The discussion of issues also lays the groundwork for the important transition from a discussion orientation to an action orientation. Projects provide an important focusing mechanism as an 'opportunity structure'. Finally, the

networks should be accessible: important democratic interchanges take place at the 'margins of power' (Barker 1999) and these 'marginal' political settings should be encouraged to grow and, also, to be integrated with.

Engagement

Engagement is both a tactic and a philosophy. Engagement as a tactic means that the elements of the civic intelligence networks do not shy away from interactions with the organizations, institutions, ideas or traditions that are contrary to the objectives of the network. These organizations and the like may be promoting or perpetuating human rights abuses or environmental damage. They may also be thwarting civic intelligence efforts by their adherence to exclusion or other types of civic 'dumbing down'. Engagement, of course, assumes many forms. A civic intelligence should, as we might expect, behave intelligently. This means that the nature of the engagement should be based on the precepts of this paper – it should be principled, collective and pragmatic, for example. But at the same time, engagement is a philosophy and it represents an everyday and natural predisposition towards action; it represents a challenge and an acknowledgment that the status quo, although not likely to be good enough, can be improved. Engagement, ideally, is flexible and nimble and it is appropriate for the situation. Timing plays an important role in appropriate engagement. Research and study also have critical roles to play, but they must not be used as a substitute for action, postponing engagement while waiting for 'all the facts to come in' (see Rafensperger, 1997 for a good antidote to this malady).

The recent experiences in Seattle of demonstrations against the World Trade Organization (in 1999) show that large numbers of people – even in a relatively prosperous city – share strong feelings – often vague and unarticulated – that many trends of today's society are heading in the wrong direction and that many of society's 'leaders', both individual and institutional, are not leading adequately; their objectives, *modus operandi* and integrity are compromised to dangerous levels. During the week of anti WTO demonstrations, one representative from a protesting organization stated in a radio interview that 'It shouldn't be necessary to break glass' to put issues on the public agenda. A functioning civic intelligence would, ideally, help put shape and meaning to citizen unease with some of the directions of global capital and to bring these issues up for public discussion. This would, theoretically, help prevent some of the ruptures, riots, wars, etc., that result from unresolved civic grievances. An effective and fully functioning civic intelligence would make it unnecessary for some people to 'break glass' to be heard. The 'space' in which these voices can be heard – and

can confront the voices of power – is called, in a broad general sense, the 'public sphere' by Habermas (1989).

Intelligence

A central conceptual ingredient to this essay is, of course, that of *intelligence*. This may be the trickiest aspect of the concept, due to the diversity of views on what 'intelligence' is. This section will attempt to elucidate in what ways our conceptualization of a 'civic intelligence' could be labelled as intelligent and what people can do to develop this capability.

Intelligence implies that a reasonable view of the situation exists (or can be constructed) and that reasonable actions based on this view can be conceived and enacted on a timely basis. Clearly, the creation and dissemination of information and ideas among a large group of people is crucial. Learning is important because the situation changes and experimentation has shown itself to be an effective conceptual tool for *active learning*. Therefore, some of the key aspects include: multi-directional communication and access to information; discussion, deliberation and idea generating; monitoring; learning; experimenting; adapting; and regulating. As the concept of civic intelligence begins to be more fleshed out, these aspects would be turned into patterns in the sense that Alexander and his colleagues intended.

Let's briefly touch on one aspect of intelligence – monitoring – and some examples of new civic uses. Technology, it turns out, ushers in both challenges and opportunities. We find, for example, that at the same time our technology and economic imperatives are creating vast problems, it is also introducing some provocative new possibilities for our civic intelligence model. One recent innovation, a system employing seven earth orbiting satellites, enables us to monitor earth's vital signs from space (King and Herring 2000). While the system doesn't specify what we, the earth's inhabitants, will do with the data, it's clear that we would not have a good picture of the state of the earth without it. This type of surveillance can expose other events to public scrutiny; it was the French 'Spot' satellite which first alerted the world to the Chernobyl disasters. Also unlike previous enterprises this project makes its data readily and cheaply available to people all over the world. The existence of 'emergency response networks' (Roeder 1999) provide excellent examples of provisional networks that can be erected in a relatively short time to meet specific threats to public health or welfare.

