Striving for Sustainable Global Democracy Through a Group Decision-Making Process: A Critical Review of an Online Course to Model Transformative Praxis[1]

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'Sustainability is not simply about changing practices but more centrally about agreeing to change practices together' (Flanagan et al. 2011). To achieve such ends, groups need to improve processes for making complex decisions together. The challenge faced recently in Copenhagen (including a large number of diverse participants in policy discussions) indicates the need for new ways to improve discursive democracy. Poverty and climate change are 'wicked' problems (Rittel and Webber 1984) that comprise many diverse interrelated variables and that have a strong value and emotional dimension. The shortcomings of many approaches to these problems is that they are expert driven, do not involve the public in decision making, and have a narrow focus on technical issues. They do not consider issues in terms of their interrelated complexity with human cultural issues and values. This paper addresses the transboundary conundrum of how to address complex social and environmental challenges while engaging with people's diverse values and emotions. The online course developed by us can be a part of programs in Global Studies.

Keywords: *Global Studies, complex decision making, diversity, emotions, sustainability, values, transformation, democracy.*

Introduction and Background

This is a pilot project of the Institute for 21st Century Agoras. Eight Australians and Americans participated in an online for-credit course in Sustainability at the Flinders University in Adelaide, South Australia on March, 21 – April, 10, 2010. The pilot course sought to identify the most influential elements of the global Problematique (mess) and to accomplish this in four weeks. The podcast and links to the relevant websites explain how this was achieved and give details of forthcoming participatory action learning programs that extend the initiative. This paper comments on the strengths and challenges identified in an initial application of collaborative and systems thinking skills approaches through an online course for students studying public policy and management.

To achieve a sustainable future we need to rethink our rights and responsibilities in terms of an expanded sense of space and time. Little research on ways to scale up both

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democracy and governance has been undertaken internationally (Alport and Macintyre 2008; McIntyre-Mills 2006, 2010a, 2010b). The problem is that the social contract within the nation state does not go far enough to address the big challenges of the day, namely poverty, pollution, climate change and conflict over scarce resources (Nussbaum 2006; Faist 2009; Hulme 2009; McIntyre-Mills 2008a, 2008b; McIntyre-Mills, De Vries, and Deakin 2008; McIntyre-Mills and De Vries 2011).

The difficulties in getting populations to enact policies that science regards as necessary are exemplified in Australia, which faces the challenge of passing the carbon tax. The current labour/green/independent coalition government is beset by the unions, business and Tony Abbot's Liberal opposition who are gaining ground because the voters in Australia fear the rising cost of living more than they fear the consequences of climate change. This essay seeks to address two questions:

- Why do voters think in the short to medium term and not the long term?
- Why do politicians pitch their policies to respond to the short and medium term?

The second question is easier to answer – it is a function of the design of the system of democracy and governance. The first question is arguably a result of the way human beings are encouraged to think. This is as much a product of nature as it is a product of nurture. Scientists and the intelligentsia recognize that thinking about strategies for the survival of our own generation makes evolutionary sense. But they argue that survival and live-ability do not have to be achieved at the expense of long term sustainability. Their rational arguments, however, have not convinced lots of people.

This paper makes the case that people do not take well to lectures telling them what to do. Their emotions and sense of independence play a vital role in the way people think about themselves, others and the environment (Bausch 2010; McIntyre-Mills and De Vries 2011). This paper presents an online experiment that enlists ordinary people to define the global challenges, and their messy interconnections, to identify the root causes of the problematique, and to supply effective actions to address those root causes.

The 49 interconnected and wicked Continuous Critical Problems (CCPs) that lie at the basis of this study were presented to the inaugural meeting of the Club of Rome in 1970. Hasan Ozbekhan, their author envisioned a gradually evolving architecture that would involve a large number of diverse people in the formulation of strategy and corrective action.

At that time, a methodology sufficient for addressing this complex of wicked problems, the problematique, did not exist. As a result, the Club shunted these CCPs aside and went with an MIT proposal which addressed a smaller number of critical problems and employed the expert-driven System Dynamics methodology. The result was the publication of *The Limits to Growth* (Meadows, Meadows, and Randers 1972) which created a sensation in the 1970s and has sold many millions of copies and been translated into 15 languages.

The influence of this breakthrough work continues to ramify throughout culture especially in the climate change debate. The overall scientific advances in understanding the physics of our environmental situation have been phenomenal. The advances in cultural understanding and acceptance, however, are marginal.

In the past 40 years a methodology for involving ordinary people as designers in very complex and contentious situations has been developed. Structured Dialogic Design (SDD) is the culmination of efforts by John Warfield, Alexander Christakis, and their

associates. It was originally formulated as Interactive Management (IM) and has been refined and simplified over the past 35 years. It has been effectively practiced around the world as depicted on the following map.

