THE FUSCHL CONVERSATION 2002 OUTPUT PAPER FROM THE Y3K TEAM

TOWARDS A NEW "META-SYSTEMS" PARADIGM FOR Y3K

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ABSTRACT

This report summarises the progress made by the so-called Y3K team at the 11th Biennial Fuschl Conversation, 7th -12th April 2002. The report covers the generative dialogue, and then the discussion around the trigger question that served as the main catalyst for the conversation, i.e. what will systems thinking involve in Y3K? We argue that contemporary systems design (CSD) is fixed to a particular set of assumptions relating to culture and time (i.e. western and industrial), which is not a universal framework for all kinds of problem solving or task-fulfilment. For a future in which we are seeking harmony on a global scale we are faced with a wide range of possible parameters in terms of culture and appreciation of time, which a truly comprehensive systems design process must accommodate. A new paradigm as a basis for thinking and engaging in systems work of the future is proposed. The hypothesized paradigm includes key concepts such as homeopathic design (enhancing the natural "immune systems" of social systems and synchronizing efforts with nature), as well as the embodiment of culture and time aspects. In addition, we offer an initial set of tools that might be considered when forming an evolutionary inquiry system for the meta-systems design case we discussed.

INTRODUCTION

This report provides a summary of the progress made by the so-called Y3K team at the 11th Biennial Fuschl Conversation. The team continued with work started at the 2000 conversation. The work at that time focussed on developing an image of a more desirable future in terms of an evolutionary guidance system (EGS) (see Banathy, 1989) for the Year 3000. The choice of Y3K is not meant to be precise but simply serves as a metaphor to assist a design process for a long-term future. At the end of the Y2K conversation a set of markers for an outline EGS had been pro-

posed (see Brahms et al., 2000). This time we hoped to explore possible specific actions that others or we could take in the next several years as first steps towards the types of ideals that were identified. Before this could be done some basic issues had to be revisited as two new colleagues (Debora Hammond and Mayumi Otsubo) joined the team as replacements for two members of the 2000 team (Sabre, now known as Sabrina Brahms, and Lynn Jenks).

The team made considerable effort before the conversation to prepare for the meeting. Following the ideals of conversation design, input papers were circulated in December 2001, enabling the co-ordinator to prepare a summary. Following a re-circulation, the summary input paper was forwarded to *the Journal of Administration and Informatics* for publication. (See Dyer G., et al. (2002)). The summary input paper was also published on the Fuschl website at http://www.uni-klu.ac.at/~gossimit/ifsr/fuschl before the conversation. This report covers the generative dialogue, and then the discussion around the trigger question that served as the main catalyst for the conversation, i.e. what will systems thinking involve in Y3K? The report then describes how we came to propose a new paradigm and tools as a basis for thinking and engaging in systems work of the future.

GENERATIVE DIALOGUE

Day 1 in the team was largely devoted to generative dialogue. The input papers had served a useful purpose but there was no single trigger from amongst those offered which would immediately provide a launch pad for design. We began by offering our further reflections since the input papers, and sharing hopes and expectations from the conversation. It was useful to clarify some of the terms we would be using during the week and Gordon Rowland (GR) reminded us of the following three definitions used by Banathy to describe the processes behind EGS:

Evolutionary Guidance System (EGS)	- an image of ideals which guides our vision of a future
Evolutionary System (ES)	- actions that might be taken to move towards the ideal
Evolutionary Inquiry System (EIS)	- a group, such as ourselves, developing an EGS and ES

We decided to accept these terms in our work. We also recognised that, consistent with the ethics of systems design, we would categorise any EGS we might develop as an offering, which we hoped others might find useful as they created their own EGS and ES, and not a prescription.

