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6

**KNOWLEDGE MANAGEMENT FOR  
THE BETTERMENT OF HUMANKIND**

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# Knowledge Organization for the Betterment of Humankind, in FEDERAL INFORMATION NEWS SYNDICATE (FINS) (2d edition September 2002)

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## **ABSTRACT**

The article is in 3-parts. Part I addresses the rise of chaos in the library records of knowledge since the beginning of the modern era, which the author concludes cannot be solved by technology, simply because these problems are spiritual in nature. A purposive model is proposed to clarify the self-imposed incongruities in the theories of action, which guide human thought and interaction. Part II is an analysis of the human constraints limiting the exercise of democratic power by the people and opportunities to overcome these constraints for realization of Democracy Right Now! Finally, in part III, *A Technique of Democracy* is described in practical terms that can provide revolutionary support for meaningful dialogue between groups of individuals concerning social betterment.

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## **Part I. Knowledge Organization**

### **Traditional library science model**

Organizations of knowledge and approximation of a "world encyclopedia," have flourished since ancient Greek and Roman times [1]. With each great leap forward in the evolution of communications--from speech to print and then to electronic mode--American leaders, in particular, have pronounced their aspirations for the

betterment of humankind through the organization of the systems of information and knowledge utilization.

The ideal of an "orderly and coherent corpus of knowledge," as defined by Kenneth Boulding, was predicated upon the ability made possible by systems sciences to integrate increasingly fragmented disciplines at higher levels of abstraction [2]. Moreover, in the postmodern, postindustrial era there is growing awareness that a system of knowledge organization that is designed for, "improvement of the system of human society and its environment," must be predicated upon "the ethics of the whole system" [3].

Marshall McLuhan, the sage of culture and technology will be remembered for his metaphor "the medium is the message," suggesting that the contents of communications are subjected to the control of the medium itself [4]. The "message" that McLuhan was referring to was not limited to its narrow sense, the explicit set of words or pictures built serially, block-by-block, and step-by-step. This is merely the concrete end of the process. In the world of electronic communications, McLuhan understood, "we have been forced to move from the habit of data classification to the mode of pattern recognition." That message pattern is derived from the whole system of action that controls the medium.

The basis for this metaphor comes from a framework for futures creation advanced by Hasan Ozbekhan, Professor Emeritus and Chairman of the Graduate Group in Social Systems Sciences at the University of Pennsylvania [5]. In all such systems, the governing theory holds, total control over the system of action is managed through a three-phased hierarchy:

- 1 Phase 1 is the normative level governed by the theories of action (or shared vision) of the owners and managers of the infrastructure;
- 2 Phase 2 is the strategic level governed by the network institutions, which define the information infrastructure architecture; and
- 3 Phase 3 is the operational level in which visible actions and patterns of network functions occur but without the exercise of any ultimate control.

Whatever the metaphor, control over hierarchical systems is transmitted downward. Ozbekhan concludes, "both in terms of control and in terms of meaning, it is the highest level in the plan's structure which dictates or determines the information content of the lower levels, whereas the contrary is not true" [6].

One must compare those systemic realities, with the actual development patterns of systems of information and knowledge utilization established during the past half-century during the onset of the post-industrial period. This can help in the continuing endeavor to close the increasing gap between the current situation and aspirations for a desirable future.

Among the most influential individuals in setting the directions of the modern and post-modern, print and electronic modes of communications, two stand out. These were Abraham Lincoln, 16th President of the United States, for his influence on public printing, and Dr. Vannevar Bush, Director of the US Office of Scientific Research and Development during World War II, for his influence on electronic information systems.

Abraham Lincoln and the US Government Printing Office (GPO), were both inaugurated in 1861 [7]. These two events followed a lecture delivered in 1859, by

Lincoln on, "Discoveries and Inventions"[8]. At that time, he observed that, "To immancipate [sic] the mind ... is the great task which printing came into the world to perform [9].

This institutional innovation in American government, approved by Mr. Lincoln has been a singular success. The United States government is the largest single producer, consumer, and disseminator of information in the United States [10]. The GPO has for more than a century and a quarter efficiently provided the US Congress with a journal of its own proceedings and information from other Departments of Government necessary and proper to enable Congress to frame legislation and execute its legislative powers [11].

Democracy in America, has also been well served by the GPO and by the Federal Depository Library Program (FDLP), later established under the direction of the GPO in 1895 [12]. These two institutions guarantee that United States government publications are made available for the free use of the general public [13].

During World War I (1917-18) and World War II (1940-45), the work of the GPO was nothing short of miraculous. GPO provided a constant flow of manuals, orders, and regulations, without which, those national defense efforts could not have been carried out [14].

An enormous extension of the record of human ideas, just after the end of World War II, in 1945, marked a significant point at the beginning of the post-industrial information/knowledge age. Dr. Vannevar Bush took to heart in a famous magazine article the seemingly worsening conditions arising from this situation. Bush had successfully coordinated the activities of some six thousand leading American scientists in the application of science to warfare. When fighting ceased he urged his men to, "turn to the massive task of making accessible the bewildering store of knowledge" [15].

The difficulty seemed, to Bush, to be the prodigious expansion of publication, as to which, "the means we use for threading through the consequent maze to the momentarily important item is the same as was used in the days of square-rigged ships" [16]. What was at stake, Bush observed, was not merely the extraction of data for the purposes of scientific research but "the entire process by which man profits by his inheritance of acquired knowledge" [17].

Bush recognized that, "the prime action of use is selection, and here we are halting indeed" [18]. He concluded further that our ineptitude in getting at the record of ideas is largely caused by,

the artificiality of systems of indexing. When data of any sort are placed in storage, they are filed alphabetically or numerically, and information is found (when it is) by tracing it down from subclass to subclass.... The human mind does not operate that way. It operates by association... Man cannot hope fully to duplicate this mental process artificially, but he certainly ought to be able to learn from it [19].

The traditional Library Science model of knowledge organization, which was criticized by Bush, has changed little in substance during the past half-century [20]. Library records are still dominated by three schemes [21]:

- 1 Library of Congress Classification (LCC): printed books arranged in topical or disciplinary categories, with volumes treating the same or similar subjects next to one another.
- 2 Library of Congress Subject Headings: a library catalog of its holdings, whether computerized or card format, providing systematic subject access not by the shelving of volumes in a classification scheme but rather by subject cataloging of the books.
- 3 Published Bibliographies and Indexes.

As recently as Feb 2, 1997, Duncan M. Aldrich, Staff Director of the Electronic Transition Service (ETS), at the GPO, expressed an interested in increasing participation from depository librarians in developing and maintaining the GPO Pathway Services [22]. This service arranges government Internet sites alphabetically by topic, with a subject bibliography Index based upon the current Guide to U.S. Government Information. The idea was to "mine" the Internet,

to enhance and expand the Pathway Browse Topics service by tapping into the pool of skill and knowledge that librarians and other information professionals already possess. Those of you actively using the Internet as a Government information resource can help by adopting an existing Topic or by recommending and developing new Topics.

I sent an email message to Mr. Aldrich, Feb 4, 1997, to determine whether an interest existed for GPO to, "address the need for a new, purposeful organization of knowledge, as a part of [the Pathways] initiative" [23]. Rather than responding prior to an adequate statement of the issue, the instant article [was] made available for discussion by the FDLP community subsequent to publication, with the encouragement of Aldrich [24].

