New agora: new geometry of languaging and new technology of democracy: the structured design dialogue process

Vigdor Schreibman*

Lovers of Democracy,
18–9th Street NE Apt. No. 206 Washington DC, USA
E-mail: omnicapital@verizon.net
E-mail: loversofdemocracy@verizon.net
*Corresponding author

Alexander N. Christakis

CWA Ltd.,
Interactive Management Consultancy,
Malvern, PA, USA
E-mail: CWAaleco@aol.com

Abstract: The authors offer this description of the new Agora of Philanthropolis, which embraces cyberspace as the global boundary-spanning dimension of a spectacular new experiment in human civilisation, founded upon a new Geometry of Languaging and a new Technology of Democracy based on the Structured Design Dialogue Process (SDDP). These innovations are needed to overcome the propensity toward Spreadthink, Groupthink and the 'Erroneous Priorities Effect (EPE)' by facilitating meaningful group dialogue that can enhance the pursuit of community wisdom and power. This is the only way to realise the promise of democracy.

Keywords: Mary Parker Follett; technology of democracy; modes of association; languaging; spreadthink; groupthink; erroneous priorities effect; EPE; agora of philanthropolis; boundary-spanning dialogue; webscope; structured design dialogue process; problematique; cyberspace capital; omnicapital.

Reference to this paper should be made as follows: Schreibman, V. and Christakis, A.N. (2007) 'New agora: new geometry of languaging and new technology of democracy: the structured design dialogue process', *Int. J. Applied Systemic Studies*, Vol. 1, No. 1, pp.15–31.

Biographical notes: Vigdor Schreibman completed MS Legal Studies, Telecommunications Law Specialty and a self-educated Philosopher of the Information Age, and Editor and Publisher, Federal Information News Syndicate (FINS), Washington DC. He is a Webmaster of numerous top-ranked WebPages. In the early 1970s, he and Dr. Christakis collaborated in the design of a prototype community based on the aspiration of Humanistic Capitalism that was first conceived by Willis Harman. This collaboration has spawned a lifetime commitment in the pursuit of democratic sustainability, out of which the below paper emerges in its time.

Copyright © 2007 Inderscience Enterprises Ltd.

Alexander N. Christakis, PhD has 35 years experience in developing and testing methods for engaging stakeholders in productive dialogue. He is the author of over 100 papers on stakeholder participation, most recently the book *How People Harness their Collective Wisdom and Power to Create the Future* (2006). He is past President of the International Society for the Systems Sciences (2002). He is member of the Board of the Americans for Indian Opportunity (AIO) and Advisor to the AIO and a advisor to the Ambassador's leadership program for engaging tribal leaders from the USA and internationally.

1 The dream of Mary Parker Follett

Mary Parker Follett (1868–1933), the early 20th century philosopher of democracy was one of the first management scientists. She is now celebrated as the "Prophet of Management" (Graham, 1996). One of her most enduring observations was the statement in her book, The New State (1918) (republished by Pennsylvania State University, 1998), in which she confronted the difficulties of realising the fundamental goal of democracy: for the people to rule. 'We now ask' Follett exclaimed "'How are they to rule?' It is the technique of democracy, which we are seeking. We shall find it in group organisation".

Follett was unable during her lifetime to realise her goal but the Technology of Democracy produced in our own time would have made her very proud and this unique dream of creation should be shared as part of the legacy of Follett.

2 New agora of the emerging Philanthropolis

The Agora was the birthplace of democracy where citizens discussed pressing issues and made decisions on the basis of popular vote. Early in the 6th century, in the time of Salon, the Agora became a public area. This was the heart of ancient Athens, the focus of political, commercial, administrative and social activity, the religious and cultural centre and the seat of justice, it was known for its splendid architectural presence.

The site was occupied without interruption in all periods of the city's history. It was used as a residential and burial area as early as the late Neolithic period (3000 BC). After a series of repairs and remodelling, it reached its final rectangular form as depicted (Figure 1) in the 2nd century AD plan.