Debora Hammond (DH) reported that she had some opportunities over the next few months to develop collaborative planning processes with both colleague academics and representatives of a wider social and business community in connection with a conference on global warming. She had been attracted by the possibility of practical actions emerging from the conversation. It would be helpful to her if some form of layperson's guide on conversation methodology for such groups could be drawn up. She was also interested in the educational dimension of designing for Y3K. Mayumi Otsubo (MO) confirmed his particular interest in the group's work. Fundamental social changes were occurring in Japan that have great implications for the design of future education systems. The underpinning philosophy of the current education system was founded on two main principles: "manufacturing production" and "the development of an orderly society". These were no longer the only key principles for the 21st century; a new system catering for the information age and the knowledge worker was required. Also the design of a new system would need to better prepare for an ageing society. Japanese were living to 90-100 years, which had severe implications for the social security and pension systems. The planners of the current systems had based their assumption on the then typical lifespan of 55 years, which resulted in a system that could no longer cope with the demand. He believed that the currently typical social experience of education, followed by work, followed by retirement, was too simplistic. We all agreed that such compartmentalisation was inappropriate and that life-long learning was now a crucial consideration. Linking between the three social experiences was important for the future. We also identified the same compartmentalisation within the education system itself, and discussed some attempts to break it down. DH described a "buddy system" which operated between a US primary school and a nearby continuation high school, where 1st graders were linked one-on-one with a high school student. The experiment seemed to be successful as there was evidence that the buddies provided individual attention and encouragement to the younger children, and the older students, many of whom had not previously been successful in school, had an opportunity to make meaningful social contributions in providing guidance to the younger students. Gordon Dyer (GD)

described a recent UK Government proposal for childcare. Economic circumstances in the UK require both parents in most families to go to work. The UK government is proposing to introduce a system of small payments (25 GBP a week) to a grandmother to look after her grandchildren.

Yoshihide Horiuchi (YH) expressed some concern with an emerging assumption for the information age that students can have a much greater role in their educational progress by virtue of the knowledge available on the Internet. His experience was that this had already produced a generation unable to communicate effectively with each other, either verbally or in written Japanese. Their experience of using computers and the Internet had produced a style of language that often led to misunderstanding and an inability to fully understand documents written for formal contexts. This produced a useful exchange on the *double-edged sword* nature of technology, and the need to ensure that future technology was seen as not only feasible but also desirable. This also reminded us of the fact that developments in science were not value free, and that attempting to predict the outcome from a scientific discovery, through to its eventual technological application, was extremely difficult. GD provided the example that Perkins's synthesis of mauveine in 1851 was the first step in the production of useful dyes, but which had the negative effect of putting the madder plant growers out of business, and also led to production of war-gases and explosives. We also reflected that the rise of science as the predominant underlying philosophy stimulating developments in the West had meant that concern for the natural world and the environment had been overlooked. Any vision for systems design for Y3K would need to prompt re-examination of that balance, linked to an evolutionary consciousness.

In discussing how it might be possible to distinguish between feasible and desirable developments in technology, we recognized the need for a new value system, as it seemed that power, profit and personal advantage were often the driving forces behind technological developments. We discussed how the drive for power emerges out of the tendency to compare oneself with others, which is reinforced in our educational systems from a very early age. DH mentioned the work of Helena Norberg Hodge (1992), which documented the impact of western culture on the Himalayan valley area of Ladakh over a period of twenty years (1970s - 1990s), before which time it had been relatively isolated from external influences. Significantly, Hodge noted that in the early years, each individual seemed to have a fairly

strong sense of their own unique identity and a meaningful role in their society. During the later years, the fragmentation of society tended to undermine this sense and leave individuals with a greater need to prove themselves.

Given that we had all expressed a wish for specific outcomes from our work the following tentative plan was agreed as a initial structure for the reminder of the week:

- Explore one key issue that had been identified in the input papers
- One possible tool that we might offer to others
- Identify one or more specific action that we each might commit to

In the event the third point was subsumed by the second.

A KEY ISSUE - WHAT WILL SYSTEMS THINKING INVOLVE IN Y3K?

Of all the issues in the input papers, questions raised by YH relating to - what might replace systems thinking, or what will systems thinking be like in Y3K? - served as our catalyst. This was recognised by all of us to be a relevant, powerful, and very difficult question. It was relevant because the history of intellectual ideas was characterised by several paradigm shifts, and it was reasonable to assume that this could happen to systems thinking, or that at least it would undergo some major modifications. We were in a position of being able to consider what modifications might be needed and to encourage those changes. It was difficult because we were projecting into a long-term future.

As a first step we began by contrasting to what extent social thinking and actions prevailing at notional millennia of Y0K, Y1K, and Y2K could be described as systemic (we added the Y0K following a helpful comment at Monday's plenary):

Y0K

We shared examples of ancient civilisations, e.g. Indians and Chinese who, within the limits of their perception, operated within the systems design principle of co-creating with nature. We also noted the similarities and differences in the emergence of the 10 commandments of Christianity and Buddhists precepts. Neither of these made any reference to the natural world but are primarily concerned with personal and social behaviour.