Various problems in the mental construct presented to researchers are raised by pursuing research in a subject/discipline model, embodied in a classification scheme that groups books together by subject [25]: First, the model makes it very difficult to see outside or beyond the subject the researcher begins with. Second, the model induces researchers, under the "principle of least effort" to follow the only path they see, namely, the subject approach as created by the class scheme, which appears to embody the one avenue of access they expect to see. Third, the model conceals rather than reveals the whole range of the subject's vital context. This can involve: multidisciplinary (various disciplines without cooperation); interdisciplinarity (coordination of disciplines by higher-level concepts); and transdisciplinarity (multilevel coordination of the whole system of information and knowledge utilization). Fourth, the groupings of a class scheme like the list of references "covering the subject" given as a guide to students, are themselves apt to become outdated in the relationships they display and in the separation of recent materials from older works if the scheme is changed.

Finally, and most significant, the organization of knowledge according to an alphabetical or numerical system of indexing, becomes meaningless if considered in the framework of a purposive system, that is, one which is based on the whole systems ethic designed for, "the improvement of the system of human society and its environment" [26]. It must be stressed again that to obtain real meaning in a system of knowledge and information utilization, one must connect the purposive level with the lower level instrumental and operational functions [27].

## Information-age technological innovations

Parallel to the existing Library Science subject/discipline model, there has been a veritable explosion of computer technologies used for storage and retrieval of knowledge records, under the Computer Workstation model, which was brought into existence subsequent to 1945. Library of Congress Reference librarian Thomas Mann has described the benefits of the new model over the old. In summary, these benefits include [28]:

1. Each work can retain the economy of being represented by only one record but that one record can have as many points of access as there are different words, numbers, or codes on it, each of which may be directly searchable.
2. One can search directly for key words anywhere on the record, not limited to any specific vocabulary-controlled system of approved subject category terms.
3. Whenever full texts of a library collection are digitized, all of them can be searched simultaneously and with great speed for any inquiry.
4. All knowledge records can prospectively be searched in the same way at the same time, whether books or journals or bibliographies, or other formats such as reports, government documents, manuscripts, video and movie images, and music and sound recordings, etc.
5. Linkages that can be created among various media of knowledge records at one library can also, theoretically, be created among other computerized knowledge records that are stored in computers in other locations--whether in other campuses, other cities, other countries, or other continents.

For all of those reasons the traditional Library Science subject/discipline model, can no longer be considered the primary model or universe within which library research is or should be done. Moreover, many proponents of the Computer Workstation Model believe it is, "the 'new' universe of records, making the Library Science class scheme obsolete at the same time" [29].

Nevertheless, this prediction may be premature. While the Computer Workstation model greatly expands the search and retrieval capability of users, this model has a number of important limitations. This technological innovation is obviously not, in itself, based on the whole systems ethic designed for, "the improvement of the system of human society and its environment" [30]. Electronic records available throughout the World Wide Web, are most often not permanent archival records, and they are subject to alteration and even cancellation at the whim or will of the computer host or record owner [31]. The Computer Workstation Model is nested in the Internet environment where, "Information ... is quirky, transient and chaotically 'shelved,'" says an editorial in Scientific American [32]. Consequently, the Web and its client software are seen as, "seriously deficient for supporting users' interactive use of this information." Moreover, the Internet, "was not designed to support the organized publication and retrieval of information, as libraries are," according to Clifford Lynch, computer scientist and director of library automation at the University of California, Office of the President [33]. Instead, Lynch adds, the Internet, "has evolved into what might be thought of as a chaotic repository for the collective output of the world's digital 'printing presses'" [34].

There are other perspectives. Information technology clearly liberates new popular self-expression. It is also claimed that this self-expression can break mass media control over the content of social discourse and lead to democratic resurgence. One

may agree that liberation of self-expression is a highly regarded value unto itself. Nevertheless, individual expression in the marketplace of ideas, which is basically incoherent and, therefore, blind to the larger public good, cannot realistically be expected to lead to popular control for the betterment of humankind. To call such incoherent expression "democratic," is grossly misleading. Expressions of the collective will of the people, which are democratic, require a principled process not chaos. Two principled processes in this article include: Table 1. Setting for decisions in the Information-age, and Figure 1: A Tree of Meaning.

Pervasive liberation of self-expression may lead toward collective learning, when supported by an affordable *technique of democracy*, as anticipated by Mary Parker Follett, and this possibility may be "inevitable" when compelled by increasing complexities, as predicted by Dr. Alexander N. Christakis, in his article on a "people science" [35]. Moreover, for communications to succeed in *cyberspace* at optimum global levels, one must adopt the values of mutual trust and cooperation, which are derived from voluntary democratic actions serving the "will of the whole" [36].

Meanwhile, until those methods, which support the values of democratic sustainability, become widely used, the development of Internet as a "chaotic repository" is deeply troubling. Supporting this deplorable outcome are various inherent human barriers to meaningful dialogue (discussed in [part II](#) and [part III](#)), as well as hierarchical structures, which increasingly serve "the monsters of monopoly" [37] fueled by information technology (**IT**) that is out of control.

A discerning mind may also recognize that lurking behind the grand visions offered by President Lincoln and Dr. Bush, and other leaders who have followed, is the American political tradition where, "core beliefs are the product of a rigged, lopsided competition of ideas," as Yale professor of political economy Charles Lindblom observed in his classic work, *Politics and Markets* [38]. These conditions are now constraining post-industrial efforts of knowledge organization exacerbated by deep conflicts in the entire universe of theories of action, which direct human affairs, as discussed below more thoroughly.

Political distortions of this character can be overcome only by an adequate social counterforce, which has the capacity to recognize the distortions and correct them. Paradoxically, the systems of knowledge organization have historically strived for neutrality in alphabetical or numerical systems of indexing. At its core the quest for a disinterested process of, knowledge organization and knowledge management is an inadequate foundation, "For Betterment of Humankind." As Jantsch observes,

this goal is the work of a, *partisan* viewpoint, which starts from the assumption that man has become the chief actor in the process of shaping and controlling the system. It may be called the *anthropomorphic angle of view* which, by definition, cannot be "objective." Nor would it be possible at all to form the notion of an integral education/innovation system without a purposive, and thus "subjective" view in mind [39].

### Supremacy of the human spirit

What librarians and information scientists can learn from the past half-century, together with the citizens to be served, is that the technological innovations, which have characterized the period obviously have not solved the increasingly complex

problems of knowledge organization and knowledge management. Technology clearly cannot do so, simply because these problems are spiritual in nature. They involve subjective issues about the need to design a common vision, and pursuit of collaborative efforts.

In short, this knowledge organization involves the supremacy of the human spirit, which must always serve the individual and society rather than dependency upon the narrow regime of economic and technological supremacy. The work of libraries, information science, and social systems designers is, foremost, to engage in mutually supportive organization and management of valid and relevant knowledge--in a fully collaborative dialogue with community inhabitants. It is important to stress that utilization of a competent and affordable *technique of democracy* or "people science" [40], presented in part III, is essential in all phases of such work.

The highest level in the hierarchy of knowledge is where one should begin the inquiry into, "Knowledge Organization For Betterment of Humankind." This involves the need to confront conflicts in the theories of action, which guide the existing situation and the desired future to which a community may aspire [41]. Such an effort can uncover the values-gap or self-imposed constraints standing in the way of progress while also suggesting the fields of actionable knowledge, which are required to overcome these conditions. Here is where the most surprising and promising potential for social progress can be discovered, which Ackoff has described [42]:

Creative leaps are discontinuities, qualitative changes. They involve three steps: identification of self-imposed constraints (assumptions); removal of them; and exploring the consequences of their removal. That is why there is always an element of surprise when we are exposed to creative work--it always embodies the denial of something we have taken for granted, usually unconsciously.

Following recognition of potential qualitative changes alternative institutional strategies may be designed with the direct participation of citizens and social systems designers to support realization of the preferred course [43]. Knowledge should be organized to provide a reasoned basis for such a course, supported by the library and information community. This would allow libraries, to shift away from the key topic index to purposive-oriented categories of, "Knowledge Organization," guided by a community vision, "For Betterment of Humankind."