Because of the exponential growth of the global population, the world renown Greek architect- planner, Constantinos Doxiadis, observing the emergence of the phenomenon of a Megalopolis like the one from Boston to Washington, visualised 50 years ago the emergence of the universal city, which he named Ecoumenopolis. At that time, Doxiadis could not anticipate the impact of internet technology in terms of the interaction and communication among human beings at different places and different times at global scale. It is clear to us by now that internet technology has drastically changed the evolution of humankind, hopefully for the better. It all depends on our capacity to learn to use Internet technology constructively for the practice of the new democracy in the new agora of the global village. Because of the internet and in combination with the new 'Technology of Democracy' to be discussed in more detail below, we visualise the emergence of a city of human love, which we have named Philanthropolis, combining

three Greek words, Philos for love, anthropos for human being and polis for city. The Agora of Philanthropolis is depicted in Figure 2:

Figure 1 Plan of Agora – II century AD

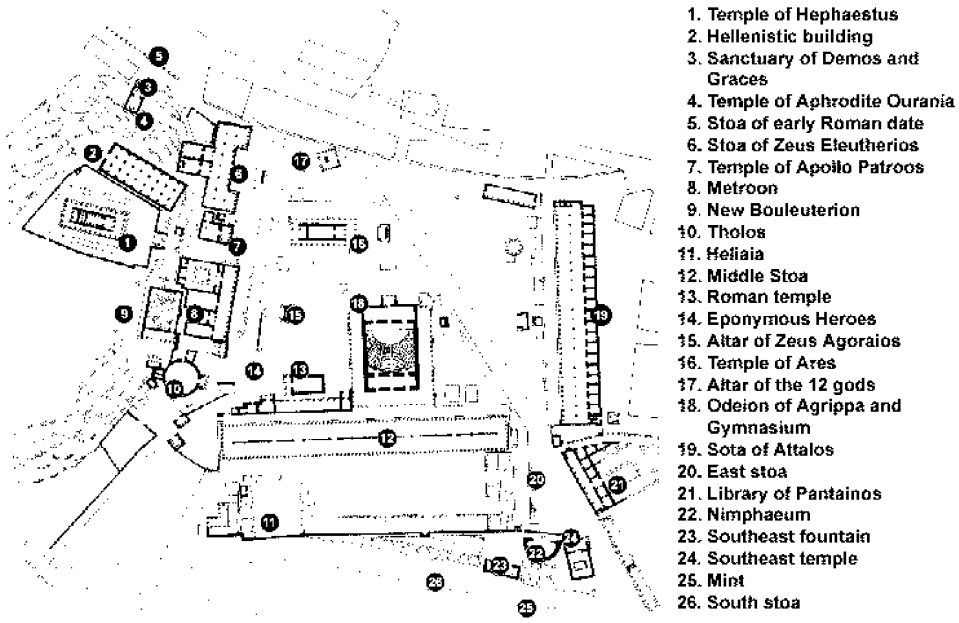


Figure 2 Agora of Philanthropolis

Boundary-Spanning Dialogue Via WebScope.

These new agora combine the power of human capital and social capital with cyberspace capital, to produce an unimaginable field of capital of spectacular dimensions, but only for those who become masters of the collaborative mode of human association, which is essential to optimum development in cyberspace.

In the agora of Philanthropolis, it is not enough to only bestow the responsibility of citizenship upon those who were granted such a privilege in the Athenian agora. Our modern agora must also include women and those who were relegated to the slave class. We must not return to the ancient agora but bring it forward with the benefit of our current wisdom and experience.

3 Inherent constraints on democracy

In order to exercise their sovereign democratic powers citizens of a democracy must recognise that group dialogue in complex situations involves the need to overcome several species-based constraints under which human beings think and act. Contemplating the new republic of the USA as the Constitutional Convention commenced its work at Philadelphia, the city of brotherly love, in 1787, Mr. James Madison discussed the inherent constraints encountered by group factions in an paper published under the pen name 'PUBLIUS', in THE FEDERALIST NO. 10 (1787).