Projects and Products

Projects – both campaign and product-oriented – help to motivate and channel activity. An extremely large number of projects are important within the context of cultivating a civic intelligence. There is ample evidence that the 'project' is necessary to marshall sufficient force to accomplish the desired goals (Keck and Sikkink 1998). One such example is the manifesto or declaration that communication activists have been developing in recent years, often in conjunction with conferences. These collective statements offer a distillation and articulation of their beliefs and objectives which they hope will then be used to help under gird future projects and products. Recent examples include the People's Communication Charter, the Papallacta Declaration, the Bamako Declaration and the Seattle Statement. The People's Communication Charter is an initiative of the Third World Network (Penang, Malaysia) and the Center for Communication and Human Rights (Amsterdam, The Netherlands) and was one of the first and most far-reaching of these statements. The Charter presents a holistic view of communication and covers a wide variety of important communication issues including respect and freedom, literacy, protection of journalists, cultural diversity, participation, justice and consumption. Key to their approach is the idea that people must be vigilant about defending their 'communication environment'. Besides seeking ratification from individuals and organizations, one idea has been to launch an 'International Tribunal' to hear complaints and evidence related to issues in the Charter. The Seattle Statement was developed at CPSR's 'Shaping the Network Society' symposium, an explicit attempt to broaden the conversation on civic uses of new digital network technology. It was then promoted via e-mail, and 'signatures' were harvested electronically and added, sorted by country of origin, to the electronic list on the Web. The impacts of these statements are hard to forecast and hard to identify. Inexpensive global communication via e-mail is making this easier – at least to those with access; the Seattle Statement was reportedly used within Hungary to instigate discussion and help raise interest in public networking projects.

The Neighborhood Knowledge Los Angeles (NKLA) project as a broad partnership between academia and the community is a good example of a holistic approach to civic intelligence. One aspect of NKLA is its 'early warning system' through which housing conditions in Los Angeles are monitored. In 1995, for example, census figures showed that 107,900 apartments were infested with rats and 131,700 had no working toilets. (Of course we must multiply this figure by several orders of magnitude to get a realistic feel for the actual scope of this worldwide.) NKLA has been compiling 'early warning' information of this sort

(including, for example, tax delinquencies, building code violations, unpaid utility bills, etc.) onto their web site which is then used by community organizations to devise solutions – including policy work, and engagement with government – to their problems. NKLA, along with countless other communities, is engaging in mapping community assets to help let community members find out about useful resources – often unnoticed and under-utilized in their own midst.

Good projects combine many important ideas in a compelling way into a form that people can readily understand, become a part and that results in desired change. Two recent innovative projects from Seattle show promise for meeting those criteria. The first project, Sustainable Seattle, is a project that identifies and defines measures or 'indicators' that, measured over time, will reveal whether or not Seattle is becoming more or less 'sustainable' over time. The project was a citizen initiative, not instigated by the government or by business. Moreover, the civic sector set the agenda and the agenda was 'sustainability', not any number of other possible choices that business, government or even other civic sector organizations may have devised. The set of indicators, discussed and disseminated, now can be used as an ongoing foundation for civic intelligence, developing programmes and policies for promoting 'sustainability.' Noting how the values of the indicators are related to each other can also reveal hidden connections and suggest innovate programmes. Incidentally, the presence of the indicators on the Web has helped and will continue to help similar projects around the world. The Sustainable Penang project, for example, was launched after activists in Penang saw Sustainable Seattle's indicators on the Seattle Community Network.

Recently, another civic intelligence project, in a similar vein as the Sustainable Seattle project, was launched. The 'Technology Healthy City' project with financial support from the City of Seattle is intended to take a series of information and communication technology (ICT) 'snapshots' over time to assess the impacts of technology on the region. The project thus far has been citizen-led: one of the explicit caveats was to devise indicators that were designed for *civic sector* – not government or business – benefit. As ICT is widely acknowledged to be having major effects on the psychic as well as physical aspects of the region, it will be interesting to see what role, if any, this project can assume in ongoing assessment and actions related to the use and effects of ICT in the region.