A brief closer examination of specifically what is involved may be helpful. First of all, systems sciences teach us that effective decision-making, from which, "betterment of humankind," may be derived, are most dependent upon three pivotal components:

- 1) the use of information and knowledge;
- 2) the dynamics of social interaction; and
- 3) the pattern of human psychocultural perception.

Closely related, one should recognize that in controlling the normative direction of each of those components individuals, groups, and organizations rely upon deeply socialized theories of action or other variables [44]. This is illustrated in table 1, "Setting for decisions in the Information-age."

Progress depends, as Ackoff says, on three steps: "identification of self-imposed constraints (assumptions); removal of them; and exploring the consequences of their removal." Table 1, below, provides a view of the important set of self-imposed constraints, which must be transformed in a movement from the Current Situation to a Desired Future.

### Information-age values-gap

Technological innovation can enhance the quantity of available information and the speed of communications. This can have an important impact upon decisions. Nevertheless, decisions do not occur in isolation but only as a part of the evolving setting for decisions derived from the three pivotal components described in table 1. It is the latter that guides the validity, coherence, and purposefulness of the information and knowledge that is used, and whether the outcomes will ultimately be "good" or "bad" for some whole environment and not merely for individual sectoral generators of the plan--be the latter a person, an organization, a city, a region, or a nation-state.

The values-gap between the "Current Situation" and the "Desired Future" illustrated in table 1, discloses the incongruities in the theories of actions, which are guiding the Information-age. These "rigged and lopsided" sets of theories are having an appalling impact on real-world outcomes, which confirm that it is not the mere availability or abundance of information that can lead to benefits for humanity from information technology (**IT**). Since 1980 the US Federal Government has spent as much as a quarter trillion dollars on **IT**, but reports to Congress by the General Accounting Office [45], and a finding by the US Senate Aug 4, 1995, concluded that much of this colossal public investment in **IT** was "thrown away" [46].

Moreover, **IT** innovations could, in the absence of enlightened design for the future, impose on the global people a new culture of virtual reality arising primarily from "technopoly" -- a technological imperative guided by opportunism and the politics of selfishness that social analysts believe is dangerous [47]. For example, Fred B. Wood, (formerly) Project Director of the Office of Technology Assessment, observed in Congressional testimony, and a subsequent phone interview with FINS,

we are at a crossroads, beyond the point of no return," in which "a volcano is going to go off and 25-foot waves are going to crash onto the shore." This is the probable result, Wood stated, of the "inequities" that are built into the structure of the emerging technological transformation, "in terms of expected changes in the structure of political power." [48].

Table 1. Setting for decisions in the Information-age

<b>PIVOTAL COMPONENTS</b>		<b>THEORY OF ACTION</b>	
		Current Situation←- <b>values gap</b> -→Desired Future	
		Plutocracy←- <b>transformation</b> -→True democracy	
<b>A. A SYSTEM OF SOCIAL INTERACTION</b>			
1. Relationships [49]	Individualism: The Morality of the Marketplace	Interpersonal Competence: The Morality of Sustainable Development	
2. Responsibilities [50]	Pluralism: Independence	Holism: Interdependence	
3. Interpersonal Action [51]	Adversarialism: The Politics of Selfishness	Synergy: The Politics of Collaboration	
4. Political Structure [52]	Plutocracy: Technopoly, and Crowd politics	True Democracy: Participative/Integrative	
<b>B. SYSTEM OF INFORMATION &amp; KNOWLEDGE UTILIZATION</b>			
1. Philosophy [53]	Past-futures	Futures-creation	
2. Organization [54]	Evolutionary: Key Topic Index	Purposive: Outcomes-oriented Categories	
3. Content [55]	Disciplinarity: Specialization in Isolation	Trans-disciplinarity: Multi-level Coordination of Whole Systems	
4. Data Base [56]	Authoritarian: Unilateral Control	Participative: Free & Informed Choice	
<b>C. A SYSTEM OF PSYCHOCULTURAL PERCEPTION</b>			
1. Purpose [57]	Opportunism: Maximize Winning & Minimize Loosing	Principled: Assure a Life Sustaining Earth	
2. End Values [58]	Materialism: Pursuit of Wealth & Power	Enlightened Good Will: Pursuit of Economic Prosperity, Social Equity, & Ecological Integrity	
3. Psychology [59]	Means-centered	Value-driven	
4. Motivation [60]	Independence: Self-reliance	Dualism: Individuality & Social Significance	
<b>DEVELOPMENT CHARACTER</b>	<b>CAPITALIST DECADENCE</b>	<b>DEMOCRATIC SUSTAINABILITY</b>	

The marketplace that governs our economic affairs mediates decisions based on individual transactions but is blind to the aggregate impact of those transactions, which may be detrimental to individuals, society, and the biosphere of Planet Earth [61]. For example, the incremental benefits to individual computer system users weigh against others who do not have the technical knowledge and resources to take advantage of those benefits. We call the latter, "techno peasants" or "information have-nots," who are being left behind because no one is designing an adequate response.

It is very important that individuals, including those closest to such problems (e.g., librarians, educators, and computer scientists), learn how to recognize the meaning of this pattern of events, by integrating their efforts with competent social systems design. These patterns are beyond the reality of what is happening at the immediate and practical level, making them more abstract and difficult to recognize, but they involve the larger aggregate realities built up over time, producing the greatest long-term consequences for individuals and society-at-large.

For example, one of the most significant uses of **IT** being made by corporate centers of power is to restructure their economic interests so that computer-driven machines do the work, at the expense of lost employment for workers who are discharged without alternative means of sustaining their well being and survival [62]. Largely as a consequence of this narrow economic theory (called "downsizing," "clean manufacturing," or "reengineering"), all the material benefits derived from **IT** during the past decade, including the explosive shift in political power that this implies, have gone to the most wealthy 20 percent of American families, while those in the bottom 80 percent have been shut out. At the extremes, the top 1 percent has taken a lion's share of the benefits and the bottom 5 percent are being devastated with further impoverishment [63]. The major product of the Information-age has, thereby, transformed the United States into the most inequitable social and political system among leading industrial countries in the world, according to a report issued by the Organization for Economic Cooperation and Development (OECD), Oct 1995 [64]. Social analysts have warned of this outcome, and the end of this trend is nowhere in sight.

Finally, concerns have been raised over the mass of individuals that make up society who have inherited, "evolution's fatal flaw," a built-in instinct that calls for survival and reproduction in the here-and-now, "with no instinctual concern for survival of the species in the long term" [65]. This opportunistic instinct could pose a threat to the survival of the biosphere of Planet Earth, particularly, if it is supported rather than being opposed by **IT**. Fundamental change in societal behavior through "conscious cultural evolution and environmental revolution," is required to overcome this threat, those authorities postulate.

## Conclusion

One can see that only through a setting for decision governed by a desirable theory of action can an information rich society lead toward a wise balance between economic prosperity, social equity, and ecological integrity that can assure a life sustaining Earth [66]. Knowledge organization and knowledge management, with community collaboration in support of that outcome are the most likely way to achieve the betterment of humankind.

Librarians, information scientists, and other related professional groups have the formal skills to organize and manage knowledge; nevertheless, these skills may be exercised only within the hierarchy of systemic controls. The actual political power to decide on such matters rests, in significant part: in the public sector, with the legislature where library budgets and the structures of libraries are decided; in the private sector, with big business where legislative campaign donations are decided; and ultimately with the civil sector and among the multitudes where all political power derives under the republican form of government!