> "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. Federalist No. 10, The Utility of the Union as a Safeguard Against Domestic Faction and Insurrection." (Madison, 1787)

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.). During the 20th century, systems scientists have described those inherent human constraints in the following terms:

- 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.
- 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.
- The unshakable cognitive burden imposed by human values of uneven quality that hinder human transformation (Goudge on Peirce, 1969). Each participant in a dialogue is often guided by conflicting values, which are deeply socialised during childhood or in the places they live and work.

Dr. John N. Warfield, the great pioneer of integrative sciences, 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'." (Warfield and Teigen, 1993; Janis, 1982)

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." (Warfield and Teigen, 1993; Janis, 1982)

Most people have heard the phrase "talking the talk and walking the walk". The standard interpretation of this phrase is that there is a discrepancy between what people say and what people do, i.e., between their words and their actions. Christakis, one of the principal inventors of the 'Technology of Democracy' whose unique powers of dialogue facilitation are very much like the 'specialist mediators' between the people and their deities that marked the popular Aristocracies of Bronze Age Crete (2000 BC – 1370 BC), has challenged conventional talk in socio-political systems design, which has become a minefield. The discovery of the 'Erroneous Priorities Effect (EPE)' after extensive research at the Food and Drug Administration, has led to the recognition that even with good intentions for participative democracy, people cannot collectively walk the talk unless we change the paradigm for languaging and voting. Effective priorities for actions that are dependent on recognising the influence patterns of global interdependencies are defeated by the EPE, when priorities are chosen on the basis of aggregating individual stakeholder subjective voting that is largely blind to those interdependencies.

The consequences of these conditions, which severely limit collective political inquiry and action, is that the 'democratic' government of the USA has, since the founding acts, been plagued by a corrupt, tyranny of 'artificial aristocrats' presently described as a system of 'market fundamentalism' by Joseph E. Stiglitz, winner of the 2001 Nobel Prize in economics, Globalisation and Its Discontents (2002). Moreover, the growing consensus sanctioning market fundamentalism is underscored by the same paradox that defines Groupthink, those who seem to accept the system at the same time raise the possibility that "the millions of people who now endorse it are on the wrong track". Among those who raise such questions are Charles E. Lindblom, Professor Emeritus of Economics and Political Science at Yale University. In his book, The Market System, Lindblom writes:

> "Such consensus as exists is a political phenomenon, not a scientific demonstration. We cannot simply ignore the many highly informed dissenters who believe that experience with the market system has already shown, to anyone who cares to look dispassionately at the evidence, that it has put us all on the road to disaster." (Lindblom, 2001, pp.11, 12)

The disastrous outcomes that we now see growing out of the failure of democratic systems of government include (among others): The Decadent Culture of Consumption, Global Warming and the Return to Barbarity. We can call this situation THE PREDICAMENT OF HUMANKIND (See http://sunsite.utk.edu/FINS/loversof democracy/).

4 A new geometry of languaging

The discovery of the phenomena of Spreadthink and the EPE described briefly above, are the result of employing a new geometry of languaging to address the complexity of issues confronting the citizens of the new agora of the emerging Philanthropolis. This new geometry is instrumental in both discovering and explaining the implications of the EPE and the Spreadthink in the socio-political arena of designing and decision-making.

More precisely the EPE states:

> "Whenever the elemental observations (problems, objectives, actions) made by stakeholders in the context of a complex socio-political design situation are interdependent, assigning priorities for action on the basis of aggregating individual stakeholder voting on the relative importance of the statements, leads to erroneous priorities and ineffective actions. The effective priorities for action emerge after an evolutionary search of interdependencies among the observations through a dialogue focusing on voting on the influences among the statements."

The discovery of the EPE has led to the following conclusions:

- importance voting and influence voting by stakeholders during socio-political design dialogue produce radically different results
- dialogues must go beyond mere consensus on the 'importance' of elemental observations (problems, objectives, options, etc.) if they are to effectively deal with complex socio-political system designing situations
- 'influence' voting identifies the key leverage elemental observations that must be addressed in order to effectively intervene and improve a problematic situation.

In short, the EPE asserts that the elemental observations offered in dialogues have not been properly processed until the stakeholders find the key leverage points that can direct effective interventions.

