

Stuart A. Umpleby—a Directory

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The American Society for Cybernetics
offers this small book to Stuart A. Umpleby
as a tribute to mark the year of his 70th birthday.

Stuart A. Umpleby

A Directory

Compiled, edited and produced by
Ranulph Glanville. Karl H. Müller and Pille Bunnell

published by BKS+, Southsea, UK, on behalf of the ASC

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Stuart A. Umpleby: A Biographical Sketch

Stuart A. Umpleby was born on March 5, 1944 in Tulsa, Oklahoma. From 1962 to 1967 he studied political science and mechanical engineering at the University of Illinois in Urbana-Champaign, received his M.A. in political science in 1969 and his PhD in communications in 1975.

From 1975 to 2014 Stuart Umpleby was a professor in the Department of Management and Director of the Research Program in Social and Organizational Learning in the School of Business at The George Washington University. From 1994 to 1997 he was the faculty facilitator of the Quality and Innovation Initiative in the GW School of Business and Public Management. From 1997 to 2000 he worked on the Year 2000 Computer Crisis, viewing it as an opportunity to test social science theories using a before and after research design. He teaches courses in the philosophy of science, cross-cultural management, organizational behavior, cybernetics, and systems science. Other interests include process improvement methods, group facilitation methods, and the use of computer networks.

Stuart Umpleby has published articles in *Science*, *Policy Sciences*, *Population and Environment*, *Science Communication*, *The Futurist*, *Futures*, *World Futures*, *The Journal of Aesthetic Education*, *Simulation and Games*, *Business and Society Review*, *Journal of International Business and Economics*, *Telecommunications Policy*, *Journal of the Washington Academy of Sciences*, *Reflexive Control*, *Systems Practice*, *Kybernetes*, *Cybernetics and Human Knowing*, *Cybernetics and Systems* and several foreign language journals. He is a past president of the American Society for Cybernetics and Associate Editor of the journal *Cybernetics and Systems*.

Stuart Umpleby has received research grants from the National Science Foundation, the Charles F. Kettering Foundation, the Charles Stewart Mott Foundation, the Nathan Cummings Foundation, the U.S. Department of State's Bureau of Educational and Cultural Affairs and the Central Asia Research Initiative. He has consulted with the World Bank, with government agencies in the U.S. and Canada and with corporations in the U.S., Europe, Japan, and China.

He has advised on the creation of a PhD program in management and business in Almaty, Kazakhstan. In May 2008 he conducted a video conference on 'How to do Research' with Uzbek scholars at the U.S. Embassy in Tashkent.

In connection with his work in systems theory and management, he has been a guest scholar at the Wharton School of the University of Pennsylvania, the International Institute for Applied Systems Analysis in Laxenburg, Austria, the University of Vienna, the Institute for Advanced Studies in Vienna, Austria, and the University of St. Gallen in St. Gallen, Switzerland. He is a member of the Principia Cybernetica Project at the Free University of Brussels. In spring 2004 he was a Fulbright Scholar in the School of Economics and Business, University of Sarajevo, Sarajevo, Bosnia-Herzegovina.

Between 1981 and 1988 Stuart Umpleby was the American coordinator of a series of meetings between American and Russian scientists to discuss the foundations of cybernetics and systems theory. These meetings were supported by the Russian Academy of Sciences and the International Research and Exchanges Board of the American Council of Learned Societies. His interest in the transitions in the post-communist countries has resulted in his presenting lectures at various institutes of the Academies of Science of Russia, Ukraine, Poland, Hungary, and Bulgaria. He is a member of the American Association for the Advancement of Science, the American Society for Cybernetics, the Austrian Society for Cybernetic Studies, the Society for the Advancement of Socio-Economics, and the International Society for the Systems Sciences.

Stuart Umpleby: an Appreciation

Ranulph Glanville

One of the nicest tasks that falls to me as president of the American Society for Cybernetics is to express how, as a society, we delight in and value (and so offer thanks for) the lives and work of our members. Normally we do this through the mechanisms of our Awards, and by granting Life Fellowships. But, on occasion, there is someone whose service and commitment to both cybernetics and the ASC has been so great that we feel we would like to mark it in a special way.

This little booklet is one instance of making such a mark. Two years ago we celebrated the life and work of our longest serving member, Klaus Krippendorff, marking his 80th birthyear. This time it is our most persistently involved member, Stuart Umpleby, whose contribution we mark in his 70th birthyear. For Klaus, we published a booklet of appreciations and biography, together with a selection of publications and hot links to them, both as a physical booklet and on the ASC website:

http://asc-cybernetics.org/publications/Krippendorff/Krippendorff_A_Directory_Linked.pdf

This year we do the same for Stuart Umpleby:

http://asc-cybernetics.org/publications/Umpleby/Umpleby_A_Directory_Linked.pdf.

I met Stuart at Heinz von Foerster's Biological Computer Laboratory at the University of Illinois when I visited Urbana-Champaign, just after the *Cybernetics of Cybernetics* had been published. Stuart participated in the making of that compendium and commentary. I was lucky enough to be given a copy. Half a dozen years later, around 1980, I met him again—this time as president of the ASC.

The ASC had more or less disintegrated into a private business venture during the presidency of Roy Herrmann, and was revived through a joining together with the American Cybernetics Association in Philadelphia (of which Klaus was a member, bringing with him the bylaws which were taken as the model for the renewed ASC). In next

to no time, a young Stuart, newly appointed a professor at George Washington University, was elected president and remained in post for 2 years. I remember 2 excellent conferences he organised, in which Gordon Pask and I played the crazy English fools in the presence of our tolerant and forgiving American hosts. I suspect Stuart has yet to change his mind about my foolishness, and I may be inclined to agree with him.