Y1K

There were innumerable examples of human settlements, which operated within the systems design principle of co-creating with nature. For example, a sheep farmer in an isolated valley with minimum technology had to accommodate nature into his thinking in order to ensure survival. The natural environment dictated his life-style. We may characterise this period as one of systems thinking and systems action, but with no explicit systems theory.

Y2K

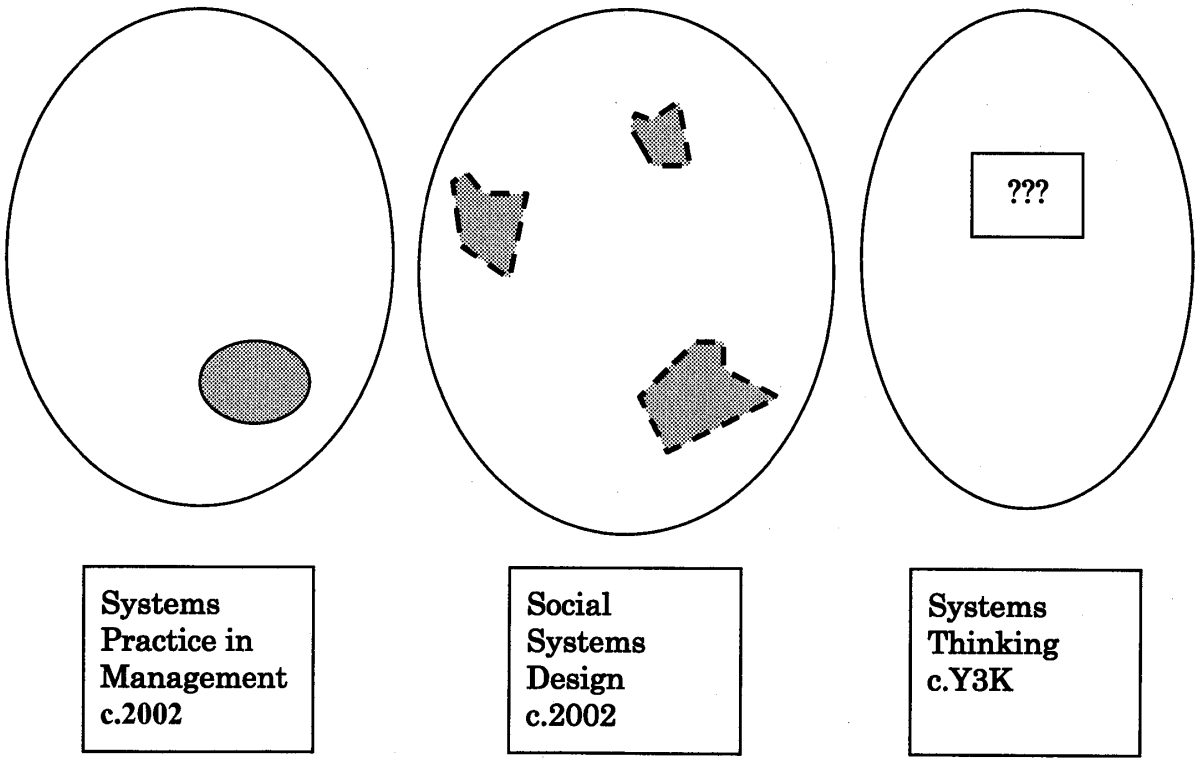
In contrast to Y1K, we argue that in Y2K there is an abundance of systems theory but that generally we - in the widest sense of *we* - do not act systemically, as evidenced in the West, for example, by the collective failure to consider environmental impacts of technological developments. Our practice is hard pressed to deal with the world of technological complexity brought about by a predominant philosophy of the desirability of scientific progress.

