

Introduction: special double issue of *Kybernetes* on cybernetics and design

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Abstract

Purpose – The purpose of this editorial is to reach out to an audience that *Kybernetes* has not previously tried to reach – designers – in an effort to build a bridge connecting cybernetics and design.

Design/methodology/approach – Provides a brief review of the papers within the issue.

Findings – The collection of papers may provoke wonder, enquiry, and a wish not only to respect each field, but also to open up, to find out more and, perhaps, to enter into a symbiotic bridge building operation that might bring valuable theoretical illumination and realm of practice to both fields.

Originality/value – This editorial introduces an exploration that begins to develop any relationships that might exist between the two fields of design and cybernetics.

Keywords Design, Cybernetics

This special double issue of *Kybernetes* reaches out to an audience that *Kybernetes* has not previously tried to reach – designers – in an effort to build a bridge connecting cybernetics and design.

A number of scholars with meaningful involvements in both cybernetics and design have maintained, for the last half century, that there is a significant connection between the two. Assertions made in public and private have sometimes lead to argued publications including Pask's (1969, 1979), though more often they have surfaced in other publications as comments almost tossed aside in the flow. Other works, such as Schön's (1983), can be seen, today, to involve essentially cybernetic arguments. Speaking personally, I know, I have often used design examples in cybernetics papers and cybernetic concepts in design papers, insisting there is a connection, but I have only recently begun to make a concerted effort to bring the two fields together fully and explicitly in a reasoned and argued manner[1].

It seemed to me that half a century of innuendo rather than argument was enough! That it was time to start an exploration which would be as clear and explicit as possible, beginning to develop any relationships that might exist between the two fields of design and cybernetics. The idea was to build the bridges, to find mutualism. Accordingly, and with the support of the Editor in Chief, Brian Rudall, I proposed a special issue of *Kybernetes* devoted to cybernetics and design. The published announcement of the issue included these questions:

- (1) How does cybernetics throw light on design, and lead to developments and improvements in our understanding of and ability to act in design?

- (2) How does design inform us in our understanding of cybernetics and its potential to parallel and throw light on design?
- (3) What is the mutualism that may hold between them when questions 1) and 2) are seen as part of the same whole?

The initial results of what I hope may become, in its own right, a significant area of research (and of action) appear in this double issue. The papers presented here should better be understood not as definitive or conclusory, but as an exploration opening a discussion that might continue within this journal, as well as elsewhere.

Organisation of the issue

One of the responsibilities of an editor is to organise the sequence of material in an issue and to explain this to the readership. While I understand the wish of many editors to impose an interpretative order on material by finding themes by which to group it, I prefer not to do this. I am wary of imposing my order on others, of removing many possible links by promoting the particular links I see. I prefer to let the reader build his/her own links – to design, as it were, his/her own path through the material on offer, leading to his/her own understanding. To this end, I chose to organise content in the arbitrary (but often interesting) sequence provided by first author surname, and I have used that ordering in this issue, with one exception. I have placed my own, very long contribution as the first paper. The reason is that, as editor, I recognised there were two distinct bodies of readers for this issue: designers and cyberneticians. It is neither reasonable nor realistic to expect either to be well briefed in the other's field, so the first half of my paper is an exposition of design for cyberneticians and cybernetics for designers. Given that my own work is rooted in second (rather than first) order cybernetics, my introduction to cybernetics may also be seen as an argument introducing second order cybernetics to any cybernetician not already familiar with such arguments. Perhaps I should have separated my paper into two, in order also to place my argument about cybernetics and design arbitrarily amongst the others.

However, in place of editorially chosen groups, I have moved (with the constructive help of the managing editor) to make it easier for readers to select, in an informed manner, papers and sequences of papers they wish to attend to, by duplicating all the abstracts at the start of the issue. I have never understood why abstracts are only placed in the body of the papers they abstract, so that readers have to wade through pages to reach them. Surely, an abstract is the text that allows the potential reader to assess whether to read the full paper or not, and therefore abstracts should appear all together and at the beginning of a collection, to aid our choice making? This is the path I have pursued here.