Fig. 1. Validation through worldwide use
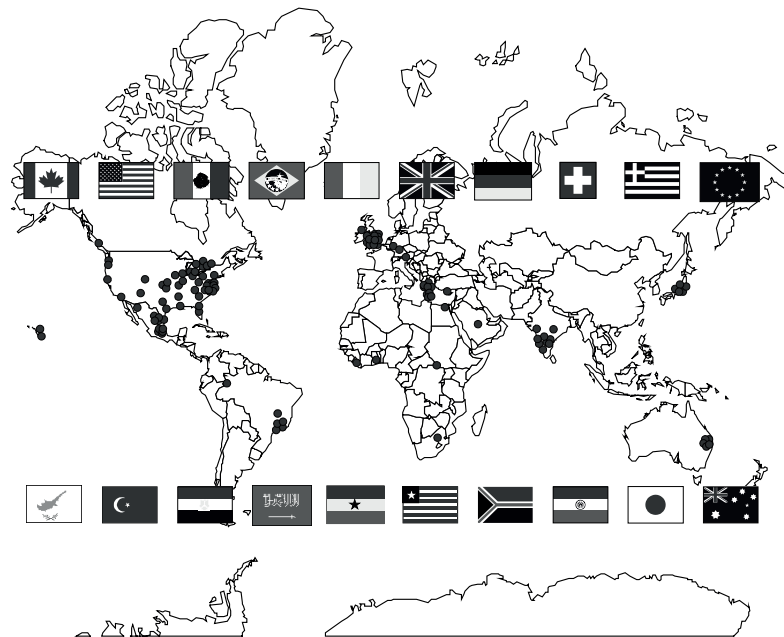
Source: KMC Dye, CWA Ltd.

In contemporary life, we have created inflated visions of lifestyles through the media that represent how life ought to be lived and now we confuse these visions with reality. News is edited, spun, and presented to us as the real story. Governments make decisions that simulate taking responsible caretaking decisions. The spin then becomes a form of hyper reality. Commodification of people and the environment becomes the reality which now confronts us in the form of problems in which we are complicit – because we have created them. Image becomes more important than anything else. Our identity is shaped by image. How do we find our way out of the matrix? We might find out our way if we realized that it is a simulation of which we are part in which we mistakenly commodify everything.

The problem is that we now identify more with fiction or what Baudrillard called hyper reality than with reality. Our mirror neurons 'fire in sympathy' with hyper real characters on the news and in the media. The challenge is to re-educate ourselves to live sustainably (McIntyre-Mills 2010a, 2010b). Unfortunately, the coil of complicity has spiraled to a point where we need to face up to the problems we have created. Ways forward out of this contrived way of life pose a challenge – but needs to be addressed if we are to survive.

Enabling people to think about their thinking and to consider the emotional dimensions of their choices is vital. People spend less and less time exploring complex ideas. Instead they consume the short sound bite – of news or the easy to digest pop culture on TV.

Reading books and thinking about concepts – imagining the symbols and thinking through complex narratives – is lost when children give up reading. Hyper reality is encouraged through computer games when the game world becomes more real than the real. For these reasons, we need new kinds of media engagement; and gaming needs to retrain the mind to work with complexity. The books: *A Democratic Approach to Sustainable Futures* (Flanagan and Bausch 2011) and *Identity, and Democracy and Sustainability* (McIntyre-Mills and De Vries 2011) strive to address this gap by enabling people to work with complexity in order to re-build the connections across people and the environment. These connections have been forgotten in the hype of hyper reality.

The action learning described in this paper addresses critical problems such as:
• illiteracy;
• bureaucracy;
• the unknown effects of affluence;
• alienation of youth;
• obsolete law enforcement policies;
• inadequate participation of people at large in public decisions;
• the growing use of distorted information; and
• the growing irrelevance of traditional values and continuing failure to evolve new value systems.

All of these concerns and others are vital in a community's decision-making. Structured Dialogic Design enables ordinary people to make sense communally of such baffling complexity. SDD enables members of a community to act together, and enables them to modify or even transform existing ways of life should it become necessary to do so… (Hulme 2009: 163).

The Club of Rome research on the quality of life and livability of cities stressed that cities will require an ever increasing resources. This is discussed in *Beyond the Limits* (Meadows and Randers 1992) and (Christakis 2006). A case is made elsewhere (McIntyre-Mills 2008a, 2008b, 2010a) that participation of both majorities and minorities is vital for rational decisions that will affect both in this generation and the next.

Method

An online course was designed and tested linking students in the US and in Australia in 2010. Students engaged in a re-enactment of deliberations based on Hasan Ozbekhan's *Predicament of Mankind* (Ozbekhan 1970), which was constructed originally under assignment from the founders of the Club of Rome in 1970. This re-enactment included:
• contemporary research for examples of the Predicament's set of 49 continuous critical problems of mankind;
• asynchronous clarification of these problems using a wiki;
• pair-wise construction of a systems view of problems assessed to be of highest priority by the class;
• narrative analysis of the structure; and
• creative suggestion for resolving the systems problem based on resources available today.

By starting with the 49 CCPs identified by Hasan Ozbekhan (Ozbekhan 1970), we eliminated the originating stages of SDD, that is, the framing of the triggering question,

and answering that question. Thus, we saved time, but violated the rules of SDD to that extent. Still, starting in this way, we were able to roughly follow the later stages of SDD. First, participants divided the 49 CCPs among themselves, and clarified the CCPs as best they could. One of the first products they produced was a clustering of the 49 CCPs. See Table 1 below.

Table 1. Representative Grouping of 49 Problems into Affinity Clusters

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CLUSTER #1: POPULATION GROWTH / DISTRIBUTION (9 ideas)
- (CCP-1) Explosive Population Growth with Consequent Escalation of Social, Economic, and Other Problems;
- (CCP-8) Growing Inequalities in the Distribution of Wealth throughout the World;
- (CCP-19) Inadequate Shelter and Transportation;
- (CCP-20) Obsolete and Discriminatory Income Distribution System (S);
- (CCP-27) Unbalanced Population Distribution;
- (CCP-31) Widespread Unemployment and Generalized Under-Employment;
- (CCP-32) Spreading 'Discontent' throughout Most Classes of Society;
- (CCP-43) Irrational Distribution of Industry Supported by Policies that Will Strengthen the Current Patterns;
- (CCP-48) Irrational Practices in Resource Investment.

