

A (Cybernetic) Musing: Cybernetics and Circularities

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0 Prelude: Reflecting on the Name²

A recurrent question amongst those interested in cybernetics concerns its name. Many believe the word *cybernetics* has lost its currency, and in some respects they are obviously right. From early days, there were those who grabbed hold of cybernetics as a way of adding stature and credibility to work that was less than credible: for instance, Maxwell Meltz's psycho-cybernetics. Thanks to William Gibson's invention of the term cyberspace in his novel *Neuromancer*, the prefix *cyber-* has come to denote anything vaguely futuristic, computeresque, informational, electronic and (too often) from the dark side. The word has been spun by those with particular leanings: As early as the Dartmouth conference of 1956 cybernetics was identified by some with computing and AI. When others dared disagree, the AI faction split off taking both funding, and a lasting resentment against those preserving a more liberal and original understanding of the term: recollect Minsky's witheringly disdainful: "Cybernetics is...only practised in Russia and other under-developed countries."³

As is often pointed out, there are no undergraduate programs in cybernetics in the USA and few worldwide. Insofar as it does exist institutionally, it takes a form akin to control engineering, reflecting the mood of Wiener's original, eponymous book, but not of the Macy Conferences (1942, 1946–53), or even Wiener's own *Human Use of Human Beings* (1954).

So it is easy to agree the word cybernetics has lost much of the positive credibility it had. It seems cybernetics has a problem with its name. A sensible next step is to suggest the name should be replaced. This suggestion is not new. Many have made it, but without offering a good replacement, any more than we find a good all-embracing definition or characterisation, as I discovered when trying to redefine how the American Society for Cybernetics (ASC) understands the subject. It seems to mean many (all?) things to many (all?) (wo)men, which, while consistent with the position of second-order cybernetics, does not lead to easy communication.

One recent contender as a replacement name is *reflexivity theory* (Umpleby, 2011). Reflexivity theory is the name given by the economist and financier George

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2. I apologise if this account starts with the familiar. It is always difficult, in writing these columns, to know what to assume as prior knowledge.

3. According to Paul Pangaro, this quote was written down as a note by Pangaro himself during a very heated debate on artificial intelligence between Marvin Minsky and Hubert Dreyfus, moderated by Jerry Lettvin, at the 1982 Aspen Design conference.

Soros to his general theory of economics, which theory Stuart Umpleby often claims epitomises second-order cybernetics. Kauffman relates reflexivity to recursion, especially Foerster's (1977) eigen forms—as can often be seen in his columns in this journal.

At last summer's ASC conference (held in Asilomar in conjunction with the Bateson Idea Group),⁴ there was a workshop on reflexivity and reflexivity theory, at which Umpleby and Kauffman spoke, along with Klaus Krippendorff, Vladimir Lefebvre, Fred Steier and myself. While the others presented firm positions, my presentation was much less well-formed than the theirs. One suggestion I made was that there are two styles of reflexivity, deriving from the two original spellings—the other being reflectivity. I suggested one was more mechanical than the other, more associated with Foerster's trivial machine. This second style, spelled with a -ct- rather than an -x-, is what Donald Schön gives us when he introduces *the reflective practitioner* and *reflection in action*, nowadays key references in research based in the practice of designing.⁵

In Schön's (1983) formulation, professionals gain a type of knowledge from their practice, through reflecting on it. Some of the reflection is contemplative, some more actively inquisitional. Knowledge thus gained is applied by the professional to his/her practice. (Schön's intention is at least in part epistemological, redressing the view that the only proper knowledge is academic knowledge.) This position is interesting because it places practice above theory, and is formally circular. Thus, its value helping designers understand and value what they do (surely an aspect of practice) and to convert this into research.

Reflexivity and *reflectivity* are words for particular forms of circularity. At the centre of cybernetics is notion of a circular system. The Macy Conference mission statement, for instance, concerned circular causality. Thinking of ways of renaming (should this be at all possible), it's important to keep circularity visible. That is why, in this column, I will explore circularity in several different circumstances, showing how valuable it can be to see a system as circular rather than linear, and what some of the consequences of circularity are. I argue that circularity is the general case, and that, insofar as we might think of anything as foundational in cybernetics, circularity is a prime candidate. Perhaps it could be the source of a new name.