Dr Alan Bundy, University Librarian at the University of South Australia quoted this writer in a paper concerning "Libraries leading change" recognizing the prevailing power struggle [67]:

Libraries serve democracy not the pursuit of wealth. The constituency for democracy is the people, who have the fundamental constitutional right to exercise exclusive control over the election of our government. That is where the power of libraries also lies if they are wise enough to marshal that unique resource.

The pursuit of enlightened democratic institutions is a fight for all citizens of democracy, one must recognize, not simply a responsibility of professional groups who cannot possibly meet that test "standing alone." There can be no effective exercise of democratic power but by total engagement of the multitudes, governed by the will of the whole, which is the definition of a responsible civil sector. The sage philosopher of democracy, Mary Parker Follett, recognized this principle early in the 20<sup>th</sup>-century with these words: "Democracy ... is the bringing forth of a genuine collective will, one to which every single being must contribute the whole of his complex life" [68].

Nevertheless, the promise of democracy has lacked an effective advocate. The pursuit of wisdom to marshal the "constituency for democracy" has not been favored during the last half-century for reasons explored below in [part II](#), as a consequence,

Standing alone, individual Americans and many of our vital public interest institutions, such as libraries and civic groups, have fallen into bondage under the financial powers of big corporate business [69].

We turn next to consider the social dynamics related to exercising political power in a democracy.

## Part II. **DEMOCRACY RIGHT NOW!** **The Wisdom of the Multitudes**

### The nation's unrealized idea

"We the People of the United States," in whose name the Constitution was established, first laid out in The Declaration of Independence adopted by the Continental Congress in Philadelphia, July 4, 1776, the following set of ends and the means to achieve them in the exercise of our sovereign powers.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. --That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, --That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness.

The principle author of The Declaration, Thomas Jefferson, was serving as Ambassador to France during 1784 to 1789, while the Constitutional Convention commenced at Philadelphia in 1787. Mr. Jefferson was not directly engaged with the most momentous political decisions of his time. The revolutionary conception of egalitarianism that asserted the rights of man apart from property and superior to property did not even enter into the debate as a working hypothesis for the Constitution [1]. President Lincoln later interpreted these events, as reported by Gary Wills, "to Lincoln ... the compromises of the Constitution were a natural struggle of the flesh, unable to live up to the pure spirit of the nation's idea" [2].

The first ten amendments to the Constitution provided a Bill of Rights, with Mr. Jefferson's strong support, which was ratified effective in 1791. The promise of democracy, moreover, was implicitly recognized under the constitutional assumptions of the republican form of government guaranteed by U.S. CONST. art. IV, § 4. The Supreme Court has ruled, "all power derives from the people" [3].

Nevertheless, both the ends of The Declaration and the means to realize the sovereign powers of the people have not prospered as originally envisioned. More than two centuries later, one well-regarded political economist in these words recently summarized the historical situation [4]:

Commenting on franchising the masses through the Second Reform Bill of 1867, a member of Parliament expressed fear that the working classes "now have in their hands, if the know how to use it, the power of becoming masters of the situation." Market elites consequently began and still persist in a deliberate "education" of the masses on the virtues of private property, private enterprise, elite stewardship of society, hierarchy, inequality, or, in short, the supporting beliefs of a market system. They undertake in public discourse, in the schools and churches and in the mass media an assault on the mind designed to create a conformity of thought endorsing the market system. In short, challenging to elite power as it is, democracy is curbed by

an assault on the minds of the masses that persuades them to live within the rules of the market system rather than become "masters of the situation."

The "assault on the minds of the masses" that has historically impeded the American democracy arises not only by the exercise of elite power over the multitudes but also, and more fundamentally, by the inherent limitations that the multitudes assert over themselves in their pursuit of the will of the whole. Mr. James Madison described in the following words first published in 1787 the problem of factions:

The smaller the society, ... the fewer the distinct parties and interests ... the more easily will they concert and exercise their plans of oppression. Extend the sphere, and you take in a greater variety of parties and interests; you make it less probable that a majority of the whole will have a common motive to invade the rights of other citizens; or if such a common motive exists, it will be more difficult for all who feel it to discover their own strength, and to act in unison with each other [5].

The Founders were satisfied with these constraints as a means of preventing the so-called "tyranny of the majority" of ordinary citizens; preferring, instead, the "tyranny of the minority" of strategically placed persons" (e.g., those with property, the loudest voice, the largest bank account, or control over critical institutions, etc.). Various systems scientists reconfirmed these constraints during the 20th-century, as described in part III.

Extending the sphere of parties and interests by economic globalization, intercontinental transportation, and global telecommunications, insures that this situation will progressively worsen. The debilitating social dynamic is especially exacerbated in the larger sphere of global telecommunications -- by Internet, satellite, and by TV and Radio -- that is also stunted by superficiality.

Different forms of dictatorship commonly use superficial communications. "All the Nazi or Fascist schoolbooks made use of an impoverished vocabulary, and an elementary syntax, in order to limit the instruments for complex and critical reasoning" [6]. For example, the e-culture is now being shaped by global Internet connectivity without organization and management standards originally intended to sustain meaningful dialogue. Internet superficiality conforms to "Internet time" that requires "fast, cryptic, communications among strangers" without the time or ability "to interpret subtleties or build a deep relationship based on intimate knowledge" [7]. This insures an ill-designed, capitalist e-culture for the future [8].

An e-culture that is limited to superficiality cannot survive the complexities that it promotes, without having the capacity to rise above the limited concerns of strangers, to contemplate the needs of communities that give life to the medium. Indeed, telecommunications in virtual space can work as a marvel of illusion spinning powerful virtual images that are largely indistinguishable to viewers, researchers have show, from real images concerning the sensitive relationships involving men and women, rich and poor, markets and nature, political advocacy and political action. Deprived of the capacity to examine deeper, more complex attributes of such relationships those virtual images can pose significant risks of false pretenses, particularly, in an environment when "infectious greed seem[s] to grip much of our business community" as confirmed in Congressional testimony by Alan Greenspan, Chairman of the Federal Reserve System [9].

## Dimensions of a paradigm shift

An estimated population of 7.6 billion individuals is expected to inhabit the Planet Earth by the year 2020. The whole global people are likely to be robbed of their minds and their lives by the elite unless the multitudes are allowed to participate fairly if not perfectly in the structures of decisions that affect their lives.

The tower of Babel constructed during the 19<sup>th</sup> and 20<sup>th</sup> centuries by the tyranny of the elite property owners, which The Founders implicitly preferred over the feared "tyranny of the majority" of ordinary citizens, is shifting toward collapse. This is made inevitable by the mutually exclusive social, economic, political, and environmental movements that define the existing situation: soaring population increases, catastrophic economic inequity and biodiversity crash, a culture of corruption, all opposed by the unvanquishable promise of democracy.

The dead wood of political parties, "Representative government," and superficial media, have all pathetically failed the ethical tests of authenticity, sustainability, and responsiveness. The tyranny of the emerging global capitalist *Empire*, as brilliantly described by Michael Hardt and Antonio Negri [10], must be absolutely refused and transformed, the authors argue, by the construction of a democratic counter-Empire.

Such a movement will require nothing less than the end of *laissez faire* capitalism, described as "market fundamentalism" by Joseph E. Stiglitz, the winner of the 2001 Nobel Prize in economics [11]. The *laissez faire* market system is governed by the politics of selfishness, also known as "the survival of the fittest," which produced the entirely discredited 19<sup>th</sup>-century Robber Baron era [12]. At the start of that era President Lincoln observed

corporations have been enthroned and an era of corruption in high places will follow, and the money power of the country will endeavor to prolong its reign by working upon the prejudices of the people until all wealth is aggregated in a few hands and the Republic is destroyed" [13].