There is no shortage of potential projects; a search engine for non-profits, for example, or, even, a classification scheme for civic-oriented web pages, would be very useful. A number of projects that we might call critical information systems are also possible. These systems could provide access to information and to organizations and initiatives. TAO in Canada (http://www.tao.org), One World

(http://www. oneworld.org) in Britain, and Kabissa ('Space for change in Africa', http://www.kabissa.org) provide good examples of this. Telecentres (or, in the USA, 'Community Technology Centers') provide physical places for people to access and engage with new communication technology while community networks like the Seattle community Network (Schuler 1996) can provide a wide variety of technological and other support service for communities. The many faces of 'globalism' remind us that new social, economic and political realities do not stop at the borders of geographic communities.

Resources

Adequate resources, including time, money, physical facilities, communication capabilities and focused initiatives for people and institutions are necessary but not sufficient for effective civic intelligence. Although it would be difficult to measure the magnitude of the need for these resources, the overall project can't wait until all the 'necessary' resources are at hand before starting. At the same time, helping to ensure that adequate resources do exist is critical for the project.

CHALLENGES

Positive change is not impossible although all major social and environmental changes, such as the abolishment of slavery in the USA, probably appeared impossible at the onset of the struggle. It also needs to be pointed out that positive change is not inevitable either; there is no inexorable trend that we can rely upon to save us. Slavery is gone but new forms of quasi-legal servitude that would be considered slavery by any other name are becoming increasingly common. Similarly the practice of torture, how ever antiquated it may seem, is also still pervasive throughout the developing (and developed) world (Pinter 2000; Conroy 2000). The propensity towards evil as a result of individual or institutional intent will always haunt us. History is ruled by ebbs and flows of immeasurable complexity. At the same time, people are the major architects of change – both good and bad.

The biggest challenge of course is to accomplish anything at all that leaves the social or environmental situation in a better state than it was before. Many efforts viewed from the advantage of hindsight seemed doomed at the onset; history, it was said, was 'against them'. Yet in some cases, history surprised us and the 'impossible' was accomplished. The campaign to abolish slavery in the USA took over a century to accomplish its aim. Yet, even now, its tragic legacy persists, providing grounds for future social movements. When social or environmental

ills exist, it is *society's* responsibility to address those problems despite bad odds. Unless the area of amelioration is uniquely immune, focusing on the task to be accomplished is more likely to obtain results than wishful thinking, the 'free market,' historical 'inevitability' or just a run of good luck. We can only move forward by principled action based on what we expect and where we want to go from where we are. An effective civic intelligence links individual efforts with other individual events into networks that can accomplish greater goals than results generated through individual efforts. If these networks become powerful enough to help bring about broad-based positive changes in the world then more effective civic intelligence can be said to exist. As in the case of the movement to abolish American slavery, the 'advocacy networks' that Keck and Sikkink examined can emerge, accomplish (or not accomplish) their objective, and then apparently wither away. In many cases the skills honed in one campaign are put to use in the next. For example, there is substantial evidence that the woman's suffrage movement in the USA was aided greatly by campaigners, ideas and techniques acquired during the anti-slavery campaign. While individual campaigns may still pass through these life cycle phases, the spectacular rise in the number of transnational non-government organizations and advocacy networks suggests that a new era of heightened civic intelligence has arrived.

The question then arises in relation to responses of institutions outside the network. If this type of civic intelligence becomes more prevalent and powerful, it would probably become specifically targeted by those people and institutions that are threatened by it. If, at some point in the future, these new types of civic intelligence become sufficiently powerful (and it appears to be already happening in some cases) they will come into conflict with other existing institutions – network-based or not – that perceive to be threatened. Indeed if they didn't come into conflict it would be either very peculiar or strong evidence that the networks themselves presented no threat to the status quo through either their impotence or their adoption of less threatening objectives. In any event, it is not the case that strong institutions are powerless in the face of heightened civic intelligence. There is no reason to presume that they are intrinsically incapable of counter attack.

Although crystal ball gazing is an inexact science, it seems clear that counter-tactics could be employed. Since information and communication are key to civic intelligence, the key to neutralizing the effects of an active, engaged and effective civic intelligence would be found there. Many of these tactics have, of course, already been used. In the 1960s, for example, the US government developed the secret COINTELPRO programme based largely on disinformation and character assassination to disrupt and discredit the Black Liberation Movement and

the Antiwar Movement. US corporations sometimes create 'Astro-turf' front organizations based on economic incentives, which mimic public interest organizations that have no economic stake in the issue. Thus the 'Farmers for Fairness' funded an extensive 'soft-money' media campaign against a politician working for environmental controls on hog manure disposal in North Carolina. And *The Wall Street Journal* reported that Microsoft and other companies have employed people to monitor Usenet news groups for unfavourable comments about their products and post (from a neutral, non-company address) comments to counter the negative claims. All of this 'info warfare' makes it much more difficult, of course, for the average citizen to obtain the information to participate meaningfully in addressing societal issues.