Content

An editor is also responsible for maintaining the quality of material published, and for explaining some motivations and particularities surrounding its publication. In this issue, there are more of these than usual.

Firstly, there is the question of what design is. Although, I have given an introduction in my paper (as have others, such as Krippendorff[2], in theirs) there are many interpretations of design. Amongst the authors in this issue there are, I am sure, some who will find my characterisation of design completely unrecognisable. There are certainly papers here which their authors claim to be about design but which, in my opinion, scarcely

touch on the central design activity. Design, as a term[3], has moved from its original connection with what were often called the applied arts (including architecture) to become a term added to others, possibly in order to bring a certain status to undertakings and subjects (consider the way that politicians in the West have started using the word design as a basic indicator, although they rarely know what it is an indicator of). Thus, the word design, attached to other subjects in order to add value and status, has been used by some to indicate complexity, by others to refer to systems of action in which there may be (feedback) loops, and so on. The PhD design web based discussion list (E-mail: phd-design@jiscmail.ac.uk) has many discussants who, in my view, neither practise nor understand design and, although they think of themselves as design theorists and researchers, often completely miss the point of what designers do, preferring to impose onto design their view of what design should be (they probably think the same of me). Instead of considering what designers actually do, they run the risk of (accidentally) removing all the advantages of design and the value that comes precisely from its difference. But, as editor of an issue that is aimed to open debate and encourage discussion, I do not regard it as my job to exclude views of what design is which are held to be valid by others, even if I believe them to be wrong and perhaps damaging. A survey should cover the ground.

There is also the somewhat less difficult matter of what cybernetics is. The world of cybernetics can often be divided into those who would practise and extol first, and those who would practise and extol second order cybernetics. To many in the former camp, second order cybernetics may seem a trivial pursuit of little value. Second order cyberneticians might retort by talking of blindness. There is a wide range of views of cybernetics presented in this issue, and, in the case of some of the authors coming primarily from design, we see early, tentative attempts to explore their world through a cybernetic lens. But at least there is a general agreement that cybernetics involves circularity, at some level and in some manner.

Our anonymous, peer referees understood this in their reviews. One of the common points raised in the reviews was that papers were not original. Certainly, several are, in at least one of the two fields we are trying to bridge, quite conservative – and it might be argued there is little or no contribution to knowledge in the cybernetic, or the design content of many papers published here. But this misses the point and certainly does not mean there is no original contribution: the originality of contribution is in the building of the bridges (and the consequent importing into each field of some of the great resources and strengths of the other field), rather than in one or both fields, themselves. Many of the authors show courage in their attempts to build such bridges and in offering them to us to consider; and the personal learning they have gone through can be found, often discretely hidden, in their papers.

As to the style of presentation, *Kybernetes* is a scientific journal and it may be assumed that readers understand the range and conventions that are to be expected in such a journal. However, publishing in the academic community of designers often takes a more varied form. The structure and expression of the argument may seem alien to those whose background is more normatively scientific. In the refereeing process I attempted to create some movement towards a mutually recognisable and shared centre ground, but not all the papers in this issue originating in one tradition will be easily read by people whose practice is in the other. This is, of course, a weakness, albeit an inevitable one. But it is also a strength. If there is to be a bridge built, the builders who originate in one tradition will need to understand, accept and

value the means of expression of those originating in the other; in this issue, we can see some of this difference. Margaret Mead (1968), one of the founders of cybernetics, in proposing a cybernetics of cybernetics (which later became known as second order cybernetics) reminded us that cybernetics is intended as a language, making it possible for people from different disciplines to talk meaningfully with each other. Cybernetics is, therefore, not primarily a technology or even a science, but a meta-subject[4] and an approach. It is often argued that design is the same: that it is a way of thinking that sits in the position of a meta-subject to other subjects: hence its general applicability as shown in its suffixation to other subjects. Meta-subjects are, of course, also subjects: and this is how recursive and reflexive concepts such as the cybernetics of cybernetics and the design of design (and even the language of language) necessarily enter.

Those without whom. . .

