WISDOM, KNOWLEDGE, AND MANAGEMENT:

A Critique and Analysis of Churchman's Systems Approach

C.West Churchman and Related Works Series
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WISDOM, KNOWLEDGE AND MANAGEMENT:
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edited by
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DEDICATION

Sadly, whilst this book was in press, John. P. van Gigch died peacefully on the 29 August, 2006.

His wife Ann and his daughter Monique De Santis were with him in his last hours.

To the end his life was characterised by energy, wisdom, work and concern about others and the world.

He will be greatly missed in the many roles he played in life; not least being his role as teacher.

In the years ahead we will benefit from reading and re-reading his lessons on ethical thinking and practice.

Thank you.

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VOLUME 2

C. WEST CHURCHMAN'S LEGACY AND RELATED WORKS

WISDOM, KNOWLEDGE AND MANAGEMENT

PREFACE

VAN GIGCH, J.P.

Series Editor and Volume Editor
in collaboration with McIntyre-Mills,J.

This is the second volume dedicated to C. W. Churchman.The volumes of the Book Series entitled *C. West Churchman's Legacy and Related Works* are edited for the purpose of promoting the cross-pollination among fields, areas of study and disciplines and people from all walks of life in order to enrich the foundations of Management as well as to provide solutions to its own theoretical, political and practical quandaries.

Each of the authors whose writing appears in this volume, make an original contribution to the Management discipline that needs infusions of novel ideas from several other disciplines if progress is ever to take place.

C. West Churchman (1913-2004) was a prolific author whose texts *The Systems Approach* (1968), *A Challenge to Reason* (1968), *The Design of Inquiring Systems*, 1971), *The Systems Approach and Its Enemies*, (1979) among others, encouraged us to study the philosophy and the epistemology of the management disciplines which had been neglected heretofore. As his texts attests, CWC (for C. West Churchman) was a strong believer that Management could never become a credible scientific discipline unless it re-

discovered the source of its moral authority, based on healthy questioning within context.

Skepticism

Skepticism is the source of doubt. Skepticism (also spelled "scepticism), is the philosophical view that "we lack knowledge", (Dancy & Sosa, 1992), or in its more extreme formulation skepticism questions the premise that credible knowledge exists or that we can find justification(s) for it (Audi, 1999; Hecht, 2003).

C. West Churchman's Skepticism

C. West Churchman was a skeptic - let us say a "mild" skeptic. Let us explain why. There are all kinds of skeptics.

Descartes is the best known "modern" skeptic (as opposed to Ancient Skeptics) who in the seventeenth century laid the foundation for contemporary skepticism. In modern times to be a "skeptic" places you in good company, with the likes of Kuhn, Foucault, Derrida, Quine and Rorty (Audi, 1999:847). Modern Skepticism is applauded due to its articulated or may be non-articulated thrust in rejecting old forms of thinking and obsolete paradigms in favor of new approaches to the questions of coherence and truth.

Skepticism about Managers and Management

There is widespread skepticism about the ability of management and managers: The public has open doubts that they possess the ability and the will to manage the enterprise with which they are entrusted ethically.

Managers are hauled in court for malfeasance and overt dishonesty. It is not only a fact that the management discourse is flawed but that it smacks of outright deceit. Managers of large corporations are perceived as selfish and greedy. They do not promote the public good and are guilty of lying and of dishonesty toward the public, their shareholders, stakeholders and fellow employees. Accountability and responsibility are shunned and the reputation of high public officials as well as that of highly placed managers in the corporate world stands at a record low.

Skepticism is also exhibited in the lack of consensus that exists in solving our environmental, political problems, and economic problems and, in general, at a complete lack of rationality in the private and public discourse.

Restoring Confidence and Ethical Authority

In order to restore confidence and regain the high moral ground, management - be it management in the public or private domains - must modify its ways. This renewal can only be obtained in the framework of the hierarchy of inquiring systems which was pioneered by C. West Churchman who was a management scientist and a philosopher of management. He wrote and pioneered what we consider the source of invaluable knowledge which the authors of this volume are mining and enhancing to dispel the prevailing skepticism that nothing can be done about our state of the world problems- be they social, managerial, organizational or otherwise.

Multidiversity of Inquiring Systems

C. West Churchman (CWC - for short) invented the idea of the *hierarchy of inquiring systems* which is made up of several levels of inquiry which differ by the substance of their dialogue or discourse and by the rationality(ies) with which they specialize to resolve their respective problems.

Solving problems requires the knowledge of a multidiversity of inquiring systems and their respective rationality (ies).