This period marks the beginning of Stuart's life of commitment and service to the ASC and cybernetics. He has quietly and diligently looked for openings (you will find accounts in the pages that follow), pursued them, established networks, and promoted both. As current president, I have found this to be daunting: some weeks there's a minor maelstrom of Stuart suggestions, to which I have had to reply that what we need is help to achieve current ends and simply don't have the capacity to add new ends to achieve, no matter how desirable.

He is the great constant in the changing sea of the ASC. He is there, supporting, suggesting, cajoling, encouraging. He remains there as presidents and executives change. He will join in a fractious dispute to bring calm, and he will provide assurance and a feeling of carefully weighed judgement. When the current executive felt that it would like to ask certain elder statespeople to act as ambassadors for the society, encouraging knowledge of our existence and of what we do, building connections, creating openings for cybernetics and the ASC, Stuart was an obvious candidate (he accepted). In the past year or so, we have made more connections and achieved more outreach than for many years, in good part due to Stuart's actions.

Stuart is an unflappable and calm gentleman, a scholar from, in many respects, an older and more gracious time. I don't mean that he is not of the present, rather his manner of behaving reflects a time where care and carefulness, measure and meter, bridge building and bringing together, courtesy and respect had more place than they too often do, nowadays. This is not old-fashioned. I have argued for some time that for a (second order) cybernetic system to work, we need to act in exactly the way that Stuart does. He is a generous man who has remained true to his discovery that cybernetics is special and it

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brings us new possibilities, in spite of the attempts of those, usually far less well-informed than he, to bully their ways past him.

We salute you, Stuart, in this your 70th birthyear, and thank you for your extraordinary constancy, consistency and commitment to our subject. We hope that, by both singing your praises and offering others this access to your work and your world, we show you our affection, recognition and respect, and help your ideas and your arguments reach wider and further; to hold greater sway.

On behalf of the ASC, of cybernetics and the better world you constantly strive to bring to us and bring us to: thank you, Stuart.

Southsea, UK

10 July, 2014

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I on Stuart

Karl H. Müller

I met Stuart for the first time in the early 1990s in Vienna when he was giving a seminar at the Institute for Advanced Studies. Out of our conversations at that event numerous encounters followed where we tried to develop new ways for doing cybernetics differently. Over all these years I have become more and more impressed by Stuart's abilities to move to new terrains and new thematic challenges outside the traditional fields of cybernetics and systems science.

As I am writing this small essay I need to arrange these different fields and activities for myself as well as for prospective readers. Stuart himself provides a classification of his work into the domains of cross-cultural management, cybernetics and systems science, quality improvement priority matrix, service learning, technology of participation and world population.

As an alternative, I will use a timeline-approach that will emphasize several of Stuart's publications in chronological order. At each step I intend to find some general principles or theoretical assumptions which are, in my view, characteristic for Stuart's style of thinking, writing and operating. At the end of this essay I hope that Stuart and his work become more transparent and accessible to a wider audience, including myself.

Before proceeding along the timeline approach I would like to lay out several general and timeless fixed points which, for me, become necessary ingredients or constants in any comprehensive description of Stuart's work and his way of world- and science-making.

Fixed Points

From the diversity of his publications, as well as from a very large number of personal conversations and discussions, I will propose five general fixed points which for me become trademarks for an overall characterization of Stuart, and which can be found in many variations and recombinations across his entire work.

The first fixed point is a thematic one and states that Stuart operates constantly in the fields of science, society and technology and in their changing relations with each other. Stuart is a scholar of the underlying dynamics of contemporary societies, their technological substructures and their co-evolving science systems. Practically all his publications are focused on the triad of science, technology and society which lead to the general observation that Stuart deals exclusively with social or societal cybernetics.

An important corollary can be added to the first fixed point. Stuart deals with the triad of science, technology and society in an integrative or holistic manner. In his science studies for example, he constantly combines aspects of the philosophy of science with the sociology of science as well as with wider societal or technological trends. He usually views these different aspects of science studies as complementary; to be taken into account simultaneously.

The second fixed point for me is that Stuart sees himself primarily as an activist and as an initiator for changes in science, society and technology. Stuart acts mostly as a catalyst, as a mediator or as a manager for changes and very seldom stops at analysis alone.

Two corollaries that are highly characteristic of Stuart's work and activities can be added to the fixed point of activism and initiation. First, Stuart acts with a strong ethical commitment for a qualitative improvement of living and working conditions in science, technology and society. Similarly to Ludwig Wittgenstein or Heinz von Foerster, this ethical commitment stays implicit in most of his writings but it functions, nevertheless, as his necessary reference point for the evaluation of contemporary systems of science, technology or societies. Moreover, he evidently believes that the science system in general and universities in particular have a strong responsibility to engage with their local, national or global communities and to implement solutions which eliminate barriers and obstacles for a better society. In this spirit Stuart has worked, and continues to work, with a large number of methods which help to induce and organize changes in local organizations and communities as well as in national and global institutions.

The second corollary to activism is related to designing change based on participation. For his work Stuart requires the integration, participation and activation of the groups involved in a research task. As a consequence, one finds a large number of practical methods in Stuart's research designs that help to bring groups together and to create suitable environments and soft infrastructures for conversations and discussions.