Since Mr. Lincoln's time, Americans have passed through two World Wars, and a number of the lesser kind, including a half-century Cold War with the Communists. With the end of the Soviet Union and external threats to capitalism vanquished, at the start of the "information society," American corporations once again called forth the "monsters of monopoly" [14] and delivered their Orwellian promise [15]. Now the Robber Baron era is back [16], wielding momentous technological power of global scale and scope, imposing a new challenge to this generation of Americans: the need to supplant global capitalist plutocracy with democracy [17].

Overcoming these fundamental conflicts to allow the multitudes to become "masters of the situation" cannot be achieved in merely operational terms. "The greatest challenge is not just to the institutions themselves but in mindsets," Stiglitz recognizes [18]. For example, the theories-in-use under the market system, above described in table 1, **Setting for decisions in the Information-age**, are incommensurable with key components of a desired **system of social interaction** [19], based on sound principles of democracy encompassing: A) relationships; B) responsibilities; C) interpersonal action; and D) political structure. The basic conditions for social transformation requiring destruction of the old paradigm to make room for the new, is applicable here, consistent with the wisdom of Thomas S. Kuhn's masterpiece, *The Structure of Scientific Revolutions* (1962) [20].

So it must come to pass in our time as Henry Demarest Lloyd remarked at the end of the 19<sup>th</sup>-century Robber Baron era, "in history, power has intoxicated and hardened its possessors, and Pharaohs are bred in counting-rooms as they were in palaces. Their furniture must be banished to the world-garret, where lie the out-worn trappings of the guilds and slavery and other old lumber of human institutions" [21].

### Guided democratic evolution

More than thirty centuries have passed since *The Iliad*, by Homer [22], placed before humankind a fleeting vision of the democratic assembly. More than two centuries have passed since the promise of democracy was recognized under the Republican form of Government of the United States. When the multitudes learn how to exercise their sovereign democratic powers directly, coherently, and purposefully, becoming "masters of the situation," a global democratic Empire will appear in the world out of the wisdom of the multitude.

The possibilities of transformative change, which can be released by democratization are wide open. Those "self-imposed constraints" identified by Ackoff, can be removed with the possibilities of transformation, thereby, released [23]. Such a participatory strategy can emancipate the most underdeveloped resource in existence in this world, namely, the creative powers of the whole people.

Arguments in favor of democratic participation are not merely sentimental and political. They are pragmatic, logical, and ethical. Dynamic policies dealing with the most awesome issues of our time--competition with the Soviets and competition with the Japanese and others--"can be found in the political will of the many rather than in the technical cleverness of the few" competent opinion research confirms [24]. Bela H. Banathy, a renowned systems scientist, educator, and author, observes, "When it comes to the design of social and societal systems of all kinds, it is the users, the people in the system who are the experts." Banathy continues [25]:

*Nobody has the right to design social systems for someone else. It is unethical to do so. Design cannot be legislated, it should not be bought from the expert, and it should not be copied from the design of others. If the privilege of and responsibility for design is "given away," others will take charge of designing our lives and our systems. They will shape our future. (Accent in original).*

A democratic infrastructure for the Information Age should include: government information, civic information and communications, supported by human rights standards, together with knowledge organization [26]. The latter must especially include the interdependent process of knowledge management guided by the **supremacy of the human spirit**, that is, by a "user-designer" mode of social systems design, as articulated by Banathy, *infra* providing a synthesis of valued ideas for their own democratic future.

The primary purposes of Knowledge Organization of the past half-century, including the primary human goals of the *Information Age*, have been blocked by dependency upon the **supremacy of technology** in the domains of Knowledge Organization and Knowledge Management, while the **supremacy of the human spirit**, is the *sine qua non* of value choices in those domains. Shifting from the former to the latter

style of decision-making involves a major transformation of the structure of power: who decides, for what ends, by what means?

The collective political power of the whole global people is needed to bring about that transformation. This transformative political power requires direct engagement between the people in meaningful group dialogue and action. Nevertheless, the elite demand for autocratic control and the inherent human constraints on the exercise of the sovereign democratic powers by the multitude have paralyzed the promise of democracy during the past two centuries. In her 20th-century classic, *The New State* [27], Mary Parker Follett saw the problem and anticipated the answer:

We have said, "The people must rule." We now ask, "How are they to rule?" It is the technique of democracy which we are seeking. We shall find it in group organization.

During the last several decades of the 20th-century two systems scientists, John N. Warfield, and Alexander N. Christakis, offered a brilliant systems methodology called, "Interactive Management" (**IM**), for management of decision-making by groups. This is a revolutionary scientific breakthrough in managing group dialogue, with the potential if broadly applied of placing ordinary citizens in control of their future. The successful research and development of **IM** followed initial explorations, during the early 1970s, by Warfield and Christakis into the problem of group dialogue in designing complex systems, at the Battelle Memorial Institute, Academy for Contemporary Problems [28]. This writer was invited to attend a conference of American research professionals at the Academy for Contemporary Problems, in 1974, for a critical review of that initiative.

The original Battelle initiative ended in disaster. A core problem in the technological civilization was discovered, namely, there was no effective methodology for solving complex design problems. Use of interdisciplinary teams involving people from a variety of disciplines is needed for an understanding of complex multidimensional problems and these teams cannot work productively unless their work is augmented by methodologies that support meaningful dialogue but no such methodology then existed. That discovery motivated a life long interest in the subject, both by the principle research scientists, Warfield and Christakis, and by this writer.

Subsequent to development of **IM** and resolution of the systems methodology problem by Warfield and Christakis, systems design practitioners failed to provide a strategy to secure broad access. They were, instead, limiting access to the new methodology, to the elite who can pay the highest fees. The "have-nots" were locked out, once again [29].

In order to address that need, in January 2002, this writer introduced at the *CyberspaceCapital* web site, **A Technique of Democracy**, described in [part III](#). That venture draws upon the success of **IM**, configured to assure that the multitudes can share in its benefits.

Later, in January 2002, as incoming President of the *International Society of Systems Sciences* (**ISSS**), Christakis appointed a Conference Committee, and announced a new initiative of the **ISSS**, which states *inter alia*: [30].

Globalization is being described by many as an emerging new system of world

order that has accelerated following the end of the Cold War order in 1989. Systems thinking must make clear what is being eliminated and what constructed by globalization. We must rise to the challenge of democratizing the processes of conscious evolution to ensure that globalization empowers all peoples and not just elites.

This is an intriguing announcement with troubling consequences, we have learned. The unique interactive dialogue process linked to the **ISSS** Conference Web Site includes unacceptable restrictions on participation concerning the design of Conference purposes. The 28 self-selected elite Systems designers who serve on the **ISSS** Conference Committee may decide all matters, all other stakeholders including Systems insiders, and Systems outsiders [31] may observe the proceedings but may not decide anything.

In order to ensure that "globalization empowers all peoples and not just elites" the people other than Systems designers must be able to assert a commensurate degree of control over that process. My request by private email conference, Sept 6-8, 2002, with **ISSS** Conference Committee members for clarification of this situation, and my insistence that a balanced participatory approach should be ensured, met with a harsh flame by Dr. Christakis and a stonewall of resistance.

Moreover, in an earlier private exchange of email messages between Dr. Christakis and myself critical questions about the **ISSS** initiative were raised. The intent stated was to develop in "a balanced and gentle way to bring about the conscious evolution of humanity" [32].

This intent stated by Dr. Christakis may be inconsistent with the needs and interests of human civilization, which requires a radical transformation of social institutions to overcome the catastrophic inequality, deprivation, and degradation of the existing situation. While the idea of a "balanced and gentle" evolution may be consistent with the pattern of "gradualism" defined by Darwin, as natural selection, guided cultural evolution is radically different defined by Banathy under evolutionary science as an "explosive and cumulative capacity of culture for ... rapid change" [33]. Banathy suggests the evolution of society "has to be manifested in a total transformative change" by "the creative surge of conscious evolution" [34]. During rapid social changes "the radical individual" like Socrates, Galileo, and van Gogh "may be the very instrument of creative evolution itself" [35].