1 Controller and Controlled

Cyberneticians use the word control in a manner that is not quite the same as much general usage. For many, control is exercised by one entity over another. This is most

4. Organised by Pille Bunnell and Nora Bateson, see www.asc-cybernetics.org/2012.

5. I do not mean to imply that reflection in action is the only approach. Others, based in practice and action, include (for instance) grounded theory and action research. Nor do I mean to imply that design is the only field where Schön's approach is used. In fact, his original work was based on studies of several professions, not just designers.

apparent, in human terms, in the dictator (a ruler with total power, deriving from the ancient Roman use, a magistrate with absolute power).⁶

Control is, I believe, generally understood to be by one entity of another: It is linear and there is a clear causal connection and a power relationship.

Although sometimes described in terms of this power relationship, cybernetic control is different. It is about maintaining balance, and relates to words such as regulate and govern. Both of these can also have an authoritarian tone. However, they seem to have retained the notion of maintaining balance better than the word control. Cybernetic control is based on the assumption that error is endemic, and that the way to deal with it is not by looking for unattainable perfection, but through continuous modification and adjustment towards some final goal.⁷

In a typical cybernetic system this modification is achieved by completing an organisational circle: sending messages about the state of the controlled entity back to the controlling entity, so the controller can modify its behaviour towards the controlled entity, bringing the system nearer to the desired state.

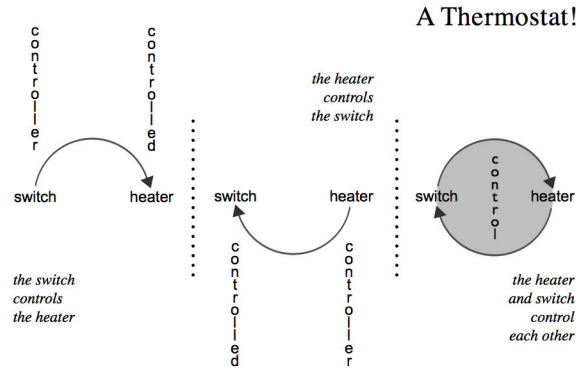
Let me give a standard example. Consider that most popular of cybernetic systems, the thermostat. Here a switch on the wall controls the provision of heat (or cold) by turning on and off a source of heat (or cold). It determines when heat is needed by comparing the temperature of an environment to a desired temperature. The outcome of the comparison is “fed back” to the switch. Thus, the switch controls the provision of heat. In this account, the switch is the controller and the heat provider the controlled.

But the heat provided to the environment controls the switch, so the controlled is the controller of the controller, endlessly chasing around the circle. We cannot describe control as in one element, but rather between the elements of the system, acting together in interdependence. Control is in their behaviour together maintaining a temperature. This is this sense in which the system is in balance. Through this circular passing of messages, the system achieves effectively thermal stasis: It (the whole system) is the thermostat. Early in its modern history, cybernetics was presented as a science of control: linear control. There was no doubt the switch was the controller of the heat provider. Yet the analysis above shows the system is circular, not linear. The use of the term feedback suggested that completing the circularity is a small matter (normally using ignorably small amounts of energy), whereas cybernetics, as the Macy Conference group realised, indicates a new understanding that is not a minor technical tinkering, but a profound rethinking of the great mechanism of science, causality.⁸

6. *Oxford Dictionary of the English Language*, part of the Mac OS 10.7.5.

7. Of course, improved performance is desirable, but error free performance is considered an unlikely goal. It is the nature of error to be unpredictable, to just pop up when and as it will!

8. “I think that cybernetics is the biggest bite out of the fruit of the Tree of Knowledge that mankind has taken in the last 2000 years. But most of such bites out of the apple have proved to be rather indigestible?—usually for cybernetic reasons” (Bateson, 1966/2000, p. 484).



Cybernetics proposes a circular causality to supplement or replace linear causality, a move that is radical and revolutionary. This view is embodied in Ashby's insistence (in contrast to Wiener's view) that cybernetic systems are not concerned with the laws of thermodynamics, but of information. In a cybernetic analysis, systems are concerned with the laws of cybernetics, but not necessarily the laws of physics. (Margaret Mead later requested consistency in our handling of cybernetic systems: If the system is circular, the observing system in which this circular system resides should also be circular. This is the origin of the *cybernetics of cybernetics*, better known as *second-order cybernetics*.)