As my third fixed point I refer to Stuart as an active participant observer in the fields of science, technology and society. For this he uses cybernetics and systems science as the necessary theoretical background for his practical activities. For Stuart, cybernetics and systems science are the tools and instruments for inducing changes and are not analytical ends in themselves. They are useful and relevant only because they enable an enlightened form of praxis. Furthermore, practical experiences, in turn, provide an important element in advancing cybernetics and systems science.

The fourth fixed point lies in a self-reflexive twist which links the first three fixed points into a circular configuration of analyzing themes, promoting changes and reflecting on the effects of these interventions in a manner that results in new thematic analyses. Stuart sees himself constantly embedded in these theory-action-reflection circles and several of his writings even reflect on these self-reflexive circles.

As an important corollary to this circularity, the concepts of reflexivity and self-reflexivity belong to the core elements of Stuart's semantic network. His vivid interest in self-reflexivity manifests itself, *inter alia*, in his attempts since the 1980s to popularize the work of Vladimir Lefebvre on reflexive control. Similarly he has promoted George Soros' reflexivity theory and his analyses of financial crises and crashes that stress the dual role of financial investors as active participants in a global financial network and as passive receptors of the effects of aggregated activities in financial markets. These two examples point to the central relevance of reflexivity and self-reflexivity in Stuart's way of operating and thinking.

Finally, the fifth fixed point results from the wider consequences of a self-reflexive circular configuration and deals with Stuart's relations to

his academic environments. Being a 'reflective practitioner' (Donald Schön, 1983) and a very active participant observer in cybernetics and systems science creates, almost by necessity, an alienation from traditional scientific communities and academic departments. Throughout his entire academic career Stuart has had to work at the margin of margins or the edges of edges. This position of being on the outside of the outside started with Stuart's co-operation with Heinz von Foerster. The Biological Computer Laboratory was seen as an unidentified floating object within the Department of Electrical Engineering at the University of Illinois in Urbana-Champaign, and eventually continued within the context of a business school and a department of management at George Washington University. It requires enormous strength and self-confidence for one's own agenda to proceed without the recognition of the gate-keepers in management science, in sociology, in political theory or in technology studies.

For me, Stuart is an admirable example that, despite the last fixed point, innovative and relevant research is feasible in the area of cybernetics and systems science even in a non-receptive environment. One might even argue that radically innovative research is more likely to occur within marginal niches than within mainstream centers. Stuart's work is a living demonstration that this path, despite its day to day problems and predicaments, can be undertaken as a life-long activity with sustainable successes both along the way and at the end.

After these general observations on Stuart I will develop a few more specific descriptions of him and his way of world-making and science-making. The starting point for my timeline approach is the year 1974 and lies in a still impressive collection, *The Cybernetics of Cybernetics*, edited by Heinz von Foerster and by a group of his students in a course of the same name that started in the fall semester of 1973 and continued into the spring semester of 1974.

Planning for a Scientific Revolution

In one of the earliest short articles by Stuart (*On Making a Scientific Revolution* Umpleby, 1974) he expresses a series of theoretical assumptions or principles which reflect the various fixed points that I outlined in the previous section.

Already in this early paper Stuart sees himself primarily as an activist whose main task lies in organizing or orchestrating a scientific revolution for the social and the behavioral sciences. He defines his main task as setting out a work plan for winning acceptance for the new science of cybernetics and for institutionalizing cybernetics as an engine for significant changes and accommodations in the social and behavioral sciences.

At the beginning of this article Stuart stresses the discrepancy between the advancements within cybernetics and the unrealized potential for cybernetics in the fields of social and behavioral sciences as these adhere to traditional and non-cybernetic ways of methodology and theory construction. His phrase “use cybernetics as the theory to guide the revolution” (Umpleby, 1974:130) makes it clear that cybernetics provides the necessary means for organizing a conceptual revolution in the social and the behavioral sciences. Stuart differentiates between cybernetics or first-order cybernetics as a scientific revolution and cybernetics of cybernetics or second-order cybernetics as the instrument to implement or organize this revolution.

Stuart continues to lay out two agendas, one for winning acceptance for the new cybernetic paradigm and the other for institutionalizing cybernetics as a scientific revolution. The first agenda is focused on acceptance strategies such as “point out contradictions in the dominant paradigm and show how the new paradigm resolves the apparent contradictions” (*Ibid*:131). The second agenda deals with organizational and power struggles through the suggestion of placing representatives of the new paradigm into key positions of funding agencies or the creation of new departments (*Ibid*).

For me this article is highly characteristic of Stuart as an activist and as an initiator of changes both in the cognitive and in the institutional

organization of science. His primary focus lies in changing and energizing the current cognitive and organizational science system and in using cybernetics and systems science as the means for generating these changes. For Stuart, a scientific revolution does not play exclusively on cognitive grounds, but also requires fundamental organizational and political changes that have to be included in a comprehensive blueprint for a scientific revolution.

Science 1 and Science 2

Stuart was to my knowledge one of the first persons to introduce a distinction which has become more widely used in recent years. He makes a differentiation between two modes of science which he labeled Science 1 and Science 2 (Umpleby, 1987). Science 1 is the classical model of science as exemplified in theoretical physics. Science 2 is linked by Stuart to observers and their roles and effects on the fields under observation. Science 1 operates, according to Stuart, on observed systems while Science 2 deals with observing systems.