Y3K

Because there was already some confusion within the wider systems community about social systems design, GD thought it would be helpful both to them and us if we began our discussion by contrasting the characteristics of systems practice in management in 2002, social systems design in 2002, and some initial ideas for systems thinking for Y3K. The collective results are shown in the following diagram and table. The characteristics in Column 1 (for current systems practice in management) need little further explanation. However, the practical outcomes have served a useful purpose in disseminating systems thinking. This is despite the criticism that while the initial analysis may be systemic, the methodology may become non-systemic through the final focussing on a *feasible and desirable change* for action. In contrast to this, social systems design (Column 2) does not offer the prospect of quick results but is intended to offer images, processes for improving futures and inspiration for evolutionary guidance. The group work is based around conversation as an ideal form of participative democracy, and embedded within it, is the notion of continuing to extend inclusivity and expanding the circle of participation and consideration. Fuschl and ISI conversations are vehicles to sponsor cascading of action research with social systems design (SSD). GR noted that change in general might cascade in two possible ways (1) gradual diffusion

from community to community; and, (2) more rapid change across a widespread area or society. Either might occur with regard to SSD through the efforts of Fuschl and ISI conversation participants and others. The conditions in which the two would occur are likely quite different, for example, a condition of severe imbalance in the EGS markers might be more prone to rapid change across a larger system.

Our first consideration of possible systems thinking for Y3K led us to reflect that this could be, or should be, beyond design as we know it. The theoretical ideal of a world system leads to a paradox. Should humankind finally achieve one unified system, systems thinking may no longer be required. Such oneness and complete openness implies that we are beyond our current concepts of systems and design. The arguments could be offset by recognising the need for systems maintenance or by widening the boundary if design outside the Earth should ever be needed. But we saw further complexities and considerations which may conceivably need to feature in long term future conversation processes: to move beyond an anthropocentric view to take into account the position of man-made (robotic) life-forms, or other natural life forms. But we also would wish to encourage consciousness of the participants towards an evolutionary consciousness.



Tool for managing complexity Limited scope -feasible/desirable Practical	Offers images, processes for improved futures and inspiration for evolutionary guidance	Beyond design?
Fixed boundary Fixed in time and space	Permeable boundary Varies in time and space	Ideal leads to a paradox - oneness and complete openness is non systemic
Group work: - limited but varying degrees of inclusivity	Conversation: - extended inclusivity and participative democracy - expanding circle of consideration - largest possible picture on the largest possible canvas ⇒	Conversation? - beyond an anthropocentric view - expanded consciousness - enlightment
Outcome: - immediate - observable - transferable	Outcome: - continuous and long term - Fuschl and ISI aims Two possibilities for outcome: - cascading of method - emergence of evident success triggering replication EGS conditions may be different in two cases; unbalance may be necessary to trigger emergence case	

In the process of clarifying what systems thinking might involve in Y3K, MO asked about the purpose of systems design, and a discussion of design as a decision-making process providing a basis for action ensued. We reflected that in the transition from traditional hierarchical social structures, where decisions were handed down from on high, through the evolution of systems practice and systems design, the direction was toward greater inclusiveness in the decision-making process. In response to a question in the second plenary about how to address such human qualities as ignorance, greed, and dominance and fear which underlie most destructive behaviours, DH reflected on the role of ethics underlying actions. One can act from an egoistic ethic, an anthropocentric ethic or, in connection with our own groups concerns for Y3K, an ethic grounded in consideration for all life - a biocentric or eco-centric ethic. She then reflected that ethics alone does not always guarantee ethical action, and that developments in the emerging field of Deep Ecology have suggested that actions depend upon how the individual identifies him/herself. If one identifies with the ego, one may act in ways that benefit only oneself, regardless of consequences for others. Similarly, if one identifies only with the human species, one may act in ways that benefit humanity, while failing

to consider consequences of such action for other species. Thus, we suggest that systems design in Y3K would ideally be grounded in an expanded consciousness, or a more enlightened state, in which the individual would identify with the whole of life.

CONTEMPORARY SYSTEMS DESIGN - A SPECIAL CASE OF THE SYSTEMS "META-DESIGN" FIELD

As we continued our discussion of Y3K, we came to realize that we were not talking about Kaizen (improvement) of contemporary systems design (CSD) concepts. Rather, it became obvious to the Y3K group that CSD concepts are not universally adaptable across culture or time. We will examine the cultural issue first, and then, the time issue.

Industrial Culture and Non-industrial Culture

YH commented that our CSD is said to cover various social systems, not only our work environment, but also our social environment. However, it seems that CSD is designed within a modern, industrial culture that presumes standardized universal time, efficiency, and aspiration for expansion, improvement and betterment. However, there are many cultures, and also many aspects of our life even in a developed country that do not follow such an industrial culture. The Y3K team proposes that there can be diversified/many concepts of design/meta design/even non-design cultures outside of the CSD domain. Diversified culture is not limited to only East-West, but between modern, science-oriented, large-scale industrial society versus traditional, rural, small-scale society including families.