Following extensive urging and design recommendations by this writer Dr. Christakis and his colleagues set up an electronic dialogue initiative called, Institute *for the 21<sup>st</sup> Century Agoras*[36], through his own corporate business enterprise featuring protected systems methodologies, falsely presented as a "voluntary" organization. The electronic dialogue initiative features support for American Indian Organizations convened to discuss globalization issues, as a cover for commercial exploitation.

This new undertaking disregards the "user-designer" approach to social systems design, recognized as necessary by Banathy, although Dr. Christakis has often espoused that principle (or one similar) in his scholarly papers. The explicit purpose of this tactic, places the **ISSS** in a position to exercise unilateral control over the participation of stakeholders so as to protect the status quo of *laissez faire* capitalism and prevent realization of the contemporary need for "total transformative change." The lofty announcement by Dr. Christakis that the **ISSS** "must rise to the challenge

of democratizing the processes of conscious evolution to ensure that globalization empowers all peoples and not just elites" is evidently not true.

### Overcoming obstacles to democratic transformation

Economic theory such as *laissez faire* capitalism has no constitutional basis [37]. The authors of *Empire* make clear capitalism has no moral foundation. It is based on a culture of corruption in which "new avenues to express greed [have] grown so enormously" [38]. Indeed, covert agents of capitalist corruption have attacked the very life of this writer (and many others the world over) in an attempt to terminate peaceful advocacy for realization of the ancient promise of democracy [39].

This is an age of "contempt for democracy and democratic institutions" writes Larry D. Kramer, expressing frustration over the Judicial lies and authoritarian subversion of the fundamental constitutional right of the people to exercise exclusive control over the election of a government [40]. The elite is fearful of a possible loss of their autocratic powers resulting from any shift to democratic social and political structures. The Republican right as well as the Democratic left, who are manifestly opposed to participatory democracy [41], are blooming in the political landscape, an impediment to democratic reforms, while the battle for democracy looms on the horizon chronicled in depth with penetrating incisiveness by Ralph Nader [42].

Fearful political insiders involved in Republican and Democratic politics are just now beginning to feel the not so hidden hand of a democratic backlash made inevitable by the multitudes that have been left out, victims of the politics of rich and poor. Every PC is a potential node for a new revolt of the masses. Desperate leaderless resistance and grass roots street protests are storming the Empire. A new Federal Department of Homeland Security has joined the momentous struggle between plutocracy and democracy.

A philosophy of greed juiced up with the metaphor--"survival of the fittest"-appears to drive contemporary politics. Evolution of the species of plants and animals are locked in a war of nature and genetic inheritance. This was described by the philosopher Herbert Spencer's metaphor, "survival of the fittest," from which the theory of "Social Darwinism" was derived. While this theory may be useful to explain "the excesses of capitalism" [43], the philosophy of greed has no scientific basis for so narrowly confining the fate of humanity. Beyond the competition between plants and animals controlled by genetic structure, whose evolution proceeds by fortuitous events, human beings possess a conscious mind and psycho cultural striving, generating the evolution of behavior guided by habits of the mind not merely blind instinct.

"It is our responsibility to design social institutions that reap maximum social benefits from individual instincts...." according to the seminal studies of evolutionary psychologist at the London School of Economics, Geoffrey Miller [44]. Richard Dawkins author of *The Selfish Gene* [45] makes much the same point **quoted** in a critical article by Mary Midgley, *Selfish Genes and Social Darwinism*, published by The Royal Institute of Philosophy:

... if you wish, as I do, to build a society in which individuals co-operate generously and unselfishly towards a common good, you can expect little help from biological nature. Let us try to teach generosity and altruism, because we are born selfish. Let us understand what our selfish genes are up to,

because we may then at least have a chance to upset their designs (SG, 3). We have the power to defy the selfish genes of our birth...We can even discuss ways of deliberately cultivating and nurturing pure, disinterested altruism, something that has no place in nature, something that has never existed before in the whole history of the world.

"The power to defy the selfish genes of our birth" should be understood in a strategic context. In describing the plague of "The Old Self-interest" that wrecked the latter half of the 19<sup>th</sup>-century, and is now well on its way toward wrecking the 21<sup>st</sup>-century and beyond, Henry Demarest Lloyd observed [46]"

We have chartered the self-interest of the individual as the rightful sovereign of conduct; we have taught that the scramble for profits is the best method of administering the riches of earth and the exchange of services. Only those can attack this system who attack its central principle, that strength gives the strong in the market the right to destroy his neighbor. Only as we have denied that right to the strong elsewhere have we made ourselves as civilized as we are:

Those who live by the idea of the "survival of the fittest" asserting the "right to destroy his neighbor" should not be confused with the multitudes that are destroyed. While "selfish genes" may drive the former, bad habits of the mind derived from fear and ignorance, may also be attributed to the latter.

The "selfish gene" is everywhere, in the politics of the right, in the politics of the left, for-profit, and not-for-profit [47]; all are engaged in the pursuit of control and destruction, all are part of the multitudes being destroyed by their own fear, ignorance, and narrow vision. Nevertheless, an attack on the central principal of destruction can be effectively waged by recognition of the whole situation through an exercise of **the will of the whole** [48].

There is no "selfish gene" that compels the human community to accept the rape and plunder of the human environment, and the annihilation of biological diversity, which are the vital basis for human welfare and the survival of the biosphere of Plant Earth. Moreover, there is no "selfish gene" that compels the human community to live in misery promoted by uncritical support for over population, over development, over consumption and the resulting degradation of natural resources and living conditions. With the design of opportunities for conscious choice of the overarching norms and policies of the governing structures of this civilization, with knowledge of their most likely consequences, **the will of the whole** can be expected to sustain a "good" not a "bad" civilization measured by a synthesis of collective desires [49].

The exercise of the sovereign democratic powers of individuals is the antidote to the "selfish gene" syndrome. Let us then attack the central principle, "that strength gives the few who are strong in the market the right to destroy his neighbor," by arming the weak, the poor, and the multitudes with collective knowledge and the democratic social powers derived from this, which can defy the selfish genes at the top and defeat both fear and ignorance at the bottom.

Turning around the existing structures of power is not the job of individuals standing alone in the coercive mass market of rigged and lopsided ideas. Transformative action to change habits of the mind are unlikely without outside support from

someone who can violate the existing norms and rules of "The Old Self Interest" with impunity, according to the research of Chris Argyris, professor of education and organizational behavior at Harvard University [50]. People are unable to produce transformative action, "even if they espouse it, wish to learn it, and practice it." The basic assumption in transformative learning is, "that people require others to help them discover, invent, and especially produce new actions" [51].

A democratic mode of association, especially requires that one exercise power-with the multitudes, to break the dominant leadership pattern derived both from bad habits at the bottom and "selfish genes" at the top. This approach can encourage and facilitate democratic pooling of the sovereign powers of individuals arising from their knowledge, experience, specific abilities, and creative efforts [52], while respecting the autonomy and authenticity of each individual contribution [53], and other important principles of dialogue [54].

The winners of such democratic action would be the multitudes--by integration of the majority and minority view into **the will of the whole**. This is the true meaning of democracy as described by Follett. The politics of "survival of the fittest" may thereby, be reframed through meaningful dialogue, following an ethical "user-designer" approach to conscious evolution as described by Banathy, *infra*.