Due to complexity, problems require the following levels of inquiry and of specialization. Starting from the bottom up:

- A *manager* (in the operational inquiring system) to implement a feasible and ethical solution
- An *engineer* (in the engineering inquiring system) to apply science to the real world
- A *scientist* (in the scientific inquiring system) to discover new ideas
- An *economist* (in the economics inquiring system) to weigh and balance the costs and solutions of the problems facing the enterprise
- A *lawyer* (in the legal inquiring system) to untangle conflicts and disputes inside and outside the organization
- A *politician* (in the political inquiring system) to obtain and broker consensus inside and outside the organization
- An *ethicist* (in the ethics inquiring system) to decide on the ethical standards, norms and morality that ought to pervade decision-making

Each of the inquiring systems listed above specialize according to:

- The *type of problem(s)* which they are asked to solve,
- The *type of rationality(ies)* and knowledge utilized for this task, and,
- The *level of logic* of the inquiring system in which the problem occurs.

As an example, the operational inquiring system is said to utilize its own rationality as well as that provided by the other inquiring systems. In terms

of logic, it stands at the bottom of the hierarchy of inquiring systems due to its proximity to the real-world and to the relative low level of abstraction of its problems.

A distinction is also to be made between decisions and metadecisions, where decisions are made at lower levels of abstraction and logic, and metadecisions which correspond to those of higher levels of abstraction and logic.

For a more detailed description and explanation of the hierarchy and its properties, we refer the reader to *Metadecisions* (van Gigch, 2003).

The above listing does not include an inquiring system which is devoted to study the epistemology of the management process. For this purpose, we need epistemic rationality.

Epistemic or Epistemological Rationality

By *Epistemology* we mean that portion of the Philosophy of Science which studies the sources of knowledge of a discipline, guides how the discipline elaborates its theories and its methodology, determines the level of rigor of its scientific program and establishes the level of credibility that can be lent to the discipline in light of its approaches to marshall information and knowledge.

Systemic Rationality

We could not be C. West Churchman's admirers and disciples without advocating *Systemic Rationality or Systems Thinking. Systemic rationality* is a rationality which advocates the study of systems and problems as a comprehensive enterprise which encompasses all of the rationalities listed earlier. The latter cannot be studied separately. They must be studied in the context of the whole system.

Holism or Systems Thinking is the formal epistemology behind the Systems Approach and any theses that claim the superiority of the whole in relation to its parts or that the whole has properties that the parts may be lacking.

Epistemological Holism is the view that "that whole theories are the units of confirmation". It states that: "Whether a belief is justified depends upon the support of the whole structure of beliefs to which belongs" (Dancy and Sosa, 1992).

Two Kinds of Wisdom

Audi (1999) reminds us that Aristotle introduced a distinction between *theoretical wisdom* and *practical wisdom.*

Theoretical wisdom is related to the highest forms of rationality - such as those provided by the inquiring systems of high abstraction and logic, whereas practical wisdom is related to "the capacity for sound judgment in matters of conduct".

How to marry the two theoretical and practical wisdom is the subject of Kantian debate as well as of the Churchman's dialogue.

CWC's disciples have taken his message at heart and have extended his discourse to all of the Social Sciences, Political Science, Policy Sciences, Information Sciences and the like. This is what the volumes of this book series are all about. A sample of them are presented in the chapters of this book.

Steps Toward a Reflexive, Complex and Evolving approach

The papers presented in this volume are but small steps toward developing a reflexive approach to management that is different from a Taylorist Scientific Management and the new managerialism that has developed Frederick Taylor's legacy of control, without drawing on the creative potential of people within the organisation and its environment.

Our systemic approach is compassionate and considers the self, the other (including sentient beings) and the environment.

It addresses the points of view of all those who are to be at the receiving end of decisions and strives for sustainable options.

Having presented the need and the basis for such a discipline we now turn to the authors' contributions to this volume. Each of them in a small way indicates how progress could make management richer and more rigorous.

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PROLOGUE

CONSCIOUSNESS , CARE TAKING AND COMPASSION , BASED ON LISTENING AND MAKING CONNECTIONS UNDERPINS SYSTEMIC GOVERNANCE

JANET MCINTYRE-MILLS

> "there is no universal good across the categories...the good cannot be some common [nature of good things] that is universal and single; for if it were, it would be spoken of in only one of the categories, not in them all. There is no single Idea across different sciences....(Aristotle in *Nicomachean Ethics*, chapter 6, p.1096 a.30 translated by Irwin 1985)

Consciousness is **not** the preserve of human beings (Greenfield 2002); however we do have the potential to make connections across sciences, experiential learning, species and cultural intelligences and the environment as care takers. We can construct our future or destroy it. Acknowledgement is the basis of accountability and risk management that 'sweeps in' social, cultural, political, economic and environmental factors and 'unfolds' the values or interests of stakeholders and sentient beings who are to be affected by decisions. A Socratic approach would argue that through dialogue we can test out ideas within context and that the principles of testing out ideas is the basis for better management within and across organizations and for operating in multiple arenas at the local, national and international level. Sometimes dialogue is not enough. We need empathy to work through scenarios of what matters across the boundaries of self-other and the environment. Being able to place ourselves at the receiving end of actions and imagine what pain or cruelty feels like to the other - irrespective of culture, age gender, ability or species.