CLUSTER #2: POVERTY, LAGS & GAPS (4 ideas)
- (CCP-2) Widespread Poverty throughout the World;
- (CCP-5) Generalized and Growing Malnutrition;
- (CCP-9) Insufficient and Irrationally Organized Medical Care;
- (CCP-39) Growing Technological Gaps and Lags between Developed and Developing Areas.

CLUSTER #3: WARFARE (5 ideas)
- (CCP-3) Increase in the Production, Destructive Capacity, and Accessibility of All Weapons of War;
- (CCP-29) Increasing A-Social and Anti-Social Behavior and Consequent Rise in Criminality;
- (CCP-30) Inadequate and Obsolete Law Enforcement and Correctional Practices;
- (CCP-33) Polarization of Military Power and Psychological Impacts of the Policy of Deterrence;
- (CCP-40) New Modes of Localized Warfare.

CLUSTER #4: URBANIZATION (2 ideas)
- (CCP-4) Uncontrolled Urban Spread;
- (CCP-17) Continuing Deterioration of Inner-Cities or Slums.

CLUSTER #5: EDUCATION (3 ideas)
- (CCP-6) Persistence of Widespread Illiteracy;
- (CCP-13) Anachronistic and Irrelevant Education;
- (CCP-37) Growing Use of Distorted Information to Influence and Manipulate People.

CLUSTER #6: INSTITUTIONAL ARRANGEMENTS (9 ideas)
- (CCP-7) Expanding Mechanization and Bureaucratization of Almost All Human Activity;

• (CCP-25) Generally Inadequate and Obsolete Institutional Arrangements;

• (CCP-34) Fast Obsolescing Political Structures and Processes;

• (CCP-38) Fragmented International Monetary System;

• (CCP-41) Inadequate Participation of People at Large in Public Decisions;

• (CCP-42) Unimaginative Conceptions of World-Order and the Rule of Law;

• (CCP-45) Obsolete System of World Trade;

• (CCP-46) Ill-Conceived Use of International Agencies for National or Sectoral Ends;

• (CCP-47) Insufficient Authority of International Agencies.

CLUSTER #7: PREJUDICES (3 ideas)

• (CCP-10) Hardening Discrimination against Minorities;

• (CCP-11) Hardening Prejudices against Differing Cultures;

• (CCP-28) Ideological Fragmentation and Semantic Barriers to Communication between Individuals, Groups, and Nations.

CLUSTER #8: UNKNOWNS (2 ideas)

• (CCP-12) Affluence and its Unknown Consequences;

• (CCP-49) Insufficient Understanding of Continuous Critical Problems, their Nature, their Interactions and the Future Consequences that their Current Solutions are Generating.

CLUSTER #9: ENVIRONMENT (6 ideas)

• (CCP-14) Generalized Environmental Deterioration;

• (CCP-21) Accelerating Wastage and Exhaustion of Natural Resources;

• (CCP-22) Growing Environmental Pollution;

• (CCP-24) Major Disturbance of the Globe's/World's Physical Ecology;

• (CCP-35) Irrational Agriculture Practices;

• (CCP-36) Irresponsible Use of Pesticides, Chemical Additives, Insufficiently Tested Drugs, Fertilizers, *etc.*

CLUSTER #10: VALUE-BASE (6 ideas)

• (CCP-15) Generalized Lack of Agreed-On Alternatives to Present Trends;

• (CCP-16) Widespread Failure to Stimulate Man's Creative Capacity to Confront the Future;

• (CCP-18) Growing Irrelevance of Traditional Values and Continuing Failure to Evolve New Value Systems;

• (CCP-23) Generalized Alienation of Youth;

• (CCP-26) Limited Understanding of What is 'Feasible' in the Way of Corrective Measures;

• (CCP-44) Growing Tendency to be Satisfied with Technological Solutions for Every Kind of Problem.

Then class participants each voted individually for five CCPs that they considered most important to include in a structure of the global problematique. This voting is NOT a means of establishing priority among ideas, but rather it is a simple means for identifying a starting set for constructing a systems view when a group is dealing with substantially more than a dozen important ideas. The class voting revealed 12 CCPs which received 2 or more votes. The list is shown in Table 2 below.

Table 2. CCPs that received 2 or more votes

49 (6 votes) Insufficient Understanding of the Continuous Critical Problems, their Nature, their Interactions, and of the Future Consequences both they and Current Solutions to them are Generating;
15 (4 votes) Generalized Lack of Agreed on Alternatives to Present Trends;
2 (3 votes) Widespread Poverty throughout the World.
41 (3 votes) Inadequate Participation of People at Large in Public Decisions;
12 (2 votes) Affluence and its Unknown Consequences;
18 (2 votes) Growing Irrelevance of Traditional Values and Continuing Failure to Evolve New Value Systems;
22 (2 votes) Environmental Pollution;
24 (2 votes) Major Disturbances of the World's Physical Ecology;
25 (2 votes) Generally Inadequate and Obsolete Institutional Arrangements;
28 (2 votes) Ideological Fragmentation and Semantic Barriers to Communication between Individuals, Groups, and Nations;
34 (2 votes) Fast Obsolescing Political Structures and Processes;
37 (2 votes) Growing Use of Distorted Information to Influence and Manipulate People.