Industrial society requires global standardization of time and other units of reference, e.g. relating to efficiency, cost, and performance. Traditional, small-scale society can afford to have its own local cultural time, etc. as their reference points. For example, in our own homes, we do not need our clocks adjusted to 1/100 second in order to start a dinner.

The group's hypothesis is that contemporary systems design (CSD) was developed primarily for the industrial society, which is not a universal framework for all kinds of problem solving or task-fulfillment. Rather, there could be numerous cultural frameworks besides the large-scale industrial system, even for people's life in

developed nations. What we need now, as humankind, is to accept such a broad area/framework of human activities, and develop systems "meta-design" concepts for various cultural setting. Culture here implies various factors such as: industrial-, urban-rural, East-West, Judeao-Christian, etc.

Also, CSD is western, industrial, in the sense that it is active (versus receptive), dynamic, and is imposing - it assumes "doing" rather than "being" or "becoming." In contrast, in eastern thinking, it is possible to have an "alternative to design" that is characterizing by: (1) accommodating changes (rather than make changes happen); (2) following the flow and take natural advantage of it - rather than by standing against the wind, challenging nature, and creating something thereby overcoming nature.

Culture of Time: Measured Time and Cultural Time

As we continued our discussion of Y3K and the passage of time towards it, it became increasingly obvious that extending the boundary of consideration would eventually bring us head-on with the differences of culture and fundamental philosophies of the various major Earth population groups that underpin their concepts of time and progress. Our work would need to accommodate a major transcultural dimension. With participants in the group from both oriental and occidental traditions we were in a fortunate position to explore this. A fundamental issue arose in that, while in the occidental tradition the notion of intervention through purposeful design is highly desirable, this is not always necessarily the case in the oriental tradition. The concept of time in the western scientific tradition is a forward straight arrow, which implies the possibility of progress along that line. However, in Japan, time as in the calendar is seen as circular. MO explained that this view is probably based historically on the annual rice growing cycle, and leads to a philosophy of what happens comes round again if you wait for it. We discussed several other non-western views about time. Heiner Benking, a visitor to the group, provided an indigenous native South American view of time. This is that historical time is the only type of time that an observer can know and metaphorically, is in front of the observer, whereas, the future which cannot be known, is behind the observer. In this tradition, a wise man is someone who holds a mirror to the side of the observer enabling him to see a glimpse of the future through the mirror. Alternatively, a view of time of a North American Indian tribe, offered by DH, was that they do not differentiate between past, present and

future in the same way. The present is thought of as being near the observer whereas the past and future are both equally far away, without distinction between them. These ideas contrast markedly to that offered by DH, quoting Benjamin Franklin "Time is money". The discussion made it clear that we need to differentiate between time as a measurement, which now has a universal standard, and the experience of time that has played a major part in determining the different philosophy and values of different societies.

We also reflected on the desperate need to work in a co-creative way with nature. DH mentioned the concept of mutual causality as addressed in Joanna Macy's book, *Mutual Causality in Buddhism and General Systems Theory,* see (Macy, 1991), which acknowledges our interdependence with the natural world and fosters a more receptive or co-creative approach to working with it, in contrast with the more active or interventionist approach of the western tradition. MO explained how this concept of mutual causality was an integral part of Japanese philosophy and practice. He described a project that he had led to deal with potential flash flooding of a major river in Shizuoka. He observed during discussions that while the expert had advised scientific solutions, modelling flow and building of dams, with unknown consequences, the non-experts with local knowledge advised a much simpler approach of diverting the river, which would have a minimum effect on the environment. The planner tends to present a 100% perfect plan for review and approval, but it is advisable for the planner to present a 60%-perfect plan, as it is probably more practical and acceptable. MO reflected that in implementation of projects it was pointless to attempt perfection in the first attempt at change. It was preferable to accept all opinions, even though some of them will be in conflict. A strategy that allows for a 60% satisfaction with change provides a reasonable initial step, as this allows for some progress but also for changes in the plan itself to arise later, possibly stimulated by contrary views. GD commented that he applied the same kind of approach as a personal stress avoidance strategy. This was to set step-wise feasible goals when facing a new challenge or change.