> "the standpoint of perfection , which purports to survey all lives neutrally and coolly from a viewpoint outside of any particular life, stands accused already of failureof reference: for in removing itself from all worldly experience it appears to remove itself at the same time from the bases for discourse about the world. Our question about the good life must, like any question whaterver, be asked and answered within the appearances...When we ask about motion or time or place, we begin and

end within experience of these items: we say only what has , through experience, entered into the discouse of our group" (Nussbaum 1986:291).

Nussbaum (1978:263) makes distinction between humans and animals about consciousness and ability to think about the past and ability to make judgments. Current neurological research (Greenfield 2002) shows that this is incorrect .A laboratory rat and a human being have more neurological similarities than differences.

Consciousness is enhanced through communication and deliberation. All living things are conscious to a greater or lesser extent. Consciousness is a continuum. For the human animal and for other animals communication is essential and it can be used as *a means* and *an end in itself* where life is conscious of itself. At a point where life thinks about itself - thinking about our thinking and arriving at decisions based on a discursive process - is a means to achieving goodness. Eudaimonia "is a feeling of pleasure" associated with deliberation and it is *both an end and a means.* (see Nussbaum on 1978: 170). Participation in the decision making is essential for achieving resonance. This is important as an ideal and it has pragmatic consequences too.

" If Aristotle begins not with a priori first principles, but with a coherent articulation of shared reflections, the deductive enterprise will immediately have a different look, Aristotle will not , apparently , be emulating the Socratic effort to escape from the confusion of appearance to a static and stable truth .." (Nussbaum, 1978: 174).

West Churchman's Design of Inquiring Systems(1971) and Thought and Wisdom (1982) provides a way to address the problem , by argueing that by expanding mindfulness we will become more compassionate and able to make connections across self-other and the environment. In volume 3 I argue for developing the Design of Inquiring Systems as a means to enance systemic approaches to communication and governance. Working across conceptual and geographical boundaries is the basis for good governance. Fukuyama (2004) has stressed that although there is no universal formula for good governance, it remains an ideal to which we need to strive, whilst mindful of the many variables that need to be considered contextually and in terms of the consequences. He argues that attempts to impose solutions from Denmark or United States can lead to imposing models and processes that do not take local history, social, cultural, political and economic conditions into account. He argues that:

- building capacity in both the public and the private sector is important and it needs to be based on ongoing local programs that are mindful of specific sectoral needs.

- developing NGOs does not solve the problem of bad governance in the public sector and that building capacity in the public sector by holding up private sector models can also be inappropriate if we forget that in the public sector the public is the principal and government is the agent, but in the private sector the principals are the business owners and the agents are the managers.

Thus the argument that although similar 'off the shelf' approaches cannot work across sectors (including the NGO sector) is highly debatable, the principle of testing out ideas remains a core for good governance and good science.

Fukuyama (2003) stresses that so-called weak states need capacity building, without acknowledging (as stressed in Vol. 1) that capacity building is needed in both his so-called 'strong' and 'weak' states in the developed and less developed world. But how do we develop capacity when there are no formulas that work universally? I argue that the answer lies in accepting the need to ask questions and to apply participatory processes within context to ensure that local knowledge is taken into account. This point is also made by Fukuyama (2003) but he forgets the importance of humility and local contextual knowledge in his belief that managers and policy makers in strong states and strong economies need to build the capacity in the weak states. Many of the management and policy problems are created by globalization, colonization and pollution by the powerful nations and economies.

As policy makers and managers we need both the capacity and will to be accountable. What we need are processes for engaging others contextually. Aristotle talked of 3 wisdoms, namely: episteme (scientific knowledge), techne (craft/art) and phronesis, whereas C.West Churchman (1971) in his *Design of Inquiring Systems* talks of 5 ingredients for good research, policy and management, namely: logic, empiricism, idealism, the dialectic and pragmatism) and in *Thought and Wisdom* he develops compassionate praxis through 'unfolding' values and 'sweeping in' the many variables that could have a bearing on a decision. Aristotle underlines in *Nicomachean Ethics* the importance of being able to apply technical knowledge and scientific knowledge within specific contexts. He argues that this is the most important ability, the possession of which can be summarized as the kind of wise and prudent action that implies the possession of all the other kinds of knowledge. To sum up, it is an ability to make the most appropriate, wise or prudent decision. He called this concept phronesis[1]. This kind of knowledge

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[1]   Flyvbjerg, 2001: 57, summarises the three kinds of knowedge discussed by Aristotle in Nicomachean Ethics as follows:

is demonstrated by the ability to learn from experiences and case studies or examples. Aristotle stressed that phronesis cannot be summarized in some total system or definition. It is not a universal formula.

