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# Living in cybernetics

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1174

## Abstract

**Purpose** – The purpose of this paper is to justify the theme of the ASC 50th anniversary conference; to implement Mead’s cybernetics of cybernetics; and to establish cybernetics as “a way of acting” as well as Glasersfeld’s “a way of thinking”.

**Design/methodology/approach** – Examination of the implicit in Mead’s cybernetics of cybernetics and comparison with Foerster’s second order cybernetics, related to the central concept of circularity – that acting and understanding form a whole.

**Findings** – Mead’s cybernetics of cybernetics is more general than Foerster’s second order cybernetics; the advantages of working from the bottom up as well as (instead of) the top down.

**Practical implications** – Cybernetics is not just a study, but a way of acting. The author lives in cybernetics. If the author wish cybernetics to regain its former influence, the author should consider the way of living in cybernetics as an example that may attract others.

**Originality/value** – To return cybernetics to a subject that focuses on acting as well as understanding, and to point to effective ways of acting.

**Keywords** Acting and understanding, Attraction and persuasion, Cybernetics of cybernetics, Living in cybernetics, Top down/bottom up

**Paper type** Conceptual paper

## 1. Introduction

This paper is somewhat polemical. I present the argument I wish to make in support of the conference theme and the insights behind it, particularly to propose that cybernetics is not just a way of thinking, it should also be considered a way of acting.

## 2. Margaret Mead and the cybernetics of cybernetics

I’d like to start with this quote. Many readers will know it. It comes from Mead’s (1968) paper, “The Cybernetics of Cybernetics”. It was presented at the first ASC conference:

In conclusion I should like to tell you a story which I think may be useful to our new society. I went to the organizational meeting of the Society for General Systems Theory that was held in connection with a meeting of the American Association for the Advancement of Science in Atlanta. The audience was typical, a few old men and women, five or six people who had arranged the meeting and knew exactly what they wanted to do, and a few diverse and unidentifiable characters. They were going through a perfectly stereotyped, conventional, and uninspired rigmarole. As no one knew who I was, I had an opportunity to see how cranky a new idea seems unless it is advanced by a well-known person. I suggested that, instead of founding just another society, they give a little thought to how they could use their theory to predict the kind and size of society they wanted, what its laws of growth and articulation with other parts of the scientific community should be. I was slapped down without mercy. Of all the silly ideas, to apply the ideas on the basis of which a society was being formed to ITSELF!

It seems to me that in a new organization, centered upon our knowledge and interest in circular self-corrective systems and our capacity to deal with the situations to which they may be productively applied, it might be worthwhile for this combination of old and new to really consider, technically and carefully, what in thunder we are founding? How many members do we want and from what groups should they be chosen? Maybe it would be well to consider



from what groups they should not be chosen. How are we going to keep from getting steadily older, so that ten years from now young men will not want to join a society of people with whom they can't communicate? How are we going to keep our communication system alive? Or should we plan for the society to die in ten years? Recognizing that one is working in new and possibly transient fields, one can set a terminal date even at inauguration. (Like any contract, of course, such a date can be extended.) It is possible to say: let's aim at a short, definite period. We know what we want to do now and we think we can do it. The membership that we are going to bring in are the people to do what needs to be done. We are certain that we are not leaving out any of the people who ought to be here now. Why can't we look at this society systematically as a system with certain requirements, certain possibilities of growth, and certain constraints, in a world which is making demands, to some of which this society is to be responsive. If this society is to pay attention to the way cybernetics is developing in other countries, especially in the Soviet Union and other countries of the Eastern European block, what are the devices for adequate cross-national and cross-ideological communication? Do we have the right people? Do we have the necessary techniques? When are we likely to need either death or transformation?

I think these are questions which the American Society for Cybernetics should ask, and, as I am not disguised as a casual crank in Atlanta, I commend them to you.

The quoted section comes from the very end of Mead's paper. The main body of the paper is concerned with cybernetics as a sort of meta-subject that provides a shared (meta-) language within terms of which is possible to describe behaviours that are seen to be similar but which are described in very different ways in their own home subjects. Mead was arguing that cybernetics provides the language to facilitate discussion across different subject areas.

My quote is the only part of Mead's paper that refers to the cybernetics of cybernetics. This is what I take to be the central theme:

Of all the silly ideas, to apply the ideas on the basis of which the society was being formed to ITSELF.

This, for me, is at the heart of the understanding of what cybernetics is. Cybernetics is not just a study, it's a way of acting, and that's the point I'll try to develop in this paper. This is what I understand Mead to have asked us to do.

First, she asked us to act with consistency. She tells us we should behave as the systems we describe. In other words, that we should reflect our cybernetics within and into the American Society for Cybernetics: we act in concert with what we describe. Using the pop therapy expression, we should walk the walk and not just talk the talk.