In recent years, Stuart has followed up his earlier distinction between Science 1 and Science 2 by presenting more elaborated accounts of these two forms of science organization based in part on papers by Rogers J. Hollingsworth and myself (Hollingsworth and Müller, 2008, Müller, 2012, Müller and Toš, 2012). Nevertheless, Stuart deserves the credit of being one of the pioneers in this differentiation of alternative modes of science.

In my view his 1987 paper and the followup work are characteristic of Stuart as a constructor or inventor of conceptual differentiations with far-reaching and deep consequences. Stuart is a champion for conceptual tables and matrices which separate general domains into highly significant partitionings. In most of his writings Stuart uses these distinctions and finds heuristically fruitful ways for conceptual differentiations.

Integrating Diversity and Cross-Cultural Management

During the 1980s Stuart became actively involved in a series of meetings between Soviet and American scientists in the fields of cybernetics and systems science. Some of this work is presented in an article with the title *American and Soviet Discussions of the Foundations of Cybernetics and General Systems Theory* (Umpleby, 1987). In this article Stuart reports on significant differences in American and Soviet perspectives as these manifested themselves during a series of conferences and talks.

My first observation about this article is that it reveals Stuart's motivation to engage in cross-cultural discussions. Ronald Reagan had been elected president of the U.S. in 1980 which meant a shift to an openly hostile policy towards the Soviet Union and a harsh time for dialogues and discussions between Soviet and American scientists. Despite and because of these problems Stuart organized meetings and conferences to keep the dialogue between Soviet and American researchers in cybernetics and systems sciences alive.

A second intriguing point in this paper lies in Stuart's attempt to highlight significant differences in thinking, writing and discussion styles between Soviet and American scholars. Stuart characterizes the Soviet style of thinking as a complex parallel configuration of content, intentions and actions whereas the American style assumes a linear procedure and an identity between content, intentions and actions.

In the early 1980s Stuart also became aware of the work of Vladimir Lefebvre (Lefebvre 1982 and 2001) who developed an impressive theory of self-reflexivity that is based on the self-reflexive entanglement between how A thinks that B regards A, and how B in turn thinks that A regards B. One of the most fascinating applications of the self-reflexive Lefebvre system lies in the domain of international relations where Lefebvre built two different ethical systems, System I and System II, with correspondingly opposite configurations of means, ends and evaluations. For Stuart, Lefebvre's two ethical systems became an important background theory to account for the differences between science and politics in the Soviet Union and in the United States.

As a general observation I would like to stress Stuart's special role and function in social exchanges. He usually acts as mediator or equilibrator and tries to strengthen the weaker side or weaken the stronger side. In the Soviet-American relations of the early 1980s, Stuart wanted to keep the dialogue and the potential of inter-cultural learning intact. In his own words his goal during these years "was to make some small contribution to the maintenance of communication between the two countries during a period of increasing tension" (Umpleby, 1987:180)

My second general observation refers to Stuart's high sensibility that communities, cultures or science systems differ widely and wildly across space and time. Unlike the conventional American approach that views cross-cultural differences as unhappy deviations from the American way of management science, cybernetics and systems science, or of life in general, Stuart acts on the contrary assumption that different regions or periods may develop their specific forms of science, culture or life which have to be made explicit. For Stuart, these differences do not eliminate potential exchanges, but have to be specified as a pre-requisite for entering into meaningful cross-cultural dialogues.

Demographic Transitions

In 1960 Heinz von Foerster and co-workers wrote a very widely distributed article for *Science* (Foerster, Mora and Amiot, 1960) on global population growth. In this article Heinz used a hyperbolic function for a long-term projection of the world population. One of the consequences of the von Foerster-equation was that the model exhibited a singularity and reached infinity around the year 2026. As a self-ironic twist Heinz used his birthday on November 13 to mark the end of the world for November 13, 2026.

Partly due to the singularity and partly due to von Foerster's radically different approach on population growth, an approach not based on mortality and fertility rates but on population sizes and interactions, the reaction of mainstream demographers was one of implicit rejection or explicit hostility.

In later years Stuart was one of a small group that followed the von Foerster projections, their deviations from the actual numbers of the world population and the performance of available projections of world population by traditional demographic models. In the article *The Scientific Revolution in Demography* (Umpleby, 1990). Stuart presents a short summary of the von Foerster model for the growing world-population, its emphasis on decreasing doubling times for growth and its population projections from 1960 to 1990. As a highly interesting result Stuart demonstrated that the von Foerster projections, unlike many of the available demographic models on global population growth, turned out to be accurate from the 1960s to the late 1980s and that the conventional demographic models were far too conservative in their long-term estimates.

Needless to say, Stuart's search for common ground by making differences between conflicting paradigms in demography transparent in a way that could initiate a demographic revolution was not recognized by the traditional demographic mainstream at that time. Especially here, the fifth fixed point of living at the margins of margins reflects itself vividly because almost no one in the demographic community took von Foerster's or Stuart's publications seriously. The demographic community did not react to Stuart's severe criticism of erroneous projections of world population based on the traditional assumptions made in demographic models. Demographers continued to disregard von Foerster's equation and chose to make population projections by relying on either current or projected fertility and mortality rates.

His work with population projections is an example of Stuart's ability to provide new and common reference frames where one can order conflicting approaches and see immediately both the similarities and divergences between different paradigms. As Lou Kauffman states in his dedication, holes or significant differences become easily visible and obvious once one sees Stuart's common and magic reference frames.