If we accept that there is no such thing as a total system (also one of the most important points made by West Churchman), then there can never be a formula for good management, even if we accept that questioning and testing out ideas helps us to understand issues better, in some instances listening and not questioning can be very important to the process. Acknowledgement of many voices, many experiences and many ways of seeing and doing are as essential for risk management as they are for accountable decision making.

Complexity management is only possible if the decision makers reflect the complexity of the issues they are dealing with. Working in teams and providing space and time for individual contemplation can be equally important for the testing out of ideas needs by those who have experience and those who are to be affected by the decisions (irrespective of age, gender, culture, education, income or other status indicators such as level of education).

Preston and Sampford (2002) drawing on a wide range of philosophers summarise three frameworks as a useful for policy makers and managers. The three frameworks are a useful starting point for enabling ethical literacy.[2] The frameworks include: idealism, pragmatism and virtue or values based approach. To develop this form of praxis (see Flyvbjerg, 2001) requires being mindful not only of some ideals (as per Habermas 1984 in a

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- Episteme Scientific knowledge. Universal, invariable, context- independent. Based on general analytical rationality. The original concept is known today from the terms "epistemology" and "epistemic"
- Techne Craft/art. Pragmatic, variable, context –dependent. Oriented toward production. Based on practical instrumental rationality governed by a conscious goal. The original concept appears today in terms such as ' technique', 'technical" and "technology"
- Phronesis Ethics. Deliberation about values with reference to praxis. Pragmatic, variable, context–dependent. Oriented toward action. Based on practical value-rationality. The original concept has no analogous contemporary term". Flyvbjerg, (2001: 60) emphasized that the possession of prudence and the ability to make value judgment entails the wisdom to apply appropriate knowledge within context is essential , because it implies the possession of scientific knowledge, art and craft.

[2] Aristotle called this phronesis (or prudent decision making and action based on wisdom). West Churchman (1979, 1982) talked of using his design of inquiring system (based on questions to tap different kinds of knowledge) as a means to 'unfold' values and 'to sweep in' the social, cultural, political, economic and environmental factors within specific contexts. He did not explicitly focus on culture (see volume 1) , but his design of inquiring systems lends itself to building in culture and gender sensitivity to develop a post colonial approach that helps to rescue the enlightenment from itself, by embracing the serpent or the paradox.

Kantian sense) but also and the context of diverse stakeholders some with the power to decide what constitutes knowledge and others not (as per Foucault, 1967, 1970, 1980). Questioning and dialogue within some contexts can be impossible, but striving to question and to come up with more appropriate responses remains the goal for ethical and sustainable decisions.

We need to ask what are the implications of this decision and for whom? If we add a generational dimension and the notion that human beings are caretakers of our own species and all sentient beings then we are able to consider sustainable futures. Systemic approaches require considering:

- The big and small picture
- Logical relationships and an appreciation of the logic of many stakeholders, because understanding the shape of perceptions of the other helps to reduce risk and enhance appreciation for why people think the way they do;
- Idealism;
- Empirical data;
- Dialectical considerations within context based on rapport and resonance (Churchman 1982);
- Pragmatism based on the understanding of the 'boomerang affect' (Beck, 1992) of thought and actions that consider self and not the other or the environment;
- Compassion that flows from ethical literacy and working with ideals, contextual considerations and the implications these have for virtuous practice.

SYSTEMIC GOVERNANCE is the concept applied to ETHICAL AND ACCOUNTABLE management across conceptual and geographical categories . It is thus about considering where to draw boundaries. Managers and policy makers today need to be able to work wisely with many different kinds of knowledge. A globalised world is one where boundaries are challenged by the market and by communication of ideas and values (See volume 3). We can use dialogue underpinned by the wise management and application of knowledge to enable us to make socially and environmentally sustainable decisions. Different approaches to representation and knowledge are the subject of ongoing dialogue within and across the arts and sciences.

Debates are influenced by the power or powerlessness of the decision maker as every harried manager, policy maker, staff member or citizen or non citizen understands. Knowledge does not necessarily give power, it can lead to punishment, as detailed by Link (2005) in his article on journalists who expose issues in China.[3] Desires and emotions (Deleuze and Guattari in

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3 Ranging from health issues such as AIDS outbreaks, SARS or food poisoning to criticisms of urban plans. Journalists soon learn that there are ways and means to report issues. Sometimes by publishing the material in overseas media or making oblique references.

Bogue 1989) also influence the way we represent and manage knowledge. Instead of emphasizing only the point of view of one person or one framework and labeling these as the objective facts (and personal experience as 'mere perceptions' or feelings) the social sciences have undergone a paradigm shift to recognize that there are many sources of meaning and also many sources of knowledge that can be useful for understanding the way in which we frame and reframe issues as policy makers and managers.