Second, we should use approaches that work in a cybernetic manner. So we should talk in interaction. We should be conversational – not exclusively, of course – but certainly we should give space to these sorts of ways of being together, these cybernetic ways.

Over the past few years this is what we have been trying to do, within the ASC.

### 3. Last year's theme: "Acting, Learning, Understanding"

Let's remind ourselves of last year's conference. The theme was "Acting, Learning, Understanding" (Glanville *et al.*, 2014). We started with the notion that acting is informed by understanding (Glanville, 2014b). I believe this is a notion popularly held in the West: we tend to say things like "in order to be able to act, you should first understand".

This is an over-simplification. It's clear (as Piaget, 1955 has shown us repeatedly) that babies understand by acting, through acting, so it is acting which leads to their understanding.

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We make descriptions that work in such very simple, linear and exclusive ways, but cybernetics suggests we should not be satisfied with this.

Epistemologically, acting and understanding are similar to what Aristotle referred to as *phronesis* and *sophia*. *Sophia* is wisdom type knowledge; *phronesis* is the sort of knowledge a potter or a physiotherapist would have in their fingers – the ability to do things – a different sort of knowledge. I have described a similar distinction in terms of knowledge OF and knowledge FOR: knowledge OF what the situation is (what interests scientists), and knowledge FOR acting within that situation (what interests, for instance, designers). These have turned out to be useful terms when we discuss design (Glanville, 2007).

The point is, acting can lead to understanding and understanding can lead to acting, each influencing the other; just as understanding informs acting and acting informs understanding. There is a circularity here, and Aristotle knew this because he talked of *sophia* coming from *phronesis* but also returning to *phronesis*. *Phronesis* is the world which is not only the source of, but in which we check, our wisdom by acting on it.

Which means there is no natural superiority. Acting is neither better nor worse than understanding, and understanding most certainly does not have this position of natural precedence that we, in the West, have tended to give it over the last 300 or 400 years.

It also means we should be careful in our use of the word “application”, because application implies we apply this to that, meaning we make that subject to this, so this is given a position of authority and power. Understanding is taken to be superior to acting, which is just not the case. In cybernetics, we should think in terms of a non-hierarchical world.

#### 4. Not just observing and reporting

Second order cybernetics, coming from the cybernetics of cybernetics, is “obsessed” with the observer. There was a lot of messing around with the language in the early days: there was cybernetics of cybernetics, second order cybernetics, new cybernetics. Some people nowadays will talk about neo-cybernetics and so on.

Foerster (1974) (the ring master of second order cybernetics) distinguished second from first order cybernetics in the following way:

- first-order cybernetics is the cybernetics of observed systems; and
- second-order cybernetics is the cybernetics of observing systems.

And I, again, have used my device of preposition-switch to distinguish them (Glanville, 2005) to talk about the difference of having:

- an observer OF the system; and
- an observer IN the system[1].

Following Mead, if we are to be consistent when we account for a second order cybernetic systems we need the account of an observer IN the system: yet, an enormous amount of work in second order cybernetics is presented by an observer OF the system, standing outside the system and talking about the system from an external observer’s point of view. This gives precedence to a first order observer, rather than the second order observer IN the system. Rather than talking of second order cybernetics from a first order cybernetic point of view, that is, in the way the traditional scientist will talk about second order cybernetics (or anything else), if we are going to be consistent, we need to remember the observer IN the system.

This is the inconsistency Mead points out to us.

Foerster did recognise this inconsistency, though not in those terms. He insisted that “the Laws of Biology must write themselves” whereas (in his view) the Laws of Physics and Mechanics had been written by human beings (Foerster, 1972). In other words, you cannot rely on something standing outside the system to make these laws.

Foerster also insisted that an observing system requires an observer: the detached observer, who retains a certain coolness, and is not part of the second order cybernetic world. But if we are going to describe it, then should not we be careful about the way in which we use the observer, and the way we characterise the observer? Yet much work in describing second order cybernetics has been presented (as I just pointed out) from outside the system. Readers will know Foerster’s (1992) favourite and (in)famous quote:

Objectivity is an observer’s delusion that observing can be done without him.

### **5. Foerster’s second order cybernetics, and Mead’s cybernetics of cybernetics**

It might appear there is no difference between (first and) second order cybernetics, and Mead’s cybernetics of cybernetics. We have certainly acted as if this were so. But I believe this is not so, and that the difference between the two is crucial to unravelling some of the confusion in how we describe the system and what we can describe.

I claim second order cybernetics is a weak version of the cybernetics of cybernetics. To talk only about the observer is limiting, and Mead meant something so much wider than that: if you look at the examples she gives, they are not to do with observing but with management and the nature of society (not surprisingly: Mead was an anthropologist). Her request is that we think of the whole of cybernetics, of what cybernetics offers us, thinking of cybernetics through its own lenses; whereas, what Foerster gives us in second order cybernetics, is the notion that it is enough to talk of the observer, however we chose to describe that observer.