Creating the Influence Map

The 12 CCPs that achieved 2 or more votes were subjected to Interpretive Structural Modeling (ISM) (Warfield 1973). The modeling process was supported with software (CogniScope II; Christakis 1996) and the display of the software was shared through access to a virtual meeting space (https://www.gotomeeting.com). The software was programmed so that relationship assessments would be focused using the generic question: 'Would making progress on CCP *X* help SIGNIFICANTLY in making progress on CCP *Y* in the context of the global problematique?' The software uses transitive, non-reflexive, and asymmetric logic to fit a group's consensus assessment into a tree-like structure. Moreover, the software prompts the group to respond only to those remaining paired comparisons which have not already been explicitly specified.

Fig. 2. Class Influence Structure of the Global Problematique
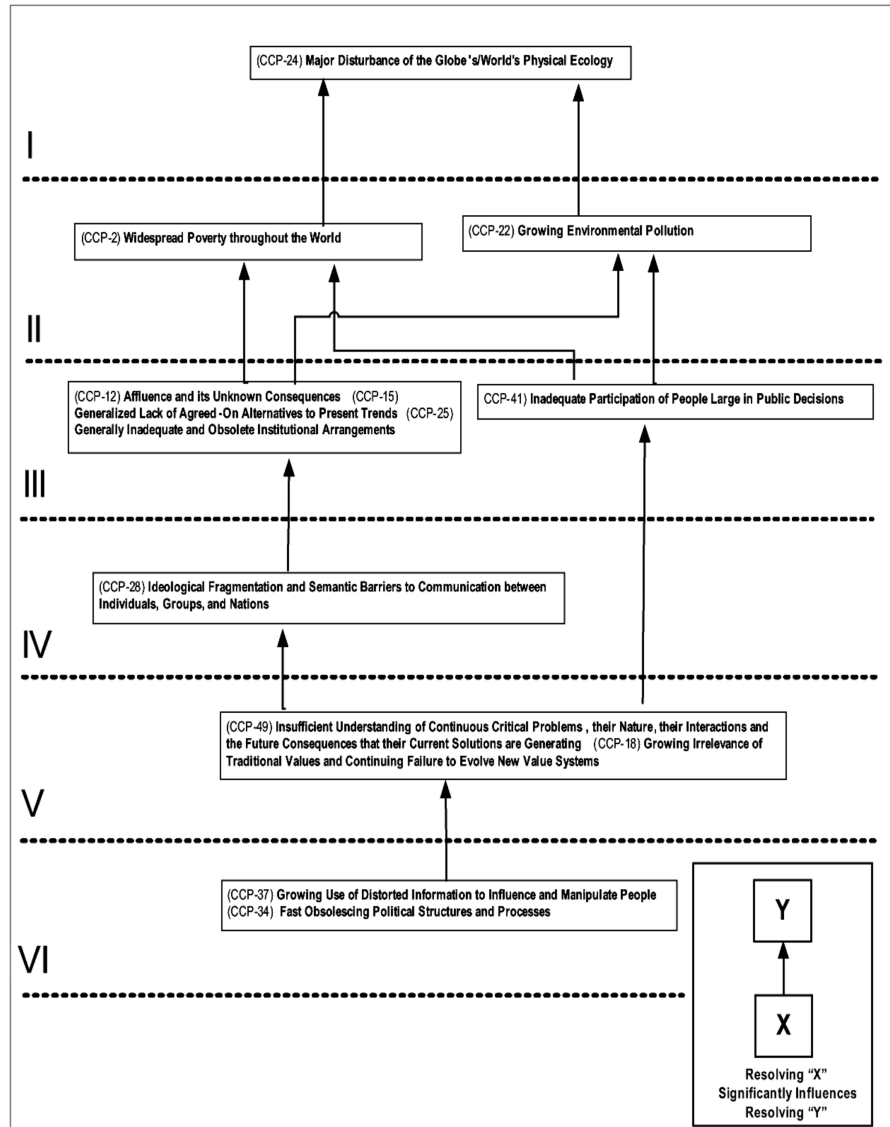
Within two hours of structured dialogue, class participants from across the globe meeting in a virtual classroom reached consensus on a systems structure for 12 CCPs. The system structure was an influence map (an ISM product, or a 'tree') which displayed highly dependent or highly influenced problems, bottle neck problems, and deep driver problems. The deep driver problems are located at the root of the tree. See Fig. 2.

The resulting tree had 6 levels. The drivers on the deepest level (VI) were in a cycle, that is, they mutually influenced each other. They were CCP 37 'Growing Use of Distorted Information to Influence and Manipulate People' and CCP 34 'Fast Obsolescing Political Structures and Processes'. Immediately above this cycle was another cycle CCP 49

'Insufficient Understanding of the Continuous Critical Problems' and CCP 18 'Growing Irrelevance of Traditional Values and Continuing Failure to Evolve New Value Systems'. It was the conclusion of the participant that addressing these four CCPs is essential for coming to grips with the global problematique.

In discussing the influences revealed in the map, participants were shown the results of a similar exercise done by Hasan Ozbekhan and colleagues in 1995. In 1995, they put twice as many CCPs (24) in their influence map, which had seven levels. Their deepest driver was CCP 18 'Growing Irrelevance of Traditional Values and Continuing Failure to Evolve New Value Systems'. One step up on Level VI was a cycle of CCP 15 'Generalized Lack of Agreed-on Alternatives to Present Trends' and CCP 49 'Insufficient Understanding of Continuous Critical Problems'. The influence structure created by Ozbekhan is presented in Fig. 3 below.