Churchman following Singer (1982) uses the key concepts of unfolding values and sweeping in the social, cultural, political, economic and environmental factors that shape our way of seeing and doing. Breadth and depth of vision can enable more prudent decision making within specific contexts.

Mindfulness can be aided by interpreting textuality or intertextuality as a means to enable us to trace connections across ideas so that many points of view can be expressed simultaneously, rather than hierarchically. A less prescriptive and more democratic approach is the appreciation of insights inspired by listening to many voices and exploring diverse meanings. Discordant disagreement is as important as harmonious co-creation. Enabling the discordant and harmonious themes to be expressed is about more systemic understanding. Where are the gaps? Where are the continuities? Technical knowledge, strategic knowledge and communicative knowledges have been identified by Habermas (1984) and different categories are given by Aristotle (Nicomachean Ethics). But these are just categories – neat ones at that. There are many voices, many experiences and many knowledges; all are expressive of meanings which can be viewed as more rational or more emotional, depending on the way they are interpreted.

Better decisions are made when we are mindful of more voices and more texts. So-called knowledge management (a misnomer in my opinion) has begun to do more than manage knowledge in terms of filing and retrieving it. There is also recognition that the nature of knowledge itself needs to be explored. Research these days needs to include ontology and epistemology in its design and the commentary on any framework or boundary around a research problem is itself of central interest (Gibbons and Images et al., 1994), Australian Research Council Guidelines for researchers). Not only the community, but also the public, private and non-government sectors have realized the value of tacit lived experience and also professional knowledge (State of the Regions Reports by Australian Local Government Association and National Economics Reports 2002, 2003). Making connections across different knowledges is good for democracy and good for quality of life and the environment that we live in. Greenfield (2002) stressed that

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Knowledge is a matter of policy and management and who decides whether it should lead to apologies, retractions, counseling, abuse, imprisonment or death.

consciousness is a continuum. The more connections we make the more mindful we are. Being aware of our emotions and the role they play is very important.

My stance is to stress the value of theoretical and methodological literacy as an end in itself, because it supports mindfulness. But it **also** provides a means to respond to specific contexts, whilst mindful of logic, empiricism, idealism, the dialectic and ethical, systemic pragmatism (drawing on and adapting West Churchman's 1983 work on *Thought and Wisdom*), based on co-creation of ideas within context. We discuss striving for truth, valuing difference and working out what the so-called 'facts' mean to different stakeholders and how these understandings are constructed. Policy makers and managers need to think about values, viewpoints and how they could be represented and distorted and owned by them as the powerful decision maker. Policy makers and managers need to recognize that they need to think about theory, practice and representation. Whose voices will be heard? Whose will be loudest? As Nancy Hartsock stressed drawing on Foucault (in Allmendinger and Tewdr-Jones (2002: 148) 'the subjugated voice' is now being said to be just one of many – just as some unheard voices have obtained the right to be heard. We invite you, the reader to mine the rich veins of your own experiences[4] through unfolding your own values and considering the ways in which you have to act in context and the way in which your age, gender, societal status, your culture and experiences shape the way you see the world, your decisions and your actions.

If representation is the basis of truth then how can we know that what is represented is an exact match with reality? Who decides? This is where power, personality, values, perceptions and biological /chemical makeup come into play within a specific social, political, economic and environmental context. But the policy implications of postmodernism (that there are only *many truths* or worse *no truth)* makes society ungovernable. It also means that human rights have no basis for support and that the environment cannot be protected. So this approach is a 'dead end' from both an idealistic (or non consequentialist) ethical point of view and a pragmatic (consequentialist) point of view. Nevertheless the notion of one truth based on modernism runs the risk of trying to test out ideas by experts who do not have enough lived experience. The way forward for the enlightenment is to *expand the testing process, so that all those at the receiving end of a decision are part of the iterative and ongoing decision making process.* This is most important, because it enables testing out ideas in such a way that the complexity of the decision is matched by the complexity of the stakeholders and the context (This is the subject of the next volume 3).

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[4] Consider doing auto-ethnography as explained by Ellis and Bochner (2000).

Based on a critical and systemic approach we can find or create points of connection. The testing out ideas in the interest of science and democracy needs to be expanded to include all those at the receiving end of a decision and the participants need to consider this generation of life and the next. But how can this be achieved? Volume 3 attempts to address this question.

Perceptions always filter our understanding and theoretical limitations can frame or reframe the way in which people have constructed their reality and so it is worth striving to explore ways to enable voices or texts or pictures to be shared in ways that enable the reader to see many interpretations. This is particularly useful for policy makers and managers. Representation can amount to nothing more that silencing or distorting the ideas of others. More than one interpretation of a story enables a richer or more complex representation. This is not such a difficult concept to grasp (see Allen 2000). Managers need to draw on many points of view if they are to make decisions that address risk and complexity. Decisions should be taken in such a way that they represent the complexity of the people who are to be impacted by the decisions. This makes sense in terms of risk management.