Stuart likes to construct conceptual tables and matrices which use tools and insights from the philosophy of science in order to highlight epistemic differences between conflicting paradigms. As in the case

of his attempt to bridge the traditional demographic projections and von Foerster's global population prediction, Stuart also became engaged with Thomas S. Kuhn's *Structure of Scientific Revolutions*, on the correspondence and incommensurability between different paradigms. This work became a life-time companion to Stuart in his own work on elucidating the differences and incommensurabilities between conflicting research traditions and presenting them in a highly organized and systematic manner.

The Year 2000 Problem (Y2K)

Around 1997 Stuart made me aware of a potentially huge failure in computer hardware and computer programming globally which became known worldwide as the Y2K problem. In this area Stuart provided several in-depth analyses which are still interesting to read as general accounts on the fragile and unstable information substructures of contemporary societies.

In an ex post assessment *Coping with an Error in a Knowledge Society: the Case of the Year 2000 Computer Crisis* (Umpleby, 2000), Stuart provides interesting reflections on the scope of the problem and the reasons why the Y2K problem did not turn into a major global disaster. In this article he stresses the relevance and the centrality of global actors such as the transnational enterprises that became the primary force for Y2K solutions since they had to protect their globally distributed networks.

Stuart's work on the Y2K problem is highly characteristic of his ability to identify significant future events or trends with a high impact for societal evolution at the national or at the global level. Due to his keen sense for these potential or immanent disruptions he is able to act as a significant whistleblower at an early stage.

Stuart's papers on the Y2K issue are also a typical example of his attention on tasks and themes that correspond to holes or "white spots" on the science map. Social scientists and experts in technology studies around the world mostly neglected the Y2K problem and viewed it primarily as a practical concern or as an information and computer science issue that had to be fixed. Stuart saw the Y2K issue as a new type of problem that is characteristic of

the fragile nature of contemporary knowledge societies. These societies have an architecture that is becoming increasingly divergent from the basic architecture underlying societies of the past.

Quality Control and Quality Improvement

Stuart's writings on the topic of quality control and improvement reveal another instance of his vivid interest in a topic that he again approaches as an actor and initiator embedded in self-reflexive configurations (my fourth fixed point.)

During the period 2001 to 2005 Stuart used the Quality Improvement Priority Matrix method (QIPM) for coordinating a project in the department of management at George Washington University. (*Agenda Setting and Improvement Monitoring in a University Department*. Dubina and Umpleby, 2006). This method compiles day to day problems, difficulties, bottlenecks or barriers in an organization and generates a priority agenda based on the importance of problems and their current performance levels. In particular, Stuart focused his main theoretical interest on the importance/performance ratio (IPR) and clustered the range of problems of the department by their IPR scores into four groups: urgent, high priority, medium priority and low priority. As a result of this project it became possible to discern problems that had a high importance for the department and a low performance score. These were developed into an agenda which appropriately ranked urgent and high priority tasks.

In my opinion this project is highly characteristic of the self-reflexive configurations that are typical for Stuart's research activities. Being himself part of the department of management he set out to explore, with the participation of his colleagues, the structure of current problems faced by the department. Based on the empirical results and on four clusters of departmental problems, Stuart proposed a priority agenda for the department and ways to implement it. Interestingly, the item 'department organization to implement its strategic plan' had the highest IPR-score. Perhaps as a consequence, Stuart's priority agenda was not fully enacted in subsequent years.

Service Learning

Since his early years at GW Stuart has incorporated service learning in his courses at George Washington University. His students become involved with clients from the local community and help them solve relevant practical problems. Thus service-learning produces a win-win-situation for education and local communities. Although service learning is becoming more and more popular in universities across the United States, other regions of the world are not using this effectively. In an article written with Gabriela Rakicevik from the St. Kliment Ohridski University in Macedonia, Stuart poses the question of why this is so (*Adopting Service-Learning in Universities around the World*, Umpleby and Rakicevik, 2008). In this article Stuart and Gabriela emphasize inter-cultural differences, inclusive of universities in other countries operating quite differently from universities in the United States, as the main barriers to implementing a service learning approach. In his typical manner, based on his discussions with a number of university teachers throughout Southeast and Eastern Europe, Stuart produced a list of obstacles to transferring service-learning to other countries. In conclusion the article suggests some practical ways to reduce the obstacles and barriers to implementing service learning and proposes remedies such as support with logistics, planning, evaluation and communication or creating incentives and rewards for faculty members who include a service learning component in their curriculum.

Stuart once again emphasizes that universities in particular and academic institutions in general have a strong responsibility for improving and empowering their local communities and that the academic system must become an active partner in resolving the problems experienced in their local environments. This type of responsibility is usually not included in the mission statements of most academic institutions. In his role of activist Stuart has identified service learning as one of the missing links between the academic world and the practical problems of their locale. Obviously, this special and un-conventional emphasis places Stuart, once again, at the margin of margins - especially in academic institutions outside the United States.

Reflexive Cybernetic Circles

In recent years Stuart has become interested in the work of George Soros and his version of reflexivity theory (Soros 1994, 1998, 2001, 2007 and 2009). Soros emphasizes the role of micro-actors in financial systems who constantly produce an aggregate outcome and are, in turn, affected by these macro-effects, which then induce new operations by the micro-actors.

George Soros, investor and philanthropist, has been developing reflexivity theory for over twenty years. He has said for many years that unregulated financial markets are unstable. People are now beginning to pay attention to his ideas (Umpleby, 2010:14).