Cybernetics is interested in systems that are circular. The so-called parts link with and form a whole in a chain of interactions that have side effects, one of which is what many might consider the emergence of wholeness.⁹

We will see, in the next section, how we may conceive of observables as circular wholes. Cybernetic control is essentially circular. It consists in a balance between the elements of a system and the system as a whole. Yet, the notion of linear control persists¹⁰ with many still finding the idea of circular control uncomfortable. They present causality as unidirectional—the type of domineering control that gives cybernetics a bad name and is far from its interests and intents.

9. I do not like this use of the word *emergence*. My understanding is that emergence was first used by Hobbes of his *Leviathan*: something not yet seen, but waiting to appear (e-merge). In other words, there is no sense of novelty in this usage, yet, nowadays, we use it to refer to the creation of the new.

10. As indicated at the start of this section, the word *control* is used in 2 distinct ways. In one, the behaviour of the controlled system is constrained (and ordered) by the controlling system. In the other, the controlling system helps the controlled reach a goal, often a stable state. The difference between the two can be explained by Ashby's law of requisite variety: in the first case the controlling system has less variety than the controlled and so can only constrain its behaviour in an undesirable manner, in the other, the variety is the same and a balance can be enabled, with the control shared between each element.

2 Objects: The Abstract Form of Second-order Cybernetics

Thus, my view of control as an essentially circular activity can be thought of as an insight that leads to second-order cybernetics, bringing circularity to the fore as a key cybernetic understanding. It no longer hides behind the pretence that control is essentially linear, with a small feedback component.

In my doctoral thesis in cybernetics, I made a less empirical argument than above, for the essential circularity of cybernetic systems.

As is generally known, second-order cybernetics was presented, shortly after Mead's consistency demand that cybernetics should be done cybernetically, as concerned with a shift in interest concerning observation. Foerster (in Foerster et al., 1974/1995) gave us: first-order cybernetics = the cybernetics of observed systems; and second-order cybernetics = the cybernetics of observing systems.¹¹

There is, however, a critical question (the answer to which provided the starting point for, and underlaid the construction of my PhD thesis [Glanville, 1975; see also Glanville, 2012b]): when we talk in terms of a universe of discourse (of observation), what allows entities¹² to be inhabitants of (enter into) that universe? Clearly, definitionally, the answer is, being observed. But this does not answer the question: for how does the entity that is an observer of this first entity itself enter the universe of discourse? The answer remains, by being observed. Thus we generate an infinite regress, of an observing entity being observed by another observing entity. In effect, none of the observed entities may enter the universe of discourse for, at the end of the chain, all depend on being observed by an entity that is not an inhabitant of the universe of discourse because it is not observed.

There are two ways to resolve this. One is to insist the entity at the end of the chain is observed by the entity at the start.¹³ However, this would require being time-free so that one entity did not have to (already) exist in order to be observed by the next.

The second (my solution) specifies the entity observes itself. Making this move, the entity becomes what I call an *Object*.¹⁴ An Object observes itself: it might be considered as a distinction that, in intension, observes itself in extension (to rework Glanville & Varela, 1981). An Object enters the universe of observation by observing itself: thus, it is observed and it observes, satisfying the entry requirement by which to

11. For some years I have suggested this variant: first-order cybernetics = observation of the system; second-order cybernetics = observation in the system.

12. I used the term entity to refer to something more abstract than particular, and without intension and extension. I will keep to that term here, for brevity's sake. However, I would nowadays be careful of the notion of an entity entering the universe of discourse, preferring to talk about a becoming. (*The Oxford Dictionary* gives: entity "a thing with distinct and independent existence... from the Latin... esse, to be"). My concern is that the word entity assumes being, rather than coming to be (becoming). This had not occurred to me in 1975.

13. Substituting production for observation, this is what happens in an autopoietic system.

14. The notion of Object fits in with other work done around the time I was completing my PhD (1974) and being examined (early 1975). For instance, Varela, Maturana and Uribe were publishing the autopoietic formulation (see previous note) of a chain of elements that reproduced themselves and their organisation. Foerster, my external doctoral examiner, composed his own formulation, the eigen object, in June 1976.

become a member of the universe. It requires no help from, and no co-operation with, anything else (such as another entity observing it) to qualify as a member.

Thus I specify all inhabitants of a universe of observation, making Objects the fundamental organisation of second-order cybernetics, which is essentially concerned with a universe of observation.¹⁵ They are very abstract forms, and they are often confused for physical objects, God-like structures, animate structures: but they are none of these. They are an explanatory system, a construct. They do not belong in or depend on the worlds of the material and/or of physics.