"Having lost the comfort of our geographical boundaries, we must in effect rediscover what creates the bond between humans that constitute a community" (Jean Marie Gu'ehenno 1995, 139 cited in Judt 2005: 41)[5].

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Kenneth C. Bausch is affiliated with the Institute for 21st Century Agoras, Perimeter College (Atlanta). He works to promote The Emerging Consensus in Social Systems Theory. His latest publication (with Aleco Christakis who also contributed to this volume) is *Science: Pragmatic Design Dialogue, (2005), Information Age Press.*

Stafford Beer was one of the foremost cyberneticians of our age. His publications cover nearly two hundred items including eight books among which *Brain of the Firm, The Heart of Enterprise* and *Platform for Change* are his most renowned works. He is famous for introducing the concept of the "viable system" according to which viability of the enterprise is not a matter of economic solvency but follows cybernetic laws which are embodied in the "science of effective organization."

Charles West Churchman (1913-2004) to whom this volume is dedicated is honored throughout this Book Series. He was the author of *Prediction and Optimal Decision* (1961), The *Systems Approach* (1968), *Design of Inquiring Systems* (1971) and *The Systems Approach and Its Enemies* (1979) among others. As is evident in this volume, all contributors, one way or another, owe their inspiration to Professor Churchman's ideas.

Alexander N. Christakis is a principal of CWA Ltd. He claims to be Churchman's disciple, friend and admirer. His latest publication and major work is *Human Science: Pragmatic Design Dialogue*, (with Ken Bausch. See above), Information Age Press, 2005.

Burton Dean is Professor and Chair, Department of Organization and Management, and Director, Total Quality Management Certificate Program, San José State University, California. His publications include seven books and approximately 100 articles on manufacturing, technology, operations, systems and project management. He is involved in research and consulting assignments with over eighty regional, national and International organizations.

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Management Journal. His most recent publication is "An Identification of Normative Sources for Systems Thinking: an Inquiry into Religious Ground-Motives for Systems Thinking Paradigms," *Systems Research & Behavioral Science*, Vol.20, No. 6, pp. 475-487, 2003.

Charles O. François is Honorary President of the Argentine Division of the Int. Society for Systems Sciences. He has always been a Churchman's admirer. He is the author/editor of the *International Encyclopedia of Systems and Cybernetics*, Second Edition, published by Saur Verlag, München, Germany, 2004.

Debora Hammond is the author of the reading "Education for Engaged Citizenship." Churchman was one of her mentors in her Ph.D. Dissertation project at the University of California, Berkeley. She is presently an associate professor at the Hutchins School of Liberal Studies, Sonoma State University, Rohnert Park, California. She is the author of *The Science of Synthesis: Exploring the Social Implications of General Systems Theory*, University Press of Colorado, 2003.

Ernest Koenisgsberg is Professor Emeritus at the Walter A. Haas School of Business, University of California, Berkeley. He is proud to have been a student of West Churchman's Second Operations Research Course at the Case Institute in 1954. In addition to teaching, Professor Koenisgsberg has carried out and published numerous theoretical and applied studies in which he brought management science to industry, government and academia.

David Matthews is a Defence Scientist with the Defence Science and Technology Organisation (DSTO) of Australia. He has an Honours Degree in Applied Mathematics and has recently completed a Ph.D. in Systems Thinking, both from the University of Adelaide. His main research interests.

Janet McIntyre-Mills is a Senior Lecturer at Flinders University in the Flinders Institute of Public Policy and Management. Her recent publications include *Critical Systemic Praxis for Social and Environmental Justice*, 2003 and *Global Citizenship and Social Movements: Creating Transcultural Webs of Meaning for the New Millennium*" in 2000. She currently facilitates research with a transdiciplinary design team to address social inclusion with Aboriginal Australians.

David L. Paul received a B.S. from the Wharton School of the University of Pennsylvania, an M.B.A. from the Anderson School at UCLA, and a Ph.D. from the Graduate School of Business at the University of Texas at Austin. He has recently published in *MIS Quarterly*, and received the 2000 International Conference on Information Systems (*ICIS*) Best Dissertation Award.

Francisco Parra-Luna is Professor at the University of Madrid, Spain and has been the Director of the University Institute for Human Resources.

He is the author of eleven books on social system theory and its applications, among them *Elementos Para Una Teoría Del Sistema Social*, Universidad Complutense, Madrid, 1983 (Components of A Theory of the Social System) and *El Balance Integrado de la Gestion Estrategica* (Integrated Equilibrium of the Strategic Management Function) published by Deusto, Bilbao, Spain, 1993. Both in Spanish. At the moment he is involved in the celebration of 400th Anniversary of Don Quijote de la Mancha the masterpiece of Miguel Cervantes (1604-1614).