I have claimed Mead is concerned with consistency, particularly consistency between how we understand and how we act. She requests we act in a manner reflecting our understanding: “Do, as you would be done by”.

Remember how acting and understanding form a circle. They are circularly organised and each informs, and shapes the other. We cannot just talk about acting; we should consider how understanding and acting fit together. This is a cybernetic way of understanding, of being: putting them together into a circle is an action, and that what the cybernetics of cybernetics implies is that we should be doing our cybernetics, which is to say that we should be living in the cybernetics that we describe, construct and make.

### **6. Attraction and persuasion: bottom up and top down**

This understanding relates to top down (whole to parts) and bottom up (parts to whole) approaches. I will explore this alternative description further.

If we are going to be cybernetic in our acting as well as our describing, we should not involve ourselves in application. Application is the imposition of one system onto another, as when we claim understanding is superior to acting. We should try to avoid this power relationship, and it is possible.

For an example, we may consider Alcoholics Anonymous (AA). AA is, to my knowledge, the largest and longest surviving anarchic society (Glanville, 2013, 2014b),

a bottom up, non-hierarchical, democracy, made up of individual drunks. Readers may know the 12 steps to recovery from alcoholism. AA has no rules, but rather 12 traditions, which advise AAs[2] how they might behave towards and between each other.

Tradition 11 concludes:

Our public relations is based on attraction rather than persuasion.

Over the last 40 years or so, we cyberneticians have bemoaned our loss of recognition and influence (our power base). We have tried connecting with people at the top, who have power to impose notions on others. We hoped they would take our cybernetic understandings and say "Fantastic!", instructing others to behave within and according to our insights. We have not been successful.

I suggest we should try a different approach, to work with a bottom up approach, at very least as a complement to top down. What bottom up means to me is we show how we can live using cybernetic understandings, and thus influence people. That the example of how we live will inspire others. That you can look at how someone behaves and say to yourself "I wish I was like that, that I could do what (s)he does".

I think this is the sense in which Mead talked about the cybernetics of cybernetics; that we take what we learn about cybernetic systems and, as she said, apply it to our own society and, by extension, ourselves. This is a very important behaviour, and it is much wider than the notion of second order cybernetics, with its exclusive interest in the observer (even if the observer is intended in a metaphorical sense).

## 7. Living in cybernetics

I propose we start trying to live in cybernetics. Doing so we may show people the benefit of how we live so they can decide whether they wish to pursue this path, or not. In changing behaviours, one is more successful with those who want the change rather than imposing on those who do not. The ASC offers its resources not by imposition, but by making our resources available for people to come across and choose to adopt.

Let's start with the notion that there is no natural superiority: that understanding is not naturally better than acting. Aristotle talked about the circular linkage between phronesis and sophia. (He also claimed sophia was a superior knowledge, perhaps to flatter himself; he may also have considered that because sophia was a refinement, it was in some way superior.) In the West, we may have used this to downplay practice, whereas there was a second part to what Aristotle said, that sophia has always to be referred back to phronesis. The dependency between the two is not that one is better than the other, but one which relates to the other in a circular relationship.

When we think about circularity, it is difficult to understand the place of hierarchy. Circularity means if A then B, and if B then A. The way we can think about, or represent it, is on a plane, in flatness, or perhaps in rich heterarchy. It is not something to impose on the world, but something we understand as leading to certain ways of understanding.

Mead asked us to act with consistency – that we take what we learn, applying it to ourselves. This means we live in cybernetics, rather than standing outside to describe it. We act with it. Which leads to motivation.

Those who have tried to change a habit, a way of behaving they no longer wish to practise, will realise that you have first to really want to do it yourself. Others cannot give you the motivation, you need to own your actions yourself; and secondly that you need to keep on practising it – it is hard work.

This is what AA asserts in Tradition 11 – attraction, not persuasion. Persuasion is difficult to maintain. Persuading someone to change how they behave is hard work.

Attraction has been our recent aim in the ASC as we have introduced ways of acting more in keeping with the understandings we develop in cybernetics, to supplement and improve the earlier and more traditional ways.

I hope we will take the idea of living in cybernetics both carefully and seriously, and giving the ASC and cybernetics a future it has not had for a very long time. This is not a matter of developing the theory, but of understanding the way we act is as important as the way we understand, turning understanding into acting.

### Notes

1. The observer IN the system is the second order cybernetic observer.
2. Members of the Fellowship of Alcoholics Anonymous (AA) refer to themselves as AA, emphasising that the Fellowship is made of individuals: it is an individual term that is used, also, as a collective.

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### Further reading

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