An Object is (self)-observing and (self)-observed. Note the organisation is circular: what constitutes an Object is the continuing circulation of self-observing, leading to the switching half-phase states of self-observer and self-observed. Objects exist through continuing self-observation, which makes and maintains them. That this observation is self-observation is what gives Objects their autonomy and allows us to treat them, fantasy that they are, as if real and, thus, as a common point of reference.

Sometimes, I am chided for my choice of term *Object*. But the English word *object* (together with its derivatives) has a multiplicity of dictionary meanings which often contradict each other. For instance an objective is a thing aimed at, or a lens. But being objective is “not influenced by personal feelings or opinions in considering and representing facts.”¹⁶ I could go on but trust this example gives a broad enough indication. The word *Object* is (grammatically) both subject and object of its own observing. Note, the word subject sustains parallel, object-like ambiguities.

I can generalise the argument, for any action I may like: For any entity to be a member of a universe of discourse, it must partake in and of itself in the activity of the discourse. Thus, if the discourse of the universe is knowing, it must know—know itself, itself. Hence, we take the atomic units we observe as self-observing circularities observing themselves. This places the circularity of observing at the heart of second-order cybernetics. To me, it is a formal requirement, not an animist claim (do not understand it as that!). Remember, Ashby told us, “cybernetics is the study of the immaterial aspects of systems” (Ashby, 1956, p. 1).

3 Understanding and Acting

One argument used to validate research is that, in order to be able to act well (preferably in the best possible manner) we need first to understand: that is, understanding has priority over, and is a prerequisite for, acting. Sometimes, we act in disastrous ways because we do not understand either the situation we find ourselves in, or the mechanisms of what we intend to act on and with (as well as the connection between the two).

15. It has many other properties, as I intent to explore in a major paper in this journal at a future date. It is possible to read the part of my PhD where I first set out this argument in Glanville (2012b) *The Black Box*, volume 1. This project is a collection of my publications up to the end of 2009. Volume 3 contains all my publications in this journal up to that date.

16. *Oxford Dictionary of British English* in Apple's Mac OS 10.7.5

Yet, as far as we can tell, humans do not start from understanding, but acting. Consider what we do as babies. Without entering into the arguments over whether, and if so to what extent we are hard-wired, or of pre-natal knowledge, when we observe babies we see them experimenting: They act in what we see as the world, as we say, in order to build constancies (Piaget, 1955) and the patterns that we “use to construct” both constancies and connections (Glanville, 2010). I have placed phrases in inverted commas because these are phrases of well developed and well expressed understandings, the sorts of things (we assume) babies do not have. (Remember the evidence that (in our account) babies do not adjust the focus of their eyes for some weeks after birth, nor do they turn their heads towards sources such as their mothers in what we think of as seeking. In this sense, although what we have come to call light falls on their retinas, they do not see: they do not engage with, nor do they make any sense of this light.)

We have moved so far beyond this point of unformed-ness and innocent ignorance that we cannot conceive what babies experience or think. “Truths” about babies are external accounts and explanations: we cannot pretend to test them against what a baby experiences. Nor do babies have language, in which to express their agreement or disagreement with others.

So we start our conceptualising from action, not understanding. From these actions we build understandings, which shape our further searches. Understandings that don’t work (are not, in Glaserfeld’s term, viable) are normally rejected, if caught early enough. The rejection of an understanding, the modification or complete replacement, is a cybernetic act of error correction: The connection between understanding and action is neither unidirectional, nor must it start from understanding. Because they are tied in a circle that organises their wholeness it is probably false to treat either understanding or action as *the origin*. But if we wish to establish precedence, it would seem that action precedes understanding. Thus, understanding should not be given precedence: If there is any precedence to be given, it goes to acting.