Let us try to make the important implications of the EPE and the new geometry more transparent by using a historical analogy from the world of physics. The discovery in the beginning of the 20th century of the phenomenon called 'Doppler effect', i.e., the curvature of light travelling through a strong gravitational field, was predicted by Einstein's general theory of relativity. In order to construct the theory, Einstein had to use a different geometry for languaging about a variety of natural phenomena. He used the Riemannian geometry of languaging, as opposed to the Euclidean geometry that

dominated the world of physics at that time. A German mathematician discovered the Riemannian geometry at the end of the 19th century. When physicists measured the Doppler effect experimentally, the general theory of relativity was validated and the Riemannian geometry of languaging became acceptable. So the physicists could 'walk the talk', *because the theory coupled to the geometry had changed the talk. This is the essence of a paradigm shift.*

Similarly, the discovery of the EPE in the social systems design arena is based on a new geometry of languaging, namely the Structured Design Dialogue Process (SDDP). In the early 1970s it was recognised by means of social experimentation that in the socio-political design arena we needed to change the talk, in order to be able to walk the walk. To promote and disseminate the theory and practice of this new geometry of languaging we recently established the Lovers of Democracy (LoD) website: http://sunsite.utk.edu/FINS/loversofdemocracy/.

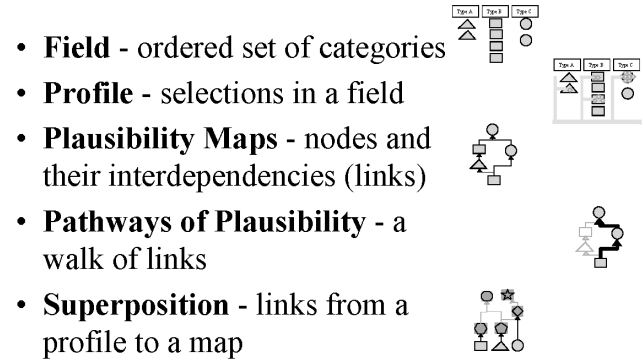
In our opinion, one of the major challenges for the achievement of the Dream of Mary Parker Follett of true democracy in the new Agora of Philanthopolis is how to make the argument for a new geometry for languaging more persuasive and compelling to the majority of stakeholders. If we can help the stakeholders in changing their talk they will automatically help themselves in changing their walk.

We know it is not easy to change the geometry of languaging. We also know that it is an imperative, just like the Riemannian geometry was an imperative for the discovery and explanation of the Doppler effect.

5 Ontology of geometric representation

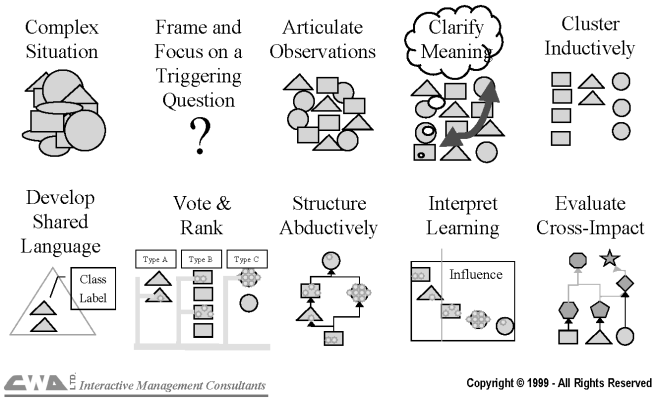
Some of the graphical patterns emerging during the languaging of the stakeholders employing the SDDP geometry are shown Figure 3. For more details and discussion of how they are used for disciplined dialogue among a group of stakeholders, the interested reader should go to: http://www.harnessingcollectivewisdom.com/.

Figure 3 Ontology of representation



The simple graphic patterns shown in Figure 3 are discovered in a variety of configurations during the phases and stages of inquiry of SDDP by the participating stakeholders, as shown schematically in Figure 4.