In our discussion we kept returning to the over-dependence on science for many of what were seen as current problems. This had happened because scientific developments had proceeded with little reference to the impact on the natural world and had produced a number of very undesirable consequences. This dependence stemmed from a view that argued that if we can control nature then we can libera-

te mankind, and scientific developments had allowed this to happen. The *scientific revolution* had sponsored an attitude that the Earth was machine-like and could be exploited without any concern. The reality, however, is that living systems have natural immune system responses developed over a long evolutionary period to ensure survival, and interference with any of them through inappropriate intervention may upset the balance of the planet. GD quoted the wholesale destruction of the Amazonian forests as a very worrying example. There is evidence that the bark and leaves of these trees may be the source of potential medicines for man as close genetic neighbours, apes and monkeys, have survived in the forest without the benefit of science. The destruction of the trees means that the potential of the forests may be lost for man.

OFFERING TO THE COMMUNITY - A NEW PARADIGM

As a result of our conversation we feel bold enough to offer a new paradigm to the systems community. While what we currently use (contemporary systems design, CSD) is often described as comprehensive, we believe that as practised it is fixed to a particular set of assumptions relating to culture and time, whereas we are actually faced with a wide range of possible parameters in culture, time etc. Figure 1 below will be used to illustrate the arguments:

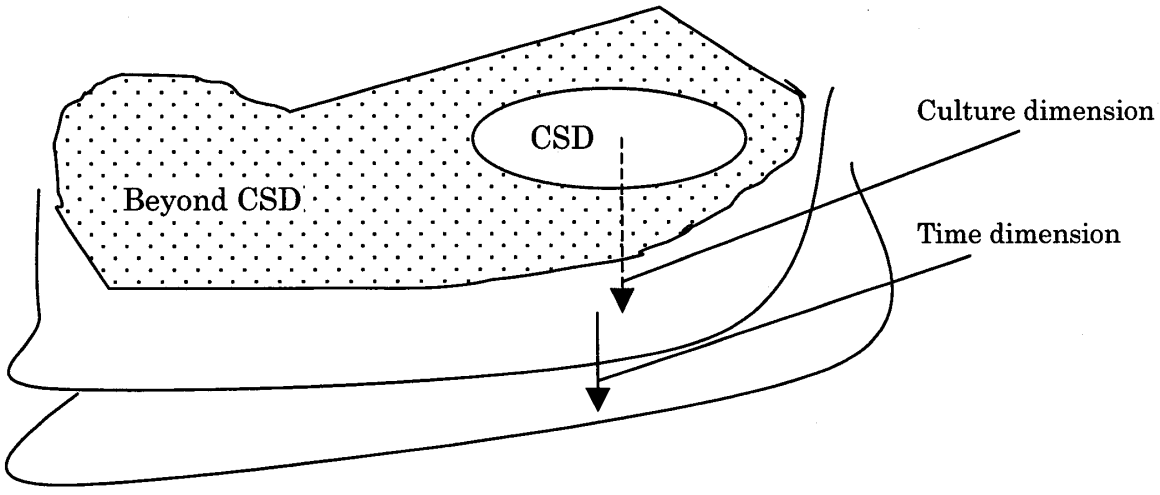


Figure 1: Two-dimensional Model of CSD Contrasted to the Multi-dimensional Needs of Truly Comprehensive Systems Design

CSD is shown as being on a plane with fixed values of time and culture (it is western, industrial, in the sense that it is active (versus receptive), it is dynamic, and is imposing).

Homeopathic Design

A key issue is what lies on the plane outside of the CSD boundary. We have called this "beyond CSD". Although it is "beyond design" as we currently know it we are able to offer some reflections on this area. Firstly we have coined the phrase homeopathic design. Where intervention is considered it will be important to retain the self-correcting, self-healing and survival mechanisms which are present in natural systems - and then to make sure that this enhances these natural immune system-like properties, and does not destroy them. To overlap this we should always consider the possible need to synchronise design efforts ***with*** nature. We may have the power to influence nature through bioengineering, but should we do this we risk facing the consequences of not understanding the complexity we may be disturbing. This is the first element of our new paradigm.