In the article *The Financial Crisis: How Social Scientists Need to Change Their Thinking* (Umpleby, 2010) Stuart develops a typology of four models in the social and behavioral sciences; namely linear-causal, circular-causal, self-organizational and self-reflexive models. Stuart provides strong arguments that any comprehensive account of financial crises has to embrace self-organization and self-reflexivity. In order to do this, a new generation of models is required, models that differ wildly from the traditional family of homo-economicus models.

This article once again reflects one of Stuart's typical approaches. He demands new foundations for the social and behavioral sciences that enable scientific observers to participate in the socio-economic domains they are observing -- and are thus self-reflexive by design. Moreover, he claims that these new foundations for the social and behavioral sciences must be accompanied by an expansion in the philosophy of science in a way that accounts for self-reflexivity and observers.

At this point, a thematic circle closes itself. My brief time-line account started with the need to revolutionize the social and behavioral sciences and now ends with the specific ingredients for these new foundations: namely observer-inclusive self-reflexive configurations for practically all collective societal processes.

Reflections on Reflections

For me it is fascinating to see how the five fixed points from the outset of this small essay are recombined in the articles selected for this time-line. For example, Stuart's interests in the Y2K problem reflect practically all five fixed points. Y2K became a core topic in Stuart's science-technology-society agenda, it posed an enormous practical problem and required instant solutions and fixes on a global scale. Due to the interconnectedness and circularities involved in the Y2K issue, cybernetics and systems science provided useful analytical tools. Stuart was deeply involved in the response to the Y2K threat. He took on multiple roles and functions, namely as organizer of seminars, workshops and conferences, as lecturer, as awareness builder for media, as a Y2K analyst and as a private citizen and homeowner. Finally, despite the enormous proportions of the Y2K problem Stuart remained one of the lone voices in the wilderness, staying at the margin of margins of the management and social science communities.

In the final section of this small essay I will pose a traditional reflexive question: *cui bono?*

Ranulph and I, with the input of others have, to the best of our knowledge, compiled a descriptive summary of Stuart's work. We the writers and you the readers are the *personae dramatis* who have acted in a mixed mode of distance and intimacy, intentionality and non-intentionality, to produce this booklet. As usual the reader, the *lector in fabula* and not the authors, determines the content of this booklet and its future effects. Therefore, I will make no further comments with respect to the intentions of authors and initiators.

For all of us, this booklet may have its special benefits irrespective of the underlying motivation. For me it has been a worthwhile exercise in getting a fuller picture of Stuart as scientist and as a person. Similarly, a reader may be motivated to continue with the section *Stuart on Stuart*, read some of the referenced articles, and become entangled in Stuart's self-reflexive conceptual networks of cybernetics of cybernetics, Science 2, service learning, quality control, intercultural communication, reflexivity and the like.

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For Stuart, this booklet may be handy at a time of transition, retiring from George Washington University and moving on with research activities in practical cybernetics and systems science. Moreover, the booklet may become a stimulus to him for continuing the lines of research that he has pursued with stubbornness and diligence for almost fifty years.

In the best of all possible worlds Stuart might accept this booklet as a sign of appreciation from the cybernetics and systems community for him as scientist and as a human being. Continuing in the spirit of the best of all possible worlds, he might conclude at the occasion of the year of his 70th birthday that living on the margins of margins produces, at least after an impressive number of scientific adventures and explorations into thematic white spots and uncharted waters, radical breakthroughs for traditional science.

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Others on Stuart

This section brings together a few of Stuart's friends and colleagues in the fields of cybernetics and systems science and their dedications for Stuart's 70th birthday. These small contributions are remarkable to read because they exhibit a high degree of convergence and offer a very coherent perspective of Stuart as researcher and as a human being.

In Appreciation of Stu

Pille Bunnell

I find Stuart Umpleby to be a ‘gentleman’ in the very best sense of the word. This is not just a matter of ‘good manners’, it is a way of engaging with ideas and persons in a gentle and substantial manner of listening, thinking, and encouraging. Stu has a way of getting projects to work. He saw the need for a ‘home office’ for the American Society for Cybernetics (ASC), and thus he created one. He was the first person to see the need for a website for ASC, so he arranged for that to happen. And this was not ever a matter of empire building, it was always service. When others were ready to take on various tasks, he was, in his gentlemanly fashion, forthcoming with turning over the materials and providing expertise as needed.

Stu generates vision and connection. He consistently looks for and tests out better ways of communicating cybernetics notions to a wider audience. In doing so he manages to translate the jargon into presentations that are meaningful to others. He is known for his flow of ideas for improvement, a more bountiful flow than mere mortals are at times able to implement. He acts as an abundant source and he seems content that only some of his suggestions ‘catch on’ and are implemented—there are always new ideas to follow.

In addition to all his contributions, I also personally appreciate the generous friendship of Stuart, the gentleman!

**On the Occasion of the 70th Birthday
of Professor Stuart Umpleby**

Nagib Callaos

We, as friends and colleagues of Professor Stuart Umpleby, celebrate his 70th birthday with a special feeling of gratefulness for having had the opportunity of being among his friends and having had access to his intellectual achievements *via* his writing, seminars, and informal conversations in public and private meetings.