*A Technique of Democracy*, described below in part III, responds positively to transformative action, making possible **Democracy Right Now!**

*A Technique of Democracy* can facilitate meaningful dialogue in a cellular structure that can emancipate the collaborative creative capabilities of the multitudes. Democracy can, thereby, guide the evolution of human souls under Judaism, Christianity, Islam, and the outer metaphysical cosmos, toward a universal environmental ethic that can alone sustain the future of life on the Planet Earth.

## Part III. A Technique of Democracy<sup>\*\*</sup> Interactive Management of Group Dialogue [1]

### Inherent constraints on democracy

"Politics must be vitalized by a new method," admonished Mary Parker Follett, the sage philosopher of democracy. "'Representative government,' party organization, majority rule, with all their excrescences, are dead wood" [2]. However, in order to exercise their democratic powers citizens of a democracy must recognize that group dialogue in complex situations, which should be synergistic and supportive of democracy, involves the need to overcome several species based constraints under which human beings think and act. Mr. James Madison discusses in 1787, the constraints encountered by group factions [3], and during the 20th-century, systems scientists have described those species-based constraints in the following terms:

- 1 Limited individual perspective within complex, multidimensional systems [Ashby, 1958]. Each participant in a dialogue thinks and acts from a different perspective, within a multidimensional reality. Moreover, individuals often also lack a common language in which to engage in genuine dialogue, each person giving a different meaning to the words he or she uses, and speaking in parallel or past each other rather than with each other.
- 2 Limited individual capacity for short-term processing of information [Miller, 1956]. Individuals have an inherently limited short-term ability, in physiological and psychological terms, to process information superimposed upon the multiple dimensions of reality affecting any complex issue. This often leads to "information overload" when participants in a dialogue seek to understand the multidimensional reality of the issue or problem situation they desire to resolve.
- 3 The unshakable cognitive burden imposed by human values of uneven quality that hinder human transformation [Goudge on C.S. Peirce, 1969]. Each participant in a dialogue is often guided by conflicting values, which are deeply socialized during childhood or in the places they live and work.

Dr. John N. Warfield, director of the *Institute for Advanced Study of the Integrative Sciences*, George Mason University uses the term "Spreadthink" to describe the outcome of group dialogue infected with those constraints. This refers "to the demonstrated fact that when a group of individuals is working on a complex issue in a facilitated group activity, the views of the individual members of the group on the relative importance of problems and/or proposed action options will be literally 'spread all over the map'" [4].

Moreover, Warfield cautions, "Facilitators who try to bring groups to a majority view or a consensus without the aid of some methodology that resolves the difficulties caused by Spreadthink may well be driving the group to Groupthink, and thus helping to arrive at a decision that lacks individual support and, usually, lacks substance." Groupthink, refers "to the deterioration of mental efficiency, quality of reality testing, and quality of moral judgment that results from in-group pressures. Subject to Groupthink, a group may seem to accept a specific decision; however, if individual group members are confronted with that point of view separately from the group, few members would accept that view as their own." [5].

The consequences of these conditions, which severely limit collective political inquiry and action, is that the "democratic" government of the United States has, since the founding acts, been plagued by tyranny of the capitalist elite.

### Principles of dialogue: A tree of meaning

*A Technique of Democracy*, six principles of dialogue are applied utilizing systems methodologies derived from the research of various scholars and practitioners. These principles are articulated by Dr. Alexander N. Christakis in **A Tree of Meaning** produced with his **Dialogue Game** [6]. These principles aid in resolving the constraints and difficulties described as Spreadthink, while also promoting the pursuit of meaning and wisdom in dialogue. The six principles of dialogue include the following:

- 1) Appreciation of the diversity of perspectives of observers is essential to embrace the many dimensions of a complex situation.
- 2) Disciplined dialogue is required so that observers are not subjected to information overloaded.
- 3) The relative importance of an observer's ideas can be understood only when they are compared with others in the group.
- 4) Meaning and wisdom of an observer's ideas are produced in a dialogue only when they begin to understand the relationships such as similarity, priority, influence, etc., of different people's ideas.
- 5) Every person matters, so it is necessary to protect the autonomy and authenticity of each observer in drawing distinctions.
- 6) Evolutionary learning occurs in a dialogue as the observers learn how their ideas relate to one another.

To facilitate meaningful dialogue pertaining to any specific group design process, which can overcome those human constraints consistent with the six principles of dialogue, one can use the following 2-phased methodology:

**Phase 1: Idea Generation** [7]. Faced with the need to generate ideas related to an issue or set of problems, a collaborative facility is obtained, which promotes the comfort of the participants, and has the capability to display visually the observations constructed through dialogue. A group of from 5 to 45 individuals who are familiar with the issue is chosen, and a group leader is selected. The group carefully phrases a simple trigger question to stimulate the formulation of individual lists of from 1 to 5 ideas each. The ideas are articulated in summary form. One by one, each individual presents an idea for discussion until all ideas are presented.

The autonomy and authenticity of each individual contribution is respected and no changes to any specific idea are allowed except with the approval of the individual who submitted the original. The ideas are discussed interactively to delete duplications, to formulate acceptable amendments and consolidations of ideas, and to establish agreement on definitions and language. From these deliberations a composite list is prepared so that final group satisfaction with the evolved set of

ideas is obtained, thereby, producing a "consensual linguistic domain."

**Phase 2: Idea Synthesis** [8]. In this phase, the group will use a computer-supported method called Interpretive Structural Modeling (ISM) to obtain synthesis of valued ideas. This software is available online free of charge courtesy of John N. Warfield, at the *Institute for Advanced Study of the Integrative Sciences*, George Mason University, at URL: <http://www.gmu.edu/departments/t-iasis/ism/ism.htm>.

As its inputs, the computer takes the composite list of ideas prepared in Phase 1 of the managed dialogue together with a transitive contextual relationship (e.g., "Which is most influential"? "Which should be discussed first?" etc.). The computer is programmed to ask the group to compare sets of two ideas at a time drawn from the list, in order to determine the group evaluation of the selected relationship (e.g., "A" is more influential than "B"). Discussion is invited, and the questions are ultimately answered by a "Yes" or "No" response to obtain a majority consensus (or a higher level consensus in special cases). The computer makes significant use of logical inferences to decrease the number of questions to be asked. The computer also determines which question has the best chance of providing maximum information, in order to minimize participant time in evolving the structure.

The method develops the structure of the model for the model-building group (e.g., selected issues sequenced in appropriate order for Forum discussion) and allows for modification or amendment of the structure so that final group satisfaction with the evolved structure is obtained.