Fig. 3. Ozbekhan Influence Structure
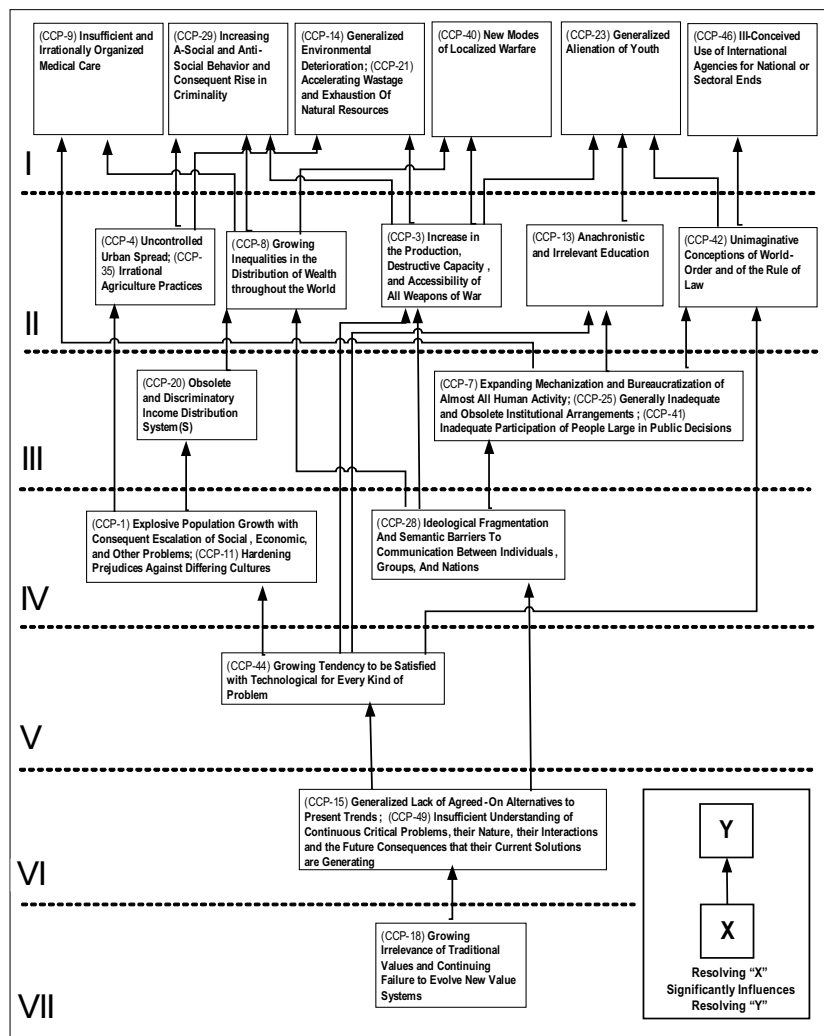
Discussion

Comparison of Class Re-enactment with the Ozbekhan Team's Structure

In 1995, Hasan Ozbekhan and colleagues revisited the original problematique and its 49 CCPs through an application of the SDD method (see Fig. 3; Christakis 2006). Working with a group of three participants, Ozbekhan's team constructed a structure with 24 CCPs (twice as many as were used in the class re-enactment). Ozbekhan's team's structure had seven levels (the class structure had six). Students were presented with Ozbekhan's team's results and were challenged to find some similarities and differences which might reflect changes in the global problematique over the years. The students focused their attention on the deep drivers at the base of the tree.

Fifteen years ago, Ozbekhan's team did not view CCP 37 'Growing Use of Distorted Information' as one of the 24 problems they felt were essential in a basic structure of the problematique. This, of course, was at the very dawn of the Internet. It was a time when email was just breaking into the commercial market. Has information become more distorted recently? Is there a bigger issue: corporate media consolidation and the explicit management of mass media to political effect? Are we simply now more aware of the impacts of distorted information?

The second deepest driver identified by the class, CCP 34 'Fast Obsolescing Political Structures and Processes' does appear in the map constructed by Ozbekhan's team, but it is not mapped as a deep driver. Has this obsolescence become more problematic today? Are our demands on our political structured greater today after our awakening to a global war of terrorism?

The class and Ozbekhan's team both felt that CCP 18 'The Growing Irrelevance of Traditional Values and Continuing Failure to Evolve New Value Systems' and CCP 49 'Insufficient Understanding of Continuous Critical Problems' were highly influential problems impacting much of the systems structure of the problematique. This feature appears to be stable over time. Are we trapped wallowing in societies with anemic value systems? Can we free ourselves? Are conflicting value systems hardened beyond flexible growth? What have we really learned about the world over the last 15 years? We still seem to lack systemic understanding about the problems of the world and how to tackle them.

We are confused, individually and collectively. Individuals with strong personal conviction in their understanding of the way that the world works are frustrated that others cannot simply see things their way. We can see this as an interpretation of the combined effects of: the growing irrelevance of traditional values and continuing failure to evolve new value systems; insufficient understanding of Continuous Critical Problems; the growing use of distorted information to influence and manipulate people; and the fast obsolescing of political structures and processes. These CCPs result in a confused population, with no way to fathom drastic social change. Considered together this might be seen as a prescription for fundamentalism or fascist takeover.