Figure 4 Steps in each stage of inquiry



6 Advancing meaningful dialogue

During his own lifetime, Madison radically changed his mind about government of the majority, as chronicled by Robert A. Dahl, Professor Emeritus of Political Science at Yale University in his fascinating examination of the question: "How Democratic Is the American Constitution?" (Dahl, 2002, pp.31–37). At age 36, when Madison arrived in Philadelphia in 1787, fear of the majority informed his ideas about constitutional government, which was designed to check popular majorities. In 1821, at 70, Madison would have turned sharply in the other direction. The mature and experienced Madison, of 1821, would have done more to facilitate majority rule. By the time Madison was 82, in 1833, he was a fully confirmed advocate of "the will of the majority" as the "vital principle of republican government".

Nevertheless, Democracy in the USA after more than two centuries brings into serious question the choice between minority and majority rule. This choice underscores the contest between winners and losers, all but disregarding the pursuit of truth and equal justice, while completely missing the spectacular opportunity offered by technology to overcome debilitating human constraints and instead, facilitates the most dynamic, integrative principle in human relations.

What humanity has learned about politics during the last two-centuries is that representation – whether by King, Priest, Party Captain, Corporate Manager, Civic Activist, Professional Planner, or President – is not the main fact of political life. The main concern of politics is *modes of association*, as first articulated by Follett. To maximise the creative engagement of the citizenry one must adopt the values of mutual trust and cooperation derived from voluntary democratic actions serving the 'will of the whole'. Follett put these ideas together, in the following words:

> "Representation is not the main fact of political life; the main concern of politics is *modes of association*. We do not want the rule of the many or the few; we must find that method of political procedure by which majority and minority ideas may be so closely interwoven that we are truly ruled by the will of the whole. We shall have democracy only when we learn to produce this will through group association – when young men (sic) are no longer lectured to on democracy, but when they are made into the stuff of democracy." (accent in original)

A Technology of Democracy is needed to overcome the propensity toward Spreadthink, Groupthink and the 'EPE' and to facilitate meaningful group dialogue that enhances the pursuit of community wisdom and power. This is the only way to realise the promise of democracy. With the power of democracy citizens can collectively guide the evolution of civilisation toward the vision of the Philanthropolis and the goal of democratic sustainability. We next turn to describe the other components of the SDDP geometry of languaging that are essential to guide meaningful dialogue, starting with the notion of the Problématique.

7 The problématique

Hasan Ozbekhan, Emeritus professor of social systems design of the Wharton School of the University of Pennsylvania, first used the French noun 'problématique' in 1969 when writing the basic prospectus of the Club of Rome. (see http://www.cwaltd.com/pdf/clubrome.pdf) The term encompasses "any set of ill-structured, ill-defined, or poorly delimited problems". The problématiques that citizens confront in the paramount events of the day in their local communities and increasingly in the globalisation of the world economies, cultures and politics, boggles the mind with complexity. As Dr. Warfield indicated in an e-mail message to Mr. Schreibman, October 18, 2006, "only a well structured dialogue can enable the insight" needed by stakeholders to comprehend the problématiques that engulf their own lives and the whole world (Warfield , 2006).

8 Architecture of structured design dialogue

The Technology of Democracy is predicated upon a unique Architecture of the Structured Design Dialogue Process (SDDP). This Architecture is composed of 31 component constructs, which are grouped into the following seven modules:

- Six consensus methods:
  1. Nominal Group Technique (NGT)
  2. Interpretive Structural Modelling (ISM)
  3. DELPHI
  4. options field
  5. options profile
  6. trade-off analysis (years 1972–1982).
- Seven language patterns:
  1. elemental observations
  2. problématique
  3. influence tree-pattern
  4. options field pattern

5 options profile/scenario pattern

6 superposition pattern

7 action plan pattern (years 1970–1980).

- Three application time phases:

  1 discovery

  2 designing

  3 action (years 1989–2001).

- Three key role responsibilities:

  1 context – inquiry design team

  2 content – stakeholders/designers

  3 process – facilitation team (years 1982–2002).

- Four stages of interactive inquiry:

  1 definition or anticipation

  2 design of alternatives

  3 decision

  4 action planning (years 1989–1995)

- Collaborative software and facility (years 1981–1995).