Many think of him as a good role model for our children and students. His intellectual, scholarly, and research achievements are widely recognized and respected, especially in the cybernetics and systems science communities. His contributions in these fields and especially in second order cybernetics are significant and important. His creative leadership was evident when he chaired the American Society for Cybernetics, and it has helped many of his colleagues in the organization of many conferences and other events in the fields of systems and cybernetics. Many intellectual, scholarly, and scientific achievements in his life earned him the esteem and the respect of many of his colleagues, attendees to his multiple seminars, and the many students he has had through his long academic life. His inter-disciplinary research and his effort in fostering international co-operation make him an exceptional inter-disciplinary and inter-cultural communicator. His intellectual versatility and flexibility and his understanding of other cultures, along with his listening and dialogical skills makes him an effective inter-cultural and inter-disciplinary diplomat. There are many other reasons why I am so grateful I have known Professor Umpleby for so many years.

Happy birthday, Stuart!

Stuart Anspach Umpleby 03-05-44

Alfred Inselberg

How is it possible that you will be celebrating your 70th birthday, so young and with a full head of hair?! And what an auspicious birthday to have in the year of the 50th Anniversary of the ASC ... you are the crowning glory of BCL's¹ graduates. You are also, and in so many ways, not only one of Heinz von Foerster's most illustrious students but especially the most *normal!* You dress and behave elegantly to this very day. I was stunned when I first met you at the 2003 Heinz von Foerster congress and suffered serious cognitive dissonance associating you with the motley BCL crew of my times -- with the sloppy attire and demeanor that was then *de rigueur*.

Stuart's achievements are manifold; among others he contributed in a fundamental way to the development of second order cybernetics or biological cybernetics. He also helped create social cybernetics and clarified the nature of information in descriptions of the physical relationships among matter, energy, and information.

Between 1982 and 1988 he arranged scientific meetings involving American and Soviet scientists in the area of cybernetics and general systems theory. And this brings us to Stuart's most stupendous and least heralded achievement which I can now finally reveal. He was instrumental in bringing down the iron curtain just a year later. Bravo Stuart!

What is left now is for you to tell us the secret of your most peculiar middle name *Anspach*. Whatever it is we are very proud of you and grateful for your existence.

¹ BCL refers to Heinz von Foerster's Biological Computer Laboratory which Foerster directed from 1958 to 1976.

Stuart Umpleby

Lou Kauffman

Stuart is a very remarkable scholar and cybernetician. Of all the cyberneticians I have met he is the most even-handed and thoughtful.

In regard to the radical notions that we examine and sometimes believe, he holds all sides of a question carefully in logical, historical and intellectual context, and he finds ways to diagram and interrelate diverse points of view. The result of this wide consideration is that apparently radical concepts suddenly appear naturally to fill in the gaps in the usual more narrow points of view. It is as though he sets out, like Mendeleev, to make a periodic table of concepts for science, and after the table is in front of us we see the compelling place for all those cybernetic understandings that are the holes in a more conventional table. It seems so simple after you see it. This is Stuart Umpleby's unique form of magic.

For Stuart (Stu) Umpleby

Klaus Krippendorff

Stu and I both graduated from the University of Illinois, Urbana-Champaign, with social science degrees. I had studied with Ross Ashby. Stu discovered cybernetics a few years later and had the opportunity of participating in the famous seminar which proved to be Heinz von Foerster's final BCL project. In 1974, Heinz brought the bulk pack, titled 'Cybernetics of Cybernetics', that this seminar had assembled plus a busload of students to a conference on 'Communication and Control in Society' I had organized in Philadelphia, bringing economists, social scientists, engineers, and management scientists together to consider the visions that cybernetics had to offer. With this in mind, Heinz introduced his corollary: 'Anything said is said to an observer' to Maturana's proposition, suggesting it as an entry of cybernetics into the domain of the social. This bulk pack, later published as a book, also included one of Stu's contributions to the seminar titled: 'On Making a Scientific Revolution' (Umpleby, 1974). In this piece, Stu proposed that cybernetics revolutionize the social (behavioral) sciences, and that the principles of the emerging cybernetics of cybernetics guide this revolution. Interestingly, he noted that the participants in this seminar held another view, namely that second-order cybernetics would add to first-order cybernetics the awareness of the individual psychological level of the modeler of systems—in today's terms, individual observers' perception and cognition.

Levels of order are logical conceptions. As a student of political science, Stu missed the social dimension, in his terms, of winning acceptance of cybernetics in other disciplines. While I share Stu's view of the epistemological revolution that cybernetics entailed, I am not convinced that it should revolutionize other sciences. It deserves to be acknowledged for revolutionizing our social practices of living with the artifacts it made possible, quite unlike what other disciplines are interested in explaining. To me, acknowledgement comes with claiming credit for contributions made to the lives of others and respect from being able to accept accountability for them. Stu was right in pointing to the social that was missing in BCL's cybernetics.

About a decade later, it turned out that Stu spent a semester at the University of Pennsylvania and Larry Richards happened to be in Philadelphia on an unrelated project as well. So, Stu, Larry, Fred Steier, a few times including Doreen Steg, and I seized on this coincidence and met regularly in front of the fireplace in my house to brainstorm and clarify some of the cybernetic issues we were struggling with.