4 Theory is Superior to Practice

In his remarkable PhD thesis, Graham Barnes (2002) discusses the relationship between theory and practice, in the context of psychotherapy. Put far too tersely, he shows how each theoretical psychotherapy proposes its own categories of psychopathology. He used as his case the origin and development of transactional analysis (TA) by Eric Berne, whose theory became practice, leading to the opposite of what was intended (therapy). Barnes argues that the inevitable working of theory in psychotherapy led to the unquestioned and eventually unquestionable truth of the diagnosis of psychopathology as defined by the theory of TA. This, in turn, led to the practice of imposing the psychopathology of the theory on patients, making matters far, far worse. Barnes, who practised TA for two decades and who had exceptional access to the Berne archives, gave detailed evidence from the therapies imposed on

patients who were homosexual or alcoholics. Berne's colleague and follower, Jackie Schiff, imposed an extraordinary therapy on people diagnosed by TA theory as schizophrenics, which she developed by taking Berne's work to an unprecedented extreme.

Placing theory¹⁷ above practice¹⁸ is not unusual in our culture. Developments in those "most fundamental" of sciences, particle physics and cosmology, seem totally determined by the imposition (and testing) of theory. In many social sciences, what we see is determined not by the evidence, but by the way in which we chose what we will observe. The notion of an anomaly in plotting graphs from data is another indication of our wish to prioritise theory. The current insistence that research is evidence based may indicate the relative lowliness of practice: If practice were not treated as inferior, we might not need to emphasise the need to test theory not against what we want to happen, but what we "actually see."

Like many of us, I was brought up accepting this view of the superiority of theory. However, I have learnt, through designing (in particular viable ways to research designing) that practice often should lead, being seen as superior to theory. It is difficult to imagine a theory that does not initially arise from a practice. Consider, for instance, what I as a professional theoretical scientist might do: I create theory. But this, even according to the dictionary definition, is my practice! My habitual activity, my day to day way of earning my living, is my practice. Thus, theory can be understood as an activity coming from practice.

We can pursue this further.¹⁹ What if I not only practise theory? What if I theorise practice (like grounded theory, perhaps)? Or even theorise theory and practise practice?²⁰ And so on. In this way of understanding, a relationship of mutuality holds between theory and practice. Each informs—shapes—the other. Theory is not superior to practice any more than practice is superior to theory. They are linked in a mutually supportive and essential circularity allowing each to grow within and against the background of the other. Seen this way, the circular connection between theory and practice can be understood to form a cybernetic system. Cybernetics brings sense and legitimacy to this relationship.

The "discovery" that theory is not superior to practice should not surprise us, for as we have already established the circular link between understanding and acting. Theory is essentially a way of formulating and presenting understanding; practice is an environment for acting.

17. "a supposition or a system of ideas intended to explain something" from the *Oxford English Dictionary*: it is worth also reviewing the other similar definitions given.

18. "the carrying out or exercise of a profession" and "the customary, habitual, or expected procedure or way of doing of something" from the *Oxford English Dictionary*: it is worth also reviewing the other definitions given.

19. The editor reminds me of both discourse analysis and Garfinkle and Goffman's attitudes to practice and to conversation. However, there is a difference. Garfinkle and Goffmann, as sociologists, are interested in the Gricean question of how particular examples of practice work; but we are discussing the cybernetics of practice (and theory), which concerns the structure within which these particularities can occur.

20. A note for American readers. In English, we differentiate practice (the noun) from practise (the verb). We make a similar differentiation between advice and advise. You can hear the difference in our pronunciation!

5 Mind and Body

It is nice to end my examples by returning to Gregory Bateson (whose work helped inspire the ASC/BIG 2012 conference I referred to at the outset) and his thinking about the linkedness of mind and body.

I doubt any reader will be surprised that I would argue we should consider the relationship between mind and body as circular. The old argument over which takes precedence has not generally lead to anything more than irritation and intransigence. Perhaps we might think precedence important, because if mind precedes body, then it is easier to argue that theory (mental activity) precedes practice (corporeal activity): yet in general we tend to hold the opposite view, that we cannot have mind without body. (However, it matters not whether or not we have body without mind to appreciate it: Body can be seen as a construction of mind). I like a quote from James Clerk Maxwell, who foresaw this position: “The only laws of matter are those that our minds must fabricate, and the only laws of mind are fabricated for it by matter.”²¹

Gregory Bateson also insisted that we should treat mind and body as an indivisible unity. We may perhaps grasp some of the value of this approach when we wonder what would happen if we had a brain transplant (assuming mind is a property of brain: a big assumption). I have learnt so much through my embodiment, that I am convinced that a brain transplant would be, at best, no better an experience than locked in syndrome! Placing both mind and body together in a circularity of dependence shows us an essential unity: Such circularity may be as good a way of characterising a system as any.