- Six dialogue laws:

  1 requisite variety (Ashby)

  2 parsimony (Miller)

  3 saliency (Boulding)

  4 meaning and wisdom (Peirce)

  5 authenticity and autonomy (Tsivacou)

  6 evolutionary learning (Dye) (years 2001–2003).

In a *Technology of Democracy* the six Dialogue Laws are applied utilising systems methodologies derived from the research of various scholars and practitioners. These laws are articulated by Dr. Alexander N. Christakis in A Tree of Meaning produced with his Dialogue Game (Dr. Christakis has dedicated the 'Dialogue Game' to the public domain.) These six Dialogue Laws aid in resolving the constraints and difficulties described as Spreadthink, while also promoting the pursuit of meaning and wisdom in dialogue. The six Laws of Dialogue are described as follows:

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 laws of dialogue, one can use the following 2-phased WebScope methodology.

8.1 Phase 1: generative dialogue

(Adapted by V. Schreibman (April 14, 2002), from Delbeck, van de Ven, Gustafson, Group Technique for Program Planning (1976) (also known as Nominal Group Technique, NGT).) 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 or facilitator is selected. This group leader should not be confused with the traditional leader, or resource person, who is especially strong with regard to content knowledge; rather, it is the content knowledge of the participants that must be supported by the group facilitator, who will encourage engagement in the process by the participants. To begin the process 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'.

8.2 Phase 2: strategic dialogue

(Adapted by Schreibman (April 14, 2002), from Warfield, 1990). In this phase, the group will use a computer-supported method called Interpretive Structural Modelling (ISM) to obtain synthesis of valued ideas. This software is available online free of charge courtesy of John N. Warfield, Institute for Advanced Study of the Integrative Sciences, George Mason University. Fourth generation software for the ISM method and to support all aspects of the Technology of Democracy, is also available under a variety of price options from a private firm, Leading Design International.

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 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 to minimise 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.

In face-to-face dialogue a specially designed situation room can be used to support group deliberations and collaboration for the pursuit of community wisdom ('Demosophia' in the Greek language). The situation room in Figure 5 uses magnetic walls for display of summary descriptions of the dialogue and relevant materials that support information processing by participants.

DEMOSOPHIA

Figure 5 Situation room used by the Ford Motor Company

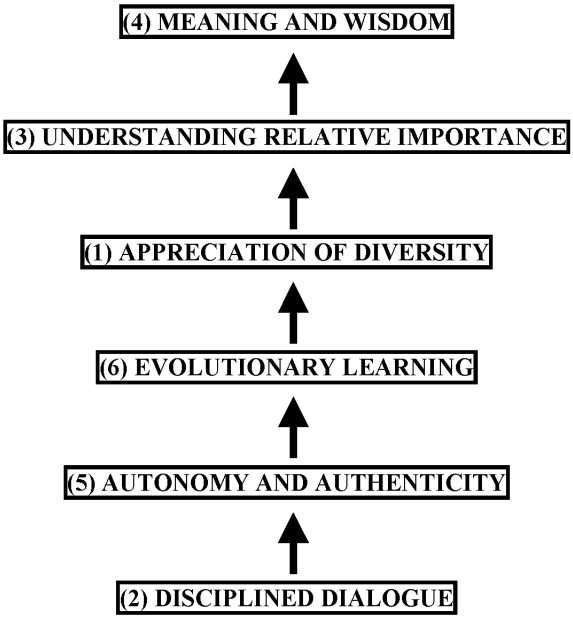
Photo image provided courtesy of Professor John N. Warfield.

8.3 A tree of meaning

Years of experience with the six Laws of Dialogue, illustrated in Figure 6. A Tree of Meaning, shows that the most influential Law is actually Law No. 2: Disciplined Dialogue, followed by Law No. 5: Autonomy and Authenticity and so on. Law No. 4: Meaning and Wisdom is the least influential in actually making the dialogue work, but 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." Christakis.

Figure 6 A tree of meaning



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 socialisation, the principled systems methodology provides a highly reliable and effective way of dealing with group dynamics to achieve consensus on decisions and improve organisational effectiveness.