Stu continued his quest to make cybernetics acceptable, in management science in particular. Larry worked on the paradigm shift from goal oriented planning (and explanations) to a view that recognized constraints on remaining possibilities. Fred focused on issues of reflexivity in social research, later turned into a book. And I sought to develop cybernetic propositions that could revolutionize the field of communication. Our conversations offered extraordinary opportunities to advance cybernetics together. We critically examined some of the well-known cybernetic propositions, including Heinz's imperatives, discussed Bateson's 'Steps to an Ecology of Mind', Maturana and Varela's 'Biology of Cognition', the role of observers in second-order cybernetics, and its trivializing social organizational phenomena—networks of which Warren McCulloch had spoken in general terms, albeit from experiences in neurology.

After this extraordinary experience, each of us went our own ways, richer in understanding and clearer as to what we needed to do. Stu continued to plow cybernetics into management science. For me, our conversations became the model of how the discourse of cybernetics of cybernetics could be practiced.

Stu deserves additional credit for numerous initiatives that benefitted the American Society for Cybernetics, including making his office available far beyond his tenure as its energetic president, actively advocating cybernetics at academic conferences outside the United States, and tirelessly writing on cybernetics far more than anyone of us have done. The revolution that Heinz's cybernetics of cybernetics had hoped for is taking place right in front of our eyes, although not how Stu or BCL publications had envisioned. Stu certainly remained a key player in that process, one that no individual observer can comprehend, much less control.

To Stuart

Michael Lissack

I first met Stuart through Jerry Chandler and a few meetings of their Washington group. We became fast friends when jointly opposing a strange Bush era NSA initiative to drop “meme bombs” on Iraq.

After more than a decade of Stuart experiences my continual surprise is that Umpleby is not spelled 'observer.' If there is any lesson which has been drilled into my thinking it is to ask what about the observer – to which I always add the word practitioner. Stuart is the one who inspired my realization that the golden rule “do unto others as you wish done unto you” leaves out the observer and thus is both self-centered and narcissistic. Much better to state “do unto others as they wish done unto themselves” which puts observation into a central role and makes obvious that it is a prerequisite for action.

Stuart also inspired my thoughts regarding ontology—more specifically the differing perspectives found in Science 1 and Science 2. In the two and a half years since we first discussed this, the question of how to apply this difference and to sort out its implications has become my principal intellectual focus. Here Stuart was the initial observer without whose questioning my work would never have gotten off the ground.

But these intellectual things pale beside the simple fact that Stuart is a great and loyal friend. His enthusiasm for whatever it is I am doing is always a source of cheer. His questions and observations are always helpful and filled with respect. His laughter is contagious. His odd faces when bemused can break up a room.

When one goes to define a great professor one does so by example: Stuart Umpleby.

For Stuart
Albert Müller

Among the cyberneticians of his generation, Stuart is in many regards an outstanding person. He is one of the very few actors in the field of cybernetics who consequently was able to situate his and his colleagues work in the history of science. This comprises his early activities at the University of Illinois in Champaign-Urbana, as a student with cyberneticians Heinz von Foerster and W. Ross Ashby, as well as psychologist Charles E. Osgood. In the early 1970s, one of his interests became the Biological Computer Laboratory (BCL). Later on, when in Washington DC, the American Society of Cybernetics (ASC) became a core interest. He helped Heinz von Foerster to publish one of his most influential books, *Cybernetics of Cybernetics. The Control of Control and the Communication of Communication* with Stuart Brand's Point Foundation.

As an observer, full of awareness, Stuart was able to identify the so-called Mansfield Amendment as a main cause of the downfall of BCL-style cybernetics, first in an interview, later in an article.

Stuart's awareness was not and is not only devoted to the history of the field but strongly drawn towards current and future developments. He took his opportunity to teach cybernetics widely in the eastern European states after the opening up in the 1990s and therefore helped to re-direct economic thought in those areas. He acted as a vigilant and critical observer of recent changes of direction in the field of international cybernetics. More and more he worked on the incorporation of the thought of George Soros into management cybernetics.

Let us hope that Stuart will continue to not only 'cast a cold eye' on cybernetics and its institutions but to sympathetically strengthen and empower it, as he always has.

Stuart Umpleby: an Appreciation

Bernard Scott

I have encountered Stuart Umpleby over a fifteen year period in a variety of conference and seminar settings. In that time I have come to know Stuart as a scholar and a gentleman who quietly and modestly makes his presence felt in discussion by the quality of his contributions, which are delivered succinctly, unhurriedly and with great clarity, humour and good will.

I admire Stuart for his longstanding commitment to cybernetics, his courage in taking cybernetics to audiences who are ignorant of cybernetics and who are likely to be challenged by it.

I am impressed that Stuart combines a holistic appreciation of cybernetics and how it may be applied in many different fields, with his original and more specialized contributions to (amongst other areas) the philosophy of science, economics, management studies, the history of cybernetics and pedagogy in higher education.

I am also impressed by how Stuart's thinking continues to evolve and how, using apt metaphors and examples, he continues to refine the ways in which he communicates his ideas.

I would like to thank Stuart for maintaining the Cybernetics Communications (CybCom) mailing list, which has served for many years as a key discussion forum for the international community of cyberneticians and as a place for newcomers to learn about cybernetics.

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Stuart on Stuart

Stuart A. Umpleby

This list of selected accessible publications is based on the classification which is used on the home page 'About Stuart Umpleby' (<http://www.gwu.edu/~umpleby>):

- Cross-Cultural Management
- Cybernetics and Systems Science
- Quality Improvement Priority Matrix
- Service Learning
- Technology of Participation
- World Population

Aside from the papers within these general themes, the section starts with a small set of large publications and ends with a residual category of interesting and relevant articles which are not covered by the five main topics.

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