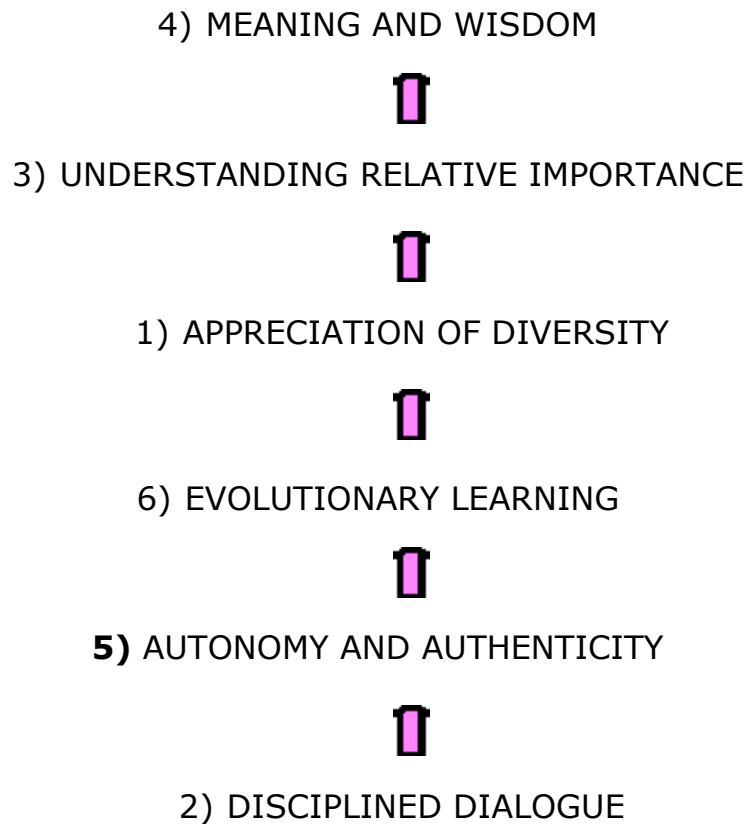
### A tree of meaning

Years of experience by Dr. Christakis and his colleagues with the six principles of dialogue [9], illustrated in **Figure 1. A Tree of Meaning**, shows that the most influential principle is actually Principle #2: Disciplined Dialogue, followed by Principle #5: Autonomy and Authenticity, and so on. Principle #4: Meaning and Wisdom is the least influential in actually making the dialogue work, but I am sure we all agree it is the most important thing that can happen in a dialogue. "When we want to produce meaning and wisdom through dialogue, we must ensure that all the principles appearing at the roots of the Tree are enforced during the conduct of the dialogue," Dr. Christakis admonishes.

When applied to the most complex social problems involving political, economic or cultural issues that are obscured by entrenched positions, personality clashes, and intractable barriers of culture or socialization, the principled systems methodology provides a highly reliable and effective way of dealing with group dynamics to achieve consensus on decisions and improve organizational effectiveness.

## Figure 1. A Tree of Meaning

Arrow means "contributes to"



Real-world applications of this technology in a large variety of designs in many diverse fields, particularly during the past 15-years, have confirmed the reliability of those claims. This includes the following examples:

- National Association of Mental Health, Mental Health Internet Leadership Summit (Feb 2001) (Discussion paper, Summit Proceedings, Clarification of Principles) online at: [http://www.nmha.org/conf/summit\\_proceedings.cfm](http://www.nmha.org/conf/summit_proceedings.cfm).
- Warfield, Ford Motor Company, introduction of Interactive Management systems for quality management and system design practices for vehicle development program, with collaboration of Dr. Scott M. Staley, Ford Research Laboratory, for education of Ford personnel (1993-1998).
- Jeffrey, Disarmament and Demobilization, (Interactive Management Workshop hosted by the European Commission, Monrovia, Liberia 1996) (design of a plan of disarmament and demobilization by the "Warlords and Warriors" engaged in a civil war in Liberia).

- Albers, Redesigning the Defense Acquisition System (Interactive Management process applied by the Defense Systems Management College 1986-91, to design a functional defense acquisition process).
- Christakis, The National Forum on Nonindustrial Private Forest Lands, 2 SYSTEMS RESEARCH 189 (1985) (Interactive Management forum sponsored by the US Department of Agriculture 1984, examining national issues, options, and responsibilities faced by representative national assembly of stakeholders).

Application of this technology is especially suited to the recommended "user-designer" approach to social systems design. This is based on the logic and ethics of design, described in the following words by Professor Bela H. Banathy [10]:

*When it comes to the design of social and societal systems of all kinds, it is the users, the people in the system who are the experts. Nobody has the right to design social systems for someone else. It is unethical to do so. Design cannot be legislated, it should not be bought from the expert, and it should not be copied from the design of others. If the privilege of and responsibility for design is "given away," others will take charge of designing our lives and our systems. They will shape our future. (Accent in original)*

### Social systems design

The process of social systems design, itself, in which a group may be engaged in neighborhood design, design of environmental education, design of the governing ideas of an organization, or deliberate guided cultural evolution, etc., is described by Christakis and Banathy elsewhere [11]. Social systems design, including the rising field of guided evolution, can be a lifelong educational pursuit.

Whatever may be the individual depth of engagement, however, the capacity to personally take charge of the 2-phases of interactive management of group dialogue, will prepare one to begin mastering a *technique of democracy!*

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**-Part I.**

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## **BIBLIOGRAPHIC NOTES AND ANNOTATIONS**

### **-Part III.**

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Mary Parker Follett, the early 20th-century philosopher of democracy, first anticipated the need for a "technique of democracy" in *The New State* (1918) (republished by Pennsylvania State University, 1998). This book is now in the public domain, published by Federal Information News Syndicate (FINS), online at URL:

[http://sunsite.utk.edu/FINS/Mary\\_Parker\\_Follett/XVII.txt](http://sunsite.utk.edu/FINS/Mary_Parker_Follett/XVII.txt). Follett was one of the first Management Scientists. Her early 20th-century writings were lost in a time warp for more than six decades after her death in 1933, largely because she was a woman in a man's world, but most significantly, perhaps, because her ideas were ahead of her own time. Reborn at century's end, Follett's ideas on business management, including her insight into the importance of "integration" for the winning decision-making strategy, are now celebrated under the title, *The Prophet of Management* (A Harvard Business School Press Classic, 1996): pp. 183, 188-189. Systems scientists of the 21st-century now follow Follett's principle of "integration" as a basis for the highly successful revolution in democratic management of group dialogue.

1. This paper describes *A Technique of Democracy*, applied in face-to-face format. *CyberspaceCapital* has also proposed Interactive Management of Group Dialogue, in electronic format (description available from the author). Later and at my urging Dr. Alexander N. Christakis, President (2002-2003) of the International Society for the Systems Sciences established a platform for management of interactive dialogue in electronic format under his new for-profit organization, *Institute for the 21<sup>st</sup> Century Agoras*, online at <http://www.globalagoras.org/>.
  2. Follett, *infra*, *The New State*, Introduction, p. 4.
  3. The Federalist No. 10, The Union as a Safeguard Against Domestic Faction and Insurrection, at 56, 62-64 (J. Madison) (J. Cooke ed. 1961).
  4. J.N. Warfield and C. Teigen, Groupthink, Clanthink, Spreadthink, and Linkthink: Decision-Making on Complex Issues in Organizations 4-5, 31 (*Institute for Advanced Study of the Integrative Sciences*, George Mason University, 1993), citing I.L. Janis, *Groupthink - Psychological Studies of Policy Decisions and Fiascos* 9 (Boston: Mifflin, 1982).
  5. J.N. Warfield and C. Teigen, *infra* note 4.
  6. Dr. Christakis has dedicated the "Dialogue Game" to the public domain.
  7. Adapted by V. Schreiberman (Apr 14, 2002), from Delbeck, Van de Ven, Gustafson, *Group Technique for Program Planning* (1976) (also known as Nominal Group Technique (NGT)).
  8. Adapted by V. Schreiberman (Apr 14, 2002), from J. Warfield, *A Science of Generic Design*, Intersystems, Salinas, CA (1990).
  9. A.N. Christakis, The Dialogue Game, available online at URL: <http://sunsite.utk.edu/FINS/DemocracyRightNow!/Fins-DRN-03.pdf>; A.N. Christakis and K.C. Bausch, *Technologue: Technology-Supported Disciplined Dialogue* (2002): p. 6 (unpublished manuscript available from authors).
  10. B.H. Banathy, *Guided Evolution of Society* 288-291 (2000).
  11. **See e.g.**, A.N. Christakis, *A People Science*, (1996) online at URL: [http://sunsite.utk.edu/FINS/Technique\\_Democracy/Fins-TD-03.txt](http://sunsite.utk.edu/FINS/Technique_Democracy/Fins-TD-03.txt); B.H. Banathy, *infra* note 11.
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