Real-world applications of this technology in a large variety of designs in many diverse fields, particularly during the past 25-years, have confirmed the reliability of those claims. This includes the following examples:

1 Flinders International Asia Pacific Institute World Premiere WebScope E-mail Dialogue (Extramural workshop of graduate students for design of 'Root Cause Map' Points of Failure of Democracy) July 21, 2006.

2 Northwest Energy Efficiency Alliance Project Consumers Trends in the Pacific Northwest and the USA. (Anticipating Alternative National and Regional Futures in Energy Efficiency) May 2001.

3 National Association of Mental Health Mental Health Internet Leadership Summit (February, 2001) (Discussion paper, Summit Proceedings, Clarification of Principles).

4 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).

5 Jeffrey, Disarmament and Demobilisation, (Interactive Management Workshop hosted by the European Commission, Monrovia, Liberia 1996) (design of a plan of disarmament and demobilisation by the 'Warlords and Warriors' engaged in a civil war in Liberia).

6 Alberts, Redesigning the Defense Acquisition System (Interactive Management process applied by the Defense Systems Management College 1986–1991, to design a functional defense acquisition process, later enacted into law as, The Federal Acqusition Streamlining Act of 1994, Pub. L. Nos. 103–355 (1994)).

7 Christakis, The National Forum on Nonindustrial Private Forest Lands, two 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. Banathy, (2000). This is based on the logic and ethics of design, described in the following words by Professor Bela H. Banathy:

> "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." (Banathy, 2000, pp.288–291)

9 Evolutionary structures and social systems design

Just as human capital or intellectual capital are created by building the individual's capacity to act, it is well known that one level up the chain of power social capital is created when the patterns of relations between people and institutions change in ways that facilitate actions, by creating stocks of social trust, norms and networks that people can draw upon to solve common problems. Human capital and social capital were depicted during the 1990s as the leading edge of the governing resources in the world, moving ahead of the traditional dominance of finance capital.

The first to publicly recognise this condition was the American sociologist Coleman (1990). Following Coleman's lead, the same conclusion was advanced by the late management guru Drucker (1993).

The relationship between human capital and social capital is illustrated in Figure 7.

Figure 7 Graphic relations of persons [A, B and C]: human capital in nodes, social capital in relations (R)

(R) (R)

[A]==========; [B] ==========; [C]

Cyberspace Capital is an order of magnitude up the chain of resource power structures, way ahead of human capital and social capital in terms of civil influences. CC enlarges the field of social capital by the global nature of communications via internet.

Further complementing the advancement of meaningful dialogue on the higher levels of community, society and global interaction, OmniCapital, which combines all the natural, man made and human systems of capital at individual, social and global levels, recognises the potentially spectacular, as yet unimaginable nature of the emerging civil resources, which arise in the Information Age. This is created when the patterns of relations between individuals and organisations in virtual space and time are shaped to facilitate power sharing and collaborative actions, for example, by the creation of stocks of social trust, norms and networks by means of electronic communications 'many-to-many' 'anywhere, anytime', which people can draw upon to build psychic power and social power and at last, advance the guiding idea of the USA:

> "to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defense, promote the general Welfare and secure the Blessings of Liberty to ourselves and our Posterity."

9.1 Integrating structures

Meaningful dialogue facilitated by a Technology of Democracy embraces the interdependency of diverse group members so that the outcome of the group dialogue may be aggregated at higher levels of community and society. In addition, the call to supplant the Darwinian conception of mechanistic, mindless, purposeless evolution with '*Conscious Evolution*' as summarised from all the relevant research and development studies by the late Bela H. Banathy, may be realised under a 'cellular structure' *J. Friedmann, Retracking America* 196 (1981), one group at a time just as all things in the universe are organised, with the use of 'working group assemblies' that can provide 'an integrating structure for planning', (Friedmann, 1981, pp.198, 199), at the highest levels of meaning and wisdom that can be envisioned by the will of the whole people.