Each individual problem in the global problematique carries a world of facts, figures, meanings, and futures. The full set of problems is not comprehensible in its entirety by anyone's mind. What the application of SDD does for a class of students – or a committee of policy makers – is to focus attention on issues and ideas that matter by framing those ideas in a consensually constructed systems view and considering the nature of their interactions. With good data from the past, and equally hopeful participation in the present and the future, we can look for trends which may indicate changes in pressure points for resolving the problems.

It is important that such views be provided to the public in a transparent, simple and actionable form. Currently, media and government portray an essentially confused and a deliberately (?) warped image of the world. Top down national or global views fail to reflect the understandings, intentions, and true priorities of humanity from our vantage points within our communities. Global economic growth today comes face to face with local sustainability. Powerful special interests continue to pigeon-hole complex issues into separate and easily marginalized boxes. This happens because communities do not make use of available tools which will allow them to form sophisticated consensus statements about complex situations. Based on experiences in communities, classrooms, and online classes, Structured Dialogic Design is emerging as an important tool for discovering community consensus.

It is perhaps not a great surprise that groups who reflect on our global state of affairs agree the 49 CCPs identified at the founding of the Club of Rome all still persist today. It has been said that even great persistent evils, over a sufficient passage of time, seem less evil and more like a part of the fabric of life. It is not enough that we identify deeply influential problems impacting the global problematique – we must find the strength and courage to attack them. The power of tools such as SDD is that they can focus our efforts for transformative change.

Identifying Corrective Actions
To follow up on their identifying the root causes of the global problematique, the students suggested actions that would impact the problematique's deep drivers. As a capstone task in an abbreviated time period, they nominated 8 'options' for action and mapped those options as a superposition structure on top of the structure of the global problematique which they had produced (Fig. 4).

Table 3. Action options

• Option 1: Expose parties presenting false information, specifically media and corporate messages.
• Option 2: Acknowledge the tragic necessity of wars as a means of reducing conflicting ideologies if collaboration is blocked.
• Option 3: Convene religious leaders to agree upon our shared moral values.
• Option 4: Insist that our governments foster authentic collaborative initiatives.
• Option 5: Social and environmental sustainability should be present in the classroom all the time.
• Option 6: Lead other groups in re-enactments of the Ozbekhan project.
• Option 7: Provoke cognitive overload to force groups to seek new approaches.
• Option 8: Apply Structured Dialogic Design broadly in many contexts as alternatives to obsolescing decisions processes.

While the deepest drivers identified in the class map (addressed in the capstone task with options 1, 5 and 8) will require specialized skills and interventions at large scale and/or over extended periods of time, members of the education community might collectively agree that CCP 49 'Insufficient understanding of Continuous Critical Problems' could be a focus of academic energies (addressed with Options 6 and 7). For example, new courses could be established in relevant planning and policy making programs. Online tools like SDD

could guide students through a reflective analysis and position them to focus on options for attacking specific deep drivers. SDD itself can also be used to 'structure' options for action so that the foundation steps in attacking an important problem can be identified through a consensus understanding. At a university level, interdisciplinary learning is often a mixture of ideas that falls short of a synthesis of a new view and a new approach. Students, educators, and community stakeholders might be invited to investigate how their views on the global problematique will lead to actions in local communities, which might begin to change the culture of the world.

Fig. 4. Superposition of actions upon CCPs
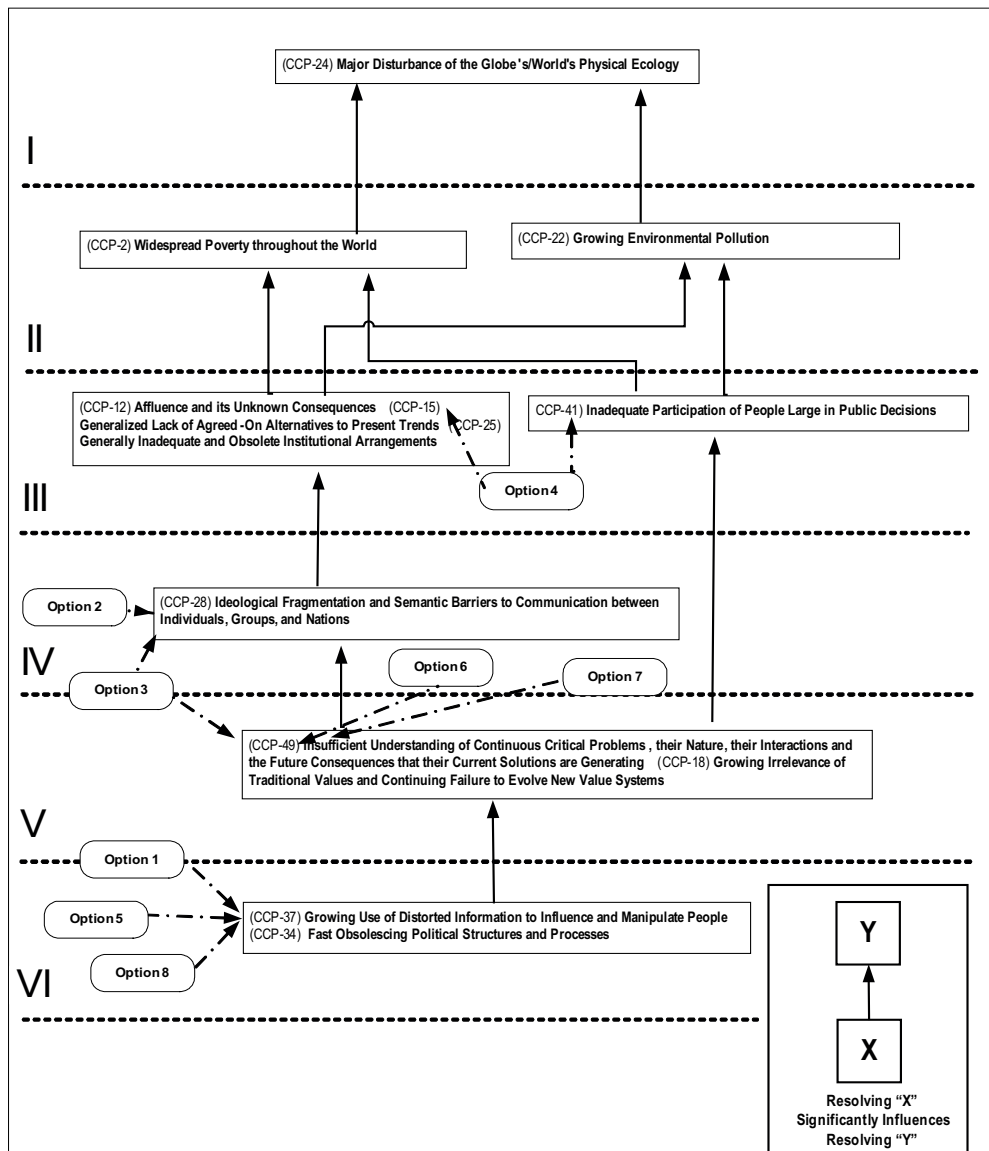
The Democracy and Sustainability (PoAd 9117) course as offered at Flinders University has been a beginning and it falls to us to decide if we will find a way to extend its lessons into action.