TOO LITTLE, TOO LATE?

Unfortunately, humankind's problems may be so profound and our ability to respond so divided, unmotivated and feeble, that attempts to deal with them are doomed to failure. 'Grand schemes' such as Wells's World Encyclopedia, Dewey's *Thought News*, Kochen's World Information Synthesis and Encyclopedia (WISE) (1975) and Jungk's *Everyman Project* (1977), periodically have sprouted up, attracted a modest following, then faded away, apparently without a trace. The proponents are likely to be dismissed as cranks by the media and by the conventional wisdom of the era; their schemes are generally utopian, overly ambitious and ultimately unrealistic.

What can we do to ensure that our civic intelligence project is not dismissed as yet another crank scheme? There are two possible strategies. The first is avoid risk by lowering the expectations, goals and rhetoric. We can dispense with the idea that we are historical actors who are capable of leaving a positive mark on the world. We can become thoughtful observers and theoreticians, for example. We can decide to forego the idea of social and environmental amelioration of civic intelligence and retreat into academicism or cynicism. The second approach is to ground our enterprise into the context and realities of our era and devise a programme that suits the demands of our lives and our livelihoods but is based upon values and social needs. It is probably possible to shape one's perspective incrementally to make one's work more consciously supportive of a civic intelligence if that transformation is prioritized. Research – be it academic study or 'street-level' information gathering and assessment – can play a critical role and a wide variety of academic disciplines have important roles to play (Schuler 1997). Research can and should be a tool that continually is brought to bear on the shifting, evolving realities of life.

Academics, stereotypically, are noted for their lack of emotional engagement. This is the purported product of rationalism; a cold, calculated, dispassionate assessment or mere reportage of data. But unless designed for entertainment alone (if *that* is even possible) any text, academic or non-academic, will have implications for *use*. Use, of course, may bring with it a challenge upon the world as it exists, a potential for altering the present course or shoring up the status quo. If the change is deemed important and the process through which the change could take place is plausible, hope is not unthinkable. Despair, on the other hand, exists when positive change is inconceivable, and the future, presumably advancing towards a precipice, appears unalterable.

This project builds on the notions of networked groups of people and institutions that are working both within their own communities and outside across traditional boundaries using new communication and information technologies where necessary and appropriate. The novelty of this plan lies with the focus on the civic sector as a force capable of consciously and pragmatically constructing more intelligent capabilities. Beyond that I have identified some tentative 'patterns' that, if pursued, will help cultivate that intelligence. This paper is not intended to provide a blueprint for the future. It's only intended to identify and attempt to pull together a number of reasonable suggestions based on the need for a renewed and stronger sense of civic intelligence. Critique may be easier to generate than action plans; it is also easier to digest as it asks for very little in the way of action, except, perhaps, for righteous indignation. Action plans, also, are necessarily based less on evidence and are inescapably proscriptive. Thus academics (whose written and spoken outputs have been circumscribed in various ways) are likely to eschew them. I hoped to integrate critique and activism in this paper.

Most people, if they had their way, would prefer a social world that was just and offered opportunities to all people for a meaningful life. An environment that was safe and free of toxins and capable of providing sustenance and enjoyment now and for generations to come would similarly be among their preferences. Yet it is tacitly assumed that these goals are too 'utopian' and that they can never happen, or, paradoxically, that they're the natural consequence of capitalist, neo-liberalist development and all society has to do is 'stay the course'. It is acknowledged, of course, that arriving at this inevitable destination will take generations and some people – *poor* people – will necessarily have to suffer as part of this 'natural' process. It is the central contention of this chapter that it is possible to harbour meliorist beliefs – and even, to act on them – without being a crank. The opposite of this view would be difficult to embrace: that we are so 'dumbed down' that we can't contemplate any improvements to our own 'civic intelligence'.

> When it becomes a program, hopelessness paralyzes us, immobilizes us. We succumb to fatalism, and then it becomes impossible to muster the strength we absolutely need for a fierce struggle that will re-create the world.
>
> (Freire 1992)

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