John P. van Gigch is the Series Editor for the Book Series Churchman's Legacy and Related Works which he is instrumental in getting started. van Gigch knew West Churchman as well as his family personally. Churchman wrote an Introduction for van Gigch's *Applied General System Theory* which was published in 1974 with a Second Edition in 1978. van Gigch remained close to West Churchman after the latter retired from the University of California Berkeley. Right to the end, they celebrated several of West's birthdays together.

Jae Eon Yu ("Making Friends of Enemies") is a Professor in the Department of Information Management, Seoul Information Technology University, Seoul, Korea. He claims to be a Poststructuralist/Postmodern systems practitioner and a Churchman's admirer. His most recent publication is: "Reconsidering participatory action research for organizational transformation and social change," *Journal of Organizational Transformation and Social Change*, Volume 1 (1.2 &1.3), 111-141 (2004).

SOME FOCUSING THOUGHTS

"What is in the nature of systems is a continuing re-viewing of the world, of the whole system, and of its components. The essence of the systems approach, therefore, is confusion as well as enlightenment. The two are inseparable aspects of human living. Finally, then, here are some principles of a deception-perception approach to systems:

1. The systems approach begins when first you see the world through the eyes of another. Another way to say the same thing is to say that the systems approach begins with philosophy....

2. The systems approach goes on to discovering that every world view is terribly restricted.

...For those who think in the large, the world is forever expanding; for those who think in the small, the inner world is forever contracting.

3. There are no experts in the systems approach....

And finally, my bias:

4. The systems approach is not a bad idea"[1]

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[1] Churchman, C.W.C., 1979, *The Systems Approach,* Delta, New York, pages 231-232.

SUMMARIES OF VOLUME'S CONTENTS

A. Wisdom, Knowledge and Management

van Gigch, "*Progress Achieving C. West Churchman's Epistemological Program: The Implementation of Science of Science and of Science of Ethics*", starts the volume by recalling one of C. West Churchman's earliest texts in which CWC articulates his epistemological program.

CWC did not want to oppose the purposes of Science and Ethics, but rather explore the relationship between science and values, and explore in depth how we could improve the understanding of the role of values in decision-making.

Science has made very few significant inroads to help management improve its methodology or its ethics - subjects which will taken up again in future volume of this Book Series.

CWC's called for a *Science of Management* which would take the form of an epistemological evaluation of the scientific methods of Management from the perspective of a metalevel, where an independent guarantor could assess their validity and truth content of *Management Science*.

In "*The Paradigm of the Science of Management and of Management Science*" van Gigch formalizes CWC's relationship between an inquiring system which is devoted to Management Science and a metasytem inquiring system which is devoted to the Science of Management. This hierarchy of inquiring systems embodies Churchman's reflexive loop the "X" of "X."

In this chapter, *The Science of Management* is described as a "metascience" because its "main problem" is to deal with epistemological questions and with the elaboration of the paradigm of the discipline. It also validates the scientific methodology which is employed by Management Science (a "normal science") at the lower inquiring level of logic where the everyday scientific problems of the real-world are solved.

The concepts of "metascience" and "normal science" were introduced by Kuhn.

Per Sigurd Agrell contributes two papers. In the first, "*Churchman's Contributions to the Advancement of Management Science*", he lists Churchman's pioneering ideas after the revolutionary *Introduction to Operations Research (With* Ackoff and Arnoff*)*. In the second article, "*Expanding Churchman's Philosophical Discourse: New Perspectives*", Agrell explains that management systems - and for that matter all systems - require a double control function, i.e. a mega-structure which "provides

purposes and restrictions' and a meta-structure which provides inquiring systems with their rules of logic. It is in the interplay of mega-and meta-structures that organizational complexity can strive instead of destroy the enterprise.

B.   Skepticism, Truth and Wicked Problems

Truth can only thrive in the context of discovery. Nowadays to be a skeptic is not a negative connotation. On the contrary: The skeptic asks questions, refuses the status-quo and looks for new approaches.

It is in this spirit that **Ken Bausch**, *"Certitude in a Post-Modern World? A Coherent Evolutionary Story"*, uses the related theories of self-reference and self-organization as guides to trace the story of how to establish certitude through an evolutionary history of cognition, representation, language information and epistemology.

Bausch's paper is sweeping in its scope and shows how truth "in the pragmatic sense, is an extension of the tests of survivability and productivity" two vital attributes of managerial systems. While Bausch's paper does not dwell with the details of how his theory can be applied to the organization, it shows how the spirit of discovery can dispel skepticism and "generate consensual grounds on how to construct knowledge" of a scientific discipline.

David Paul discusses wicked problems and makes the point that complex problems are the result of many interrelated socio-cultural factors and they can be perceived in different ways by the different stakeholders.

To conclude the section, **Mathews's** essay (*"Epistemic Humility"*) provides a time-line of the trend toward Skepticism from the perspective of the Philosophy of Science. He traces the journey of epistemology starting with intuitive vertificationism, continues with positivism, critical rationalism and social constructivism, before "suggesting a way forward towards a position of epistemic humility about the pronouncements of science".