Critique of elements of the learning platform
Many universities are currently providing online and blended learning opportunities for students at multiple levels of academic training. For the ease of institutional use, most universities adopt a uniform 'learning management system' that then becomes a *de facto* platform for all of their online institutional courses. Such systems typically integrate registration with course work and student records; however, the choice of any one system and its attendant management policies can unintentionally erect access barriers for experimental courses which pool students from different university systems. To maximize accessibility and replication of this experimental course, a decision was made to use components of a communication platform that are publically available to all without cost. An alternative, of course, would be a philanthropic offering by a global information company to host academic courses for global audiences when the subject matter of those courses meet both social and academic standards. The significant liability in the ad hoc platform we have used in this study is that components themselves will be unfamiliar to many first time students. Individual and collective accommodations with the use of the communication platform will be required by new teachers as well as new students, and this can delay diffusion of the learning experience to many audiences.

The individual components of our ad hoc learning platform are considered below.

Email
Course participants were engaged using individual email accounts, some of which may be supported through their home universities. Email was used to guide students to registration processes, to present class schedules, and to distribute instructions for accessing other components of the learning platform. None of our course participants reported difficulty with their email communications; however, high volume use of email alone as a means of exchanging and contributing to rapidly updated information is impractical in even modest size classes.

Voice-over-Internet
Skype software provides free, voice-over-Internet communication (http://www. skype. com/). Users need to have personal computers that include microphones and speakers and need to have administrative control over the computers that they are using so that they can download and install free SKYPE software. We have used this resource for groups of up to 16 participants. At the start of the course, email instructions for acquiring a Skype account were presented to students, and faculty Skype account names were shared. Students and faculty established individual calls amongst themselves in anticipation of an initial conference call. The initial conference call convened the class to elicit collective reflection of the course design, review of the syllabus, and questions related to assignments. This call also allowed class participants to discuss other components of the online learning platform.

Skype additionally provided students with an instant means of seeing when their instructor might be available for an *impromptu* 'office visit' or when fellow students might

be available for an impromptu consult. Easy voice contact adds an important mechanism for working with students who may be participating from different cultural and linguistic backgrounds.

Wiki Website

A jointly authored website was used as a repository of course participant contributions to the content of the course. Wikispaces was selected as the online repository for the course because it was judged to offer a facile system for managing multiple streams of threaded discussion, it had proven to be reliable in prior testing, and it offered its services without user fees. A class worksite was established and was sequentially expanded as the course progressed through its six week cycle (http://predicament-retrospective.wikispaces.com/).

The class wiki workspace was configured to provide distinct 'workspace sections' for each of the following phases of class activity (though not all phases were used in this pilot course):

• the problem sets and their clarifications;
• the students' individual preferences for most important problems;
• the class's collective understanding of interactions among highly preferred problem;
• the students' individual narrative accounts of that understanding;
• the students' individual recommendations for acting on highly preferred problems;
• the overlay of actions on the class's understanding of the system of influence among problems;
• individual student reflections on the content and process of learning through this experimental online course.

The class wiki workspace content included supportive documents in the form of:
• a disclaimer clarifying that the class wiki is not a work product of the Club of Rome;
• a catalogue of key email notices about administrative issues within the course;
• a record of the course announcement;
• a library of course readings;
• a syllabus of course tasks;
• a list of course participants and their contact information;
• a page providing world time zones to support in transglobal synchronous meetings.