First, let me thank Russell L. Ackoff for generously agreeing to write us a greeting to the project. Professor Ackoff, who first trained as an architect and often talks in public about the value of the way architects solve problems, is also one of the founders of systems theory and operations research. It is particularly encouraging that Professor Ackoff has found the time to support our endeavour in this publication.

Any project such as this special issue depends on the good will and hard work of very many people who deserve credit and thanks. In the first instance, if there are no volunteers to write, there is no issue. So first thanks go to our international band of authors who willingly submitted to considerable demands and a very tight schedule in order to create this volume. Next, of course, come our referees. We had a wide ranging panel of nearly 100 anonymous referees who, as always, gave generously of their time, wisdom and expertise to help us evaluate and improve the papers. Coming from both fields, they lent us their time, experience and knowledge, helping us both produce a publication of quality, and to recognise and work with the traditions of the acceptable from both fields. It is no easy job to referee across fields.

On the administrative side, we received unstinting and positive advice, encouragement and support from the editor in chief, Brian Rudall, and from the staff at Emerald, publishers of *Kybernetes*, though Managing Editor Diane Heath and her team. I am particularly thankful for Emerald's special efforts to accommodate a difficult publication schedule caused by several factors including my own vagrant lifestyle, and their willingness to publish an issue with the abstracts duplicated at the start of the issue. I am grateful, too, for their relatively enlightened copyright and access policies which help make quality work available where many publishers seem set on doing the opposite. We were also very fortunate in the generous loan of a co-ordinating computer program written by Dr Alexander Riegler of Centre Leo Apostel, at the Free University, Brussels. Alex and I recently edited a festschrift for Ernst von Glasersfeld (Glanville and Riegler, 2007) published in the refereed web journal he founded, "Constructivist Foundations" (Vol. 2, Nos 2/3) for which Alex wrote a co-ordinating program so we could better work together. He graciously made this available for this special double issue of *Kybernetes*.

On the support front, I was enormously fortunate to be awarded a grant by the Architecture Research Fund of the Bartlett School of Architecture, University College London (UCL), enabling me to employ a research assistant to help in the editing tasks. Without this grant, and the help it bought, I would not have been able to complete the

commissioning and editorial aspects necessary to bringing this issue to publication. I gratefully acknowledge this support.

Which leaves me with just the greatest debts of thanks. Without the help of Ben Sweeting, who acted as my editorial assistant through the Bartlett's generous funding, there would have been no issue. The other editors, the contributors and the referees will all have discovered, through communicating with and through Ben, what a good job he has done, with such grace. I can honestly say that his help and advice has been invaluable and we all owe him the greatest debt of thanks. And, at home, my wife Aartje Hulstein has been prepared to give up many days we could have spent together in favour of this project that she judged to be worthwhile, and to give me personal support at those inevitable moments when such a project is in one of its insufferable phases.

Finally, there is a wish for you, the reader. I hope that this collection may anger and inspire, irritate and amaze: but above all, that it will provoke wonder, enquiry, and a wish not only to respect each field, but to open up, to find out more and, perhaps, to enter into a symbiotic bridge building operation that might bring valuable theoretical illumination and realm of practice to both fields.

Notes

1. However, Jascia Reichardt's epoch marking "Cybernetic Serendipity" exhibition at the Institute of Contemporary Arts in London, 1968, did build the relationship with design's near cousin, Art.
2. Krippendorff, along with Dubberly and Pangaro, and I are amongst the few people, and the even fewer authors in this issue, who were educated in and who teach/practise both design and cybernetics. It is not surprising, therefore, that our views are often sympathetic.
3. The origins of the word design, according to the Oxford Dictionary of the American Language on my Mac, are in the Latin "designare" to designate. It was brought into English via both French and Italian, with the added sense of drawing. It was certainly current in the early 1600s, witness its use by the English architect, Inigo Jones (1573-1652) in his 1613 annotations of Palladio's "I Quattro Libri Della Architettura" (Glanville, 2007). Corte-Real (2007) shows us that Jones's use was not novel, in his examination of Shakespeare's use of the word design.
4. The best known and most notable meta-subjects are, probably, mathematics and linguistics.

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