C.   Setting the Tone: The Importance of Ethics

In 1993, on the occasion of his 80th birthday, C. West Churchman consented to an interview with **van Gigch, J.P., Koenigsberg, E., and Burton, Dean**, *"In Search of an Ethical Science"*, which is re-published in its entirety. It sets the tone for later debates about the need for ethics in management practice.

Charles François, *"Ethics and Enlightened Personal Responsibility"*, claims that "only a genuine trans-cultural ethics can save us from a variety of possible global mega-catastrophe, mostly engineered by man himself."

François discusses the Why's, the Who's and the What's of what we believe to develop our worldviews and our mindscapes. Given that we are living a period in world affairs which is notorious by its lack to elementary ethical principles, François musing about Ethics comes at the right moment to infuse a dose of pessimism as well as one of optimism that we will ever reach wisdom and improvement of the human condition. Naturally these comments apply to the improvement of ethics in the private realm as well as the ethics of government officials, politicians and whoever is entrusted with the management of our lives and that of future generations.

This volume includes a paper written by another of the management "gurus" of this period, also deceased (Churchman passed away in 2004). We refer to **Stafford Beer**, *"May the Whole Earth Be Happy""*, where he recalls his friendship with CWC. They were obviously intimately related in heart and in thought. Beer describes the relationship between Eastern and Western mythological and religious traditions which provide a background to their mutual morality and their ethical kinship. Beer is known for several of the most insightful applications of Ashby's and Weiner's theories of control to the management of the firm through the use of information and the reduction of organizational entropy.

D. Entrepreneurship

Entrepreneurship is viewed as that portion of managerial practice where new theories and new ideas are tried and applied to the organization. Without endeavors of this sort a science such as a Science of Management would wither and disappear.

D. Eriksson, *"An Outline of a Descriptive Theory of the Enterprise"*, summarizes the thrust of his doctoral dissertation. He asks the question: How can we generate an ethically sound design" for the enterprise. He presents the proposed outline of a descriptive theory of an enterprise which is derived from the French systemicist of J.L. Le Moigne.

They provide a theory of modeling for the enterprise which when applied to real-life cases provides strikingly accurate and counter-intuitive conclusions of how the enterprise can be improved and modified to achieve its avowed purposes and functions.

Eriksson must be lauded for his efforts to bridge the language and cultural gap between French and Anglo-Saxons renditions of two distinct managerial styles.

Parra-Luna, *"Organizational Efficiency and Values"*, is a sociologist who studies the concept of organizational efficiency and provides and axiological (operational) definition of the concept of efficiency.

After sketching his Theory of Organizational Efficiency he postulates that his theory represents a progress toward an axiological (axiomatic) definition of efficiency which yields six equations by which efficiency can be defined and profiled. These definitions can be used in the context of small enterprises as well as in large organizations.

E.   New Paradigms: Applications of the Science of Management to Governance and Managerial Practice

A Science is meaningless without a context in which new theories, new approaches and new ideas are applied to the real-world.

Janet McIntyre-Mills in her article *"Molar and Molecular Identity and Politics"*, discusses how "policy workers and managers need to work 'with' rather than 'within' frameworks to achieve accountable policy decisions with the stakeholders She presents conceptual tools which can be used to enhance systemic and managerial governance. She is an advocate of "compassionate dialogue that explores paradoxes and considers the rights and responsibilities of caretakers" and stakeholders. What could be more important objectives than "the promotion of two-way learning, socio-economic wellbeing and diversity, she asks. We could not agree more.

In *"Education for Engages Citizenship"*, **Debora Hammond** studies US federal mandates for meeting narrowly defined content and assessment standards in Education. She decries the fact that these mandates trump all values except market forces. Pedagogical practices which include interdisciplinary curriculum, dialogue and critical inquiry while cultivating ethical practices in management are left behind. Hammond advocates alternative approaches which foster more "interdisciplinary approaches to learning," "cultivation of skills and collaboration to develop participatory decision-making and the emergence of a truly democratic society." While education may appear remotely related to the corporate board room, Hammond shows that "cultivating democracy and social justice" are the cornerstone of an ethical enterprise - be it in education or in business.

Indeed The Science of Management should not harbor barriers among disciplines which foster similar purposes and objectives.

Aleco Christakis, *"Dialogue for Conscious Evolution"*, focuses on the critical role of dialogue in the evolutionary guidance of social systems. He describes the design of the Structured Design Process (SDP) which "is suitable for engaging stakeholders to design their social systems in the context of the escalating complexity of the Information Age."

Christakis shows how the SDP has been applied for the last twenty years to address national, international and inter-organizational design challenges. SDP is primarily based on three axioms: a) the escalating complexity of