The Wiki workspace approach was based upon practices developed and validated by Gayle Underwood, who has 15 years of experience in education in online learning projects. She is the senior technology integration consultant for the Allegan Area Education Service Agency and is recognized for her leadership in Universal Design for Learning in Michigan schools. Internationally, Gayle has been supporting online learning for Turkish and Greek communities in the island of Cyprus and is working with Americans for Indian Opportunity (AIO) and the Advancement of Maori Opportunity (AMO) to enhance interaction and communication among indigenous people throughout the world. The effective use of this wiki, including orientation and coaching for course participants, is a task of the instructional staff.

Online Screen Sharing

Student access to online screen sharing involves responding to an invitation to enter a specialized, interactive website. For the purpose of this pilot course, a no-cost, trial membership was secured from GoToMeeting (http://www.gotomeeting.com/fec/).

Students were emailed a URL for the website with instructions for entering the classroom and a time for signing into that website. The classroom can be open for public participation or password protected for private meetings at the instructor's option.

From the instructor side, software needs to be downloaded and a hosting session needs to be scheduled and launched. The online class used only basic features of the virtual classroom to enable online screen sharing. Votes were tallied using a subroutine of the GoToMeeting software.

The virtual classroom proved effective as a means of sharing a software display screen as students engaged in real-time, pair-wise comparison of continuous critical problems.

Systems Structuring Software

Instructors applied CogniScopeII software to collect and display the 49 Continuous Critical Problems, construct affinity clusters, and construct an interpretive structural model (ISM) based on the class's pair-wise comparisons. The class successfully constructed a tree-like map based upon their highly preferred CCPs. An academic version of this software package that is limited to mapping 15 problems is available free to academic users (see http://www.globalagoras.org/).

Critique of the Course Plan

The four-week experimental online course followed a collaborative, project-oriented pedagogy and was made available through the Graduate Program in Policy and Administration (PoAd 9117-5) at Flinders University during the months of March and April, 2010. The course was co-designed by Dr. Janet McIntyre-Mills who teaches at Flinders University and at the University of Indonesia and by Dr. Kenneth Bausch and his colleagues within the Institute for 21st Century Agoras. This experimental course combined experienced teachers with a novel learning environment, and introduced an innovative collaborative approach to foster student engagement. The course was scheduled to run continuously over six weeks during which time students would convene into five synchronous, full class participation events scheduled for early morning in Australia and late afternoon in the United States.

Student participation was evidenced by the level and the quality of questions and responses contributed to the dialogue throughout the process. Students were expected to present and defend their individual understanding for CCPs and were also expected to challenge the understanding of CCPs posted by other class participants. This created a transparent record of how students contributed to the class dialogue. No upper limit was established for student participation in exploring CCPs posted by other students; however, 'active engagement' was modeled by two class auditors who had contributed to wiki-based clarifications in prior collaborative learning projects.

Contributions in terms of original, independent research and clarification of CCPs (including illustrative website references), individually written narratives based upon the consensus map that the class constructed, and summary reflections (*i.e.,* a 6,000 word essay based upon elaboration of the work within the online classroom) were graded using traditional academic metrics.

Conclusion

Online learning analyses are most frequently reported based on experiences of classes which are embedded within codified learning management systems applied by instructors

trained in the use of the platforms and backed up with local technical support. One of the goals of this experimental project was to engage novice participants with an overwhelming body of complexity while concurrently challenging them to work through an unfamiliar learning management platform. This is perhaps as difficult an academic challenge as any instructor might care to engage. Indeed, the instructors who agreed to participate in this study acknowledged their reliance on information systems professionals to help them learn as they go. The challenges encountered in this experimental course are on the one hand fully expected, yet on the other hand surprising. They include:

1. Delay in course launch.
2. Technical challenges working with the platform components.
3. Uncertainty with respect to student expectations.
4. Complexity of subject matter.
5. Language issues working across international cultures.
6. Efficiency in collecting real-time input.
7. Differences in – and changes in – local time zones.
8. Changes in course enrolment during the course.
9. Evolving ideas for course content during the course.

Initially, a wiki shell was constructed for the instructor, SKYPE addresses were provided to the instructor, and a GoToMeeting account was opened for the instructor. After a frustrating attempt to launch the course using only self-informed familiarity with the platform components, a decision was taken to transfer the platform management task to an experienced information system management team. Instructors retained direct contact with students within and beyond the synchronous meeting events. Technical issues encountered by students as they engaged the use of the learning platform were addressed in conference calls. Unanticipated changes in day light savings time in both the United States and Australia, in different weeks, led to confusion. One of these changes led to a fracture of the class at intensely interactive structuring phase of the course. To mend this fracture, faculty and support staff duplicated the structuring experience for members of the class who were late entering that session (giving rise to a preliminary 1st structural map and then allowing for a full class 2nd structural map).

Given technical problems and information complexity, it would be understandable if student engagement were to decline. Through subjective interviews (independent of any grade consequence), students universally expressed views which indicated that they felt they were part of a 'real world' shared learning environment throughout this pilot course.

End Note

The online collaborative process applied in this pilot course demonstrated measures of success yet also identified challenges for future use. Even within the modest goals of this class, it is clear that a new approach to collaborative decision-making to engage the overwhelming problems facing the world today can be extended to virtual classes and communities through currently available online methodologies. Beyond the classroom, online application of SDD has been used with groups engaged in education system transformation, nation rebuilding, and policy evaluation (see Laouris *et al.* 2010). Enhancements in the publically available online platforms used in this project present

genuine opportunities to accelerate the diffusion of online collaborative decision-making processes which are essential to enact authentic participatory democracy.

Acknowledgment

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