Cultural Parameters

Our model needs to take account of "alternative to design" that is characterizing by: (1) accommodating changes (rather than make changes happen); (2) following the flow and take natural advantage of it. Many aspects of culture flowing from rural, traditional, or ethnic forms of life experience will affect attitudes towards design. Participative democracy is based on the assumptions that people are opinionated and expressive, and that they will give their opinions if they have them. Another assumption is that "implicit agreement to participation by not saying anything does **not** exist". Under CSD those who want to be involved in the design effort are provided with the opportunity to do so. Those who do not wish to be involved are outside of the system. This is seen as a free choice and is acceptable within the stance of the CSD designers. However, this leaves the paradox from a meta-system perspective: the views of those outside the system are not being taken into account. Put it simply, how can there be a completely participative system if some choose not to participate. But there is also the case of other life forms that at the moment are left out of consideration. Consideration of cultural parameters is the second element of our new paradigm.

Concept of time

As described above we need to differentiate between time as a measurement, which now has a universal standard, and the experience of time that has played a major part in determining the different philosophy and values of different societies. Assuming that design can proceed, every definition in a design process would have to be subject to reconsideration with time and this must be kept in mind at every stage of the design process including implementation. Time in the new paradigm might be perceived to flow in a manner similar to what has been described as a liminal state (Rowland & Wilson, 1994). One experiences "liminal time" as somehow simultaneously fast and slow, "liminal" in the sense of being betwixt and between past, present, and future. In a way, one stands outside of time, simultaneously participating and observing one's participation. The experience is similar to what others have described as *flow*, the *sweet spot*, the *groove*, *peak experience*, and the *zone* during athletic and artistic performance, for example, the jazz musician simultaneously listening, responding, and generating new ideas. This is the third element of our new paradigm.

In presenting the Group's conclusions at the final plenary YH suggested that the difference between CSD and our vision of truly comprehensive systems design, was similar to the contrast between Newtonian and Einsteinian physics. Both Newtonian physics and CSD were practical and useful in many situations, but they were based on a set of assumptions that broke down as the boundary of application was extended to cover all cases.

TOOLS

As well as a new paradigm we offer a set of tools that might be considered when forming an EIS. These emerged in our discussion as at various stages as we attempted to clarify terms, seek understanding, proceed with analysis, reflect on design principles and then ponder implementation. These tools, see Table below, is limited to four ideas so far, but the concept of a set of tools is useful as something that can be extended and enhanced in future conversations.

Tools for Clarification

EGS/ES/EIS definitions The definitions provided on Page 1 may be helpful

	to an EIS.
Contrast and comparison	Figure 1 and the associated table of markers and characteristics may provide a useful guide. See also the Endnote and Appendix 1. This shows a direction that the conversation pointed for one member of the team as he later shared the work with members of his graduate research class.
Design Principles	
Fundamentals	While the fundamentals of an EGS for one designing community may provide helpful guidance for another, do not necessarily look to others for overlap - a community needs to create its own fundamentals.
Implementation	
Step-wise feasible goals	It is pointless to seek perfection in a making the first step in what may be a long and continuous period of change. As a guideline, aiming for a 60% success rate may be a sensible strategy.

While these have resulted from consideration of a long-term future, we believe they are relevant and appropriate to systems design applications now.

CONCLUSION

A conversation between members from both western and eastern traditions of thought provided a wonderful vehicle to consider what adaptation and transformation systems thinking will have to undergo in future if it is to be able to prove useful in very large design contexts where multi-perspectives will be present. Our consideration of possible systems thinking for Y3K led us to reflect that this could be, or should be, beyond design as we know it. The group's hypothesis is that contemporary systems design (CSD) was developed primarily for the industrial society, which is not a universal framework for all kinds of problem solving or task-fulfilment. Rather, there could be numerous cultural frameworks besides the large-scale industrial system, even for people's lives in developed nations. What we suggest to be now needed, as humankind, is to accept such a broad

area/framework of human activities, and develop systems "meta-design" concepts for various cultural settings.

This might involve such considerations as: (1) accommodating changes (rather than making changes happen); (2) following the flow and take natural advantage of it; (3) accommodating different senses of time (e.g., linear versus cyclical); and (4) working in a co-creative way with nature. We imagined dynamics requiring a different approach to implementation as well, for example, seeking 60% completion as a reasonable goal that would allow for change during the implementation effort.