Another positive vision of the integrating structure that has to emerge has been offered by Professor Jacqueline Howell Wasilewski, PhD, who teaches about intercultural communication in the Department of Communication and Linguistics, in the Graduate School of Public Administration, International Christian University at Tokyo, Japan. In an email message sent to V. Schreibman, Sunday December 31, 2006, Professor Howell writes:

> "Participation in decision-making is the key to democratic decision-making. We do not all have to participate in every decision made, but we have to be able to participate in the decisions that affect us, our families and our various communities of belonging. What has to emerge is a dynamic, multi-centred and interlinked system … not isolated circles but overlapping circles, like the interlinked circles in a Plains Indian hoop dance … where each of the interlinked hoops represent a different created realm … the Two Leggeds, the Four Leggeds, the Swimming People, etc.

> What enables the system to interlink is dialogue … the creation of mutual meaning through words. Unfortunately, no existing parliamentary or congressional governance structure is capable of adequately representing the world's diversity, so we have to use our imaginations to create new dynamic forms of governance which more adequately allow the true aggregation of opinion/meaning in our world, plus figure out a way to include, paradoxically, the voices of those and things that have no voice … the natural environment, children, the challenged."

9.2 Social systems design

The process of social systems design, itself, in which a group may engage in neighbourhood design, design of environmental education, design of the governing ideas of an organisation, or deliberate guided cultural evolution, etc., is described by Christakis (1996) and Banathy (2000), elsewhere. 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 the Structured Design Dialogue Process, will prepare one to begin mastering a Technology of Democracy.

References

Ashby, R.W. (1958) 'Requisite variety and its implication for the control of complex systems', *Cybernetica*, Vol. 1, pp.83–99.

Banathy, B.H. (2000) *Guided Evolution of Society*, Plenum, New York.

Christakis, A.N. (1996) 'A people science: the cogniscope system approach, systems', *Journal of Transdisciplinary Systems Sciences*, Vol. 1, No. 1, pp.18–25, online in LoD at URL: http://sunsite.utk.edu/FINS/loversofdemocracy/PeopleScience.htm.

Christakis, A.N. and Bausch, K.C. (2006) *How People Harness their Collective Wisdom and Power*, Information Age Publishing, Greenwich, CT.

Coleman, J.S. (1990) *Foundations of Social Theory*, Belknap Press of Harvard University Press, Cambridge, MA.

Dahl, R.A. (2002) *How Democratic is the American Constitution?*, Yale University Press, New Haven, CT.

Drucker, P.F. (1993) *Post-Capitalist Society*, Harper Business, New York.

Friedmann, J. (1981) *Retracking America: A Reissue of the Classic Book on Transactive Planning*, Rodale Press, Emmour, PA.

Graham, P. (1996) *Mary Parker Follett, Prophet of Management*, A Harvard Business School Press Classic, Cambridge, MA.

Janis, I.L. (1982) *Groupthink, Psychological Studies of Policy Decisions*, Mifflin, Boston, MA.

Lindblom, C.E. (2001) *The Market System*, Yale University Press, New Haven, CT, and London, UK.

Madison, J. (PUBLIUS) (1787) in Cooke, J.E. (Ed.) (1961): *The Utility of the Union as a Safeguard Against Domestic Faction and Insurrection*, The Federalist No. 10, Middletown, CT.

Miller, G.A. (1956) 'The magic number seven, plus or minus two: some limits in our capacity for processing information', *Psychological Review*, Vol. 63, pp.81–97.

Peirce, C.S. (1969) in Goudge, T.A. (Ed.): *Thought of C.S. Peirce*, Dover Publications, Mineola, NY.

Schreibman, V. (2002) 'A technique of democracy', *FINS*, at URL: http://sunsite.utk.edu/FINS/Technique_Democracy/Fins-TD-09.htm (as amended).

Warfield, J. (1990) *A Science of Geneic Design, Intersystems*, Salonas, CA.

Warfield, J.N. (2006) *An Introduction to Systems Sciences*, World Scientific, Singapore.

Warfield, J.N. and Teigen, C. (1993) *Groupthink, Clanthink, Spreadthink and Linkthink*, Institute for Advanced Study of the Integrative Sciences, George Mason University, Fairfax, VA.