As a result of our conversation we feel bold enough to offer a new paradigm to the systems community. While what we currently use (contemporary systems design, CSD) is often described as comprehensive, we believe that as practised it is fixed to a particular set of assumptions relating to culture and time, whereas we are actually faced with a wide range of possible parameters in culture, time, etc. CSD has fixed values of time and culture. It is western; industrial, in the sense that it is active (versus receptive); dynamic and imposing. The hypothesized paradigm includes beliefs and assumptions along the lines suggested above as well as methods and key concepts such as homeopathic design (enhancing the natural "immune systems" of social systems and synchronizing efforts with nature). In addition, we offer a set of tools that might be considered when forming an evolutionary inquiry system (EIS). In offering these ideas we recognise that we are not acting as an EIS ourselves, but acting as possible stewards for the EIS development process.

As a final reflection on the conversation process, we noted that the effort of sharing input papers had been useful. The papers served to focus individual thoughts and for collective sharing on these. This made the generative dialogue easier, and provided a trigger question which was the catalyst for the conversation.

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ENDNOTE

See also Appendix 1 which was added by Gordon Rowland after the conversation. The Appendix contrasts the ontological, epistemological and methodological aspects of systems practice c.2002, CSD 2002, and truly comprehensive systems design, using alternative descriptions of rationalistic/positivistic, naturalistic/constructivist, and holistic.

Appendix 1: Possible Characteristics of a New Paradigm of Inquiry

	Rationalistic/Positivist	Naturalistic/Constructivist	Holistic
Ontology			
reality	reality exists independent of human understanding	reality may exist independent of human understanding but all we humans can know of it are our interpretations; realities are multiple mental constructions	all is one: reality with humans is reality; reality without humans is reality
relationship to reality/world	stand apart; purposely separate, distance self from world	recognize and reflect upon separation as a constraint on knowing	recognize our capability to connect
change	reality is determined; evolution unfolds	what we believe to be reality(ies) is continually modified by our interpretation of experience	all things interdepend so all changes change everything
consciousness	we are conscious, allowing us to see ourselves separate from an external world	we are conscious of consciousness, allowing us to reflect on our role in creating what we see	we are conscious of consciousness of consciousness, allowing us to seek connections beyond mindbody
human behavior	human behavior, like all else in the world, is governed by unchangeable laws	human behavior is neither random nor capricious, but is not coherent across contexts or predictable	dynamic behavior of the world and humanity are inextricably intertwined
time	time is a variable to be controlled and/or measured	time is an important element of context/setting	time is a fluid dimension of reality
Epistemology			
knowing	mapping; more or less accurately or truthfully representing the ways of the world	interpreting experience	being; becoming one with all
seeing	we can stand outside, separate ourselves from the world and objectively observe	we can (subjectively) interpret through experience with the knowledge that our experience shapes what we see	we can experience; we can reflect on and in experience (and can reflect on our reflection)
meaning	meaning is in the world; we can gain more or less accurate or "truthful" representations	we socially construct and negotiate meaning; we allow meaning(s) to emerge	we experience and appreciate meaning

Methodology			
approach	direct questions at and operate on the world to discover its "true" nature; theorize to explain the past in order to predict the future	interact with the world to construct understanding; describe the past and present in order to understand	become one with the world; live here and now
role of inquirer	separate oneself from object in order to observe and to discover its general properties and principles	empathize with those in a setting in order to interpret and describe the uniqueness of their situation	open up to, admit, connect, include what appears separate from oneself
method	isolate variables in lab; manipulate and observe, measure {experiment}	participate and observe in natural setting; tell the story {ethnography}	participate in life; live; "undo" method {cross-cultural, cross-species? dialogue}
time and space of inquiry	fix; stabilize; control	bound dynamism; enter and exit	walk the edge (of chaos and order); embrace liminal timespace
logic	deductive	inductive, perhaps abductive	"undo" logic
causality	define simple cause and effect	describe complex interdependence	accept mutual causality
results	support or falsify hypothesis	enrich understanding	sensitively depend
goal	truth	insight	harmony
quality criteria	determine validity	establish trustworthiness	open up to oneness

Notice that in the naturalistic/constructivist paradigm the distinction between ontology and epistemology breaks down, while in the holistic paradigm the distinctions between ontology, epistemology, and methodology all break down.

Prepared by Gordon Rowland based on work done at the 2002 Fuschl Conversation on Social Systems Design with Gordon Dyer, Debora Hammond, Yoshi Horiuchi, and Mayumi Otsubo.