We can also understand this unity as capturing the (radical) constructivist position (Glanville, 2012a). One key feature of (radical) constructivism is its insistence that we can neither affirm nor deny the existence of mind independent reality. This is a very different position to that which is often attributed—that (radical) constructivism is a form of solipsism. Glaserfeld’s constant reference to viability as a result of testing is strong evidence that we can and should refer outside our own imaginings to validate how we see and describe the world (for the moment). Connecting mind and body expresses an uncertainty about both priority and being that is not present in materialism (which gives precedence to the body) or idealism (solipsism), which gives priority to the mind.

Mind and body therefore also benefit from understanding their connection as circular. In this manner, they form a unity, a whole.

6 Summary: Circularity

My original intent in this column was to present a re-developed version of the talk I gave at the 2012 ASC/BIG conference. But the column, and the ideas in it, had a different idea! Writing this, I have moved away from the narrower topic of reflexivity,

21. <http://quotationsbook.com/quote/22665/>. Retrieved 4 October 2012

and more and more into re-valuing the concept and mechanism of circularity. Perhaps this, too, is a circularity—between written and writer. Here I shall summarise, but also extend from the examples I have argued above.

I have shown several systems, often thought of as linear or as examples of linear causality in action, that I argue should rather be thought of as circular. To do so is more accurate and offers enrichments and values not previously anticipated. In doing this, I have argued circularity is the basic form of systems and the basic embodiment of causality. In my understanding, the linear is a special case, in which the circularity (possibly treated as feedback if not ignored all together), is so weak it can be ignored and so is neither noticed nor taken into account.

In my view, the relation between the circular and the linear is like that between Einstein's and Newton's mechanics: Einstein's mechanics subsume Newton's, making Newton's a special case (a case where speeds are low in comparison to the speed of light). The circular becomes linear, when we treat the *return* as so weak we can ignore it. In some cases, we do not even notice the return: but we treat it as present and weak so we can create our generalisation. Think of a stone falling towards the earth: how we ignore the necessary and fundamental concomitant in Newton's theory, that the earth is also falling towards the stone.

We should remember circularity is positioned in organisation. As we circulate (or circulate our messages), organisationally we end up in the same place (we move from A to B to A), but the experience is slightly different: the effect of circulation is that we change, or that our message changes because the context has changed. In effect, our circulation is a spiral: from A to B to A' to B' to A" to B", and so forth. This simple understanding undoes, I believe, Hayles (1999) adverse criticism of second-order cybernetics. In fact, it is a problem well known in computing vector graphics: how to close a shape defined by a number of vectors, when the end point is directly above the start point.

The change in the message and/or the experience (and consequent understanding) relates to the mechanism by which I explain the appearance of novelty in designing, arising through a conversation held with the self through the medium of, for instance, paper and pencil (Glanville, 2009). A conversation is a circular system (sometimes abused as linear). The point is that circularity provides the basis on which systems that grow, change and learn can be built. Depending on what we are looking for and how we want our world to be, novelty may be considered a side-effect, even undesirable.

So what do we learn about circular systems? Circular systems can bring together rival conceptualisations as complements, expressing a unity. That unity forms a whole, and indicates that a whole is different from its parts (as Boulding liked to say). An entity (called an Object) made of the two roles, self-observer and self-observed, was shown to provide a form for conceptual inhabitants of a universe of observation (it is, hence, the basic form of second-order cybernetics); and to allow us a structure that supports us acting as if our different observations are of the same thing.

That the whole is different than the sum of its parts can be seen either as an assertion about the way Objects can be composed together, or as emergence. Emergence is the word currently used for side-effects that are judged beneficial. Of course, determining what is (and isn't) beneficial is a value judgement made by an observer.

There are examples of such circular systems. Apart from my own Objects, Varela, Maturana and Uribe's autopoiesis is one, and Foerster's eigen objects may be another: these are reflexively recursive to a point that, following the process of the recursion, they reproduce their value. These characterisations allow the self generation of autonomous entities. They demand self-reference—and if our current accounts exclude this, we should rethink them.

Pask's conversations, which allow communication between circular systems, are also vital. For reasons of space and focus, I have not discussed them here, but the interested reader may refer to Glanville (2009). They allow that the autonomous systems can communicate, without requiring any external fixity. His conversation theory calls into being Object like structures: topics, concepts, p- and m-individuals, for instance, and also the form of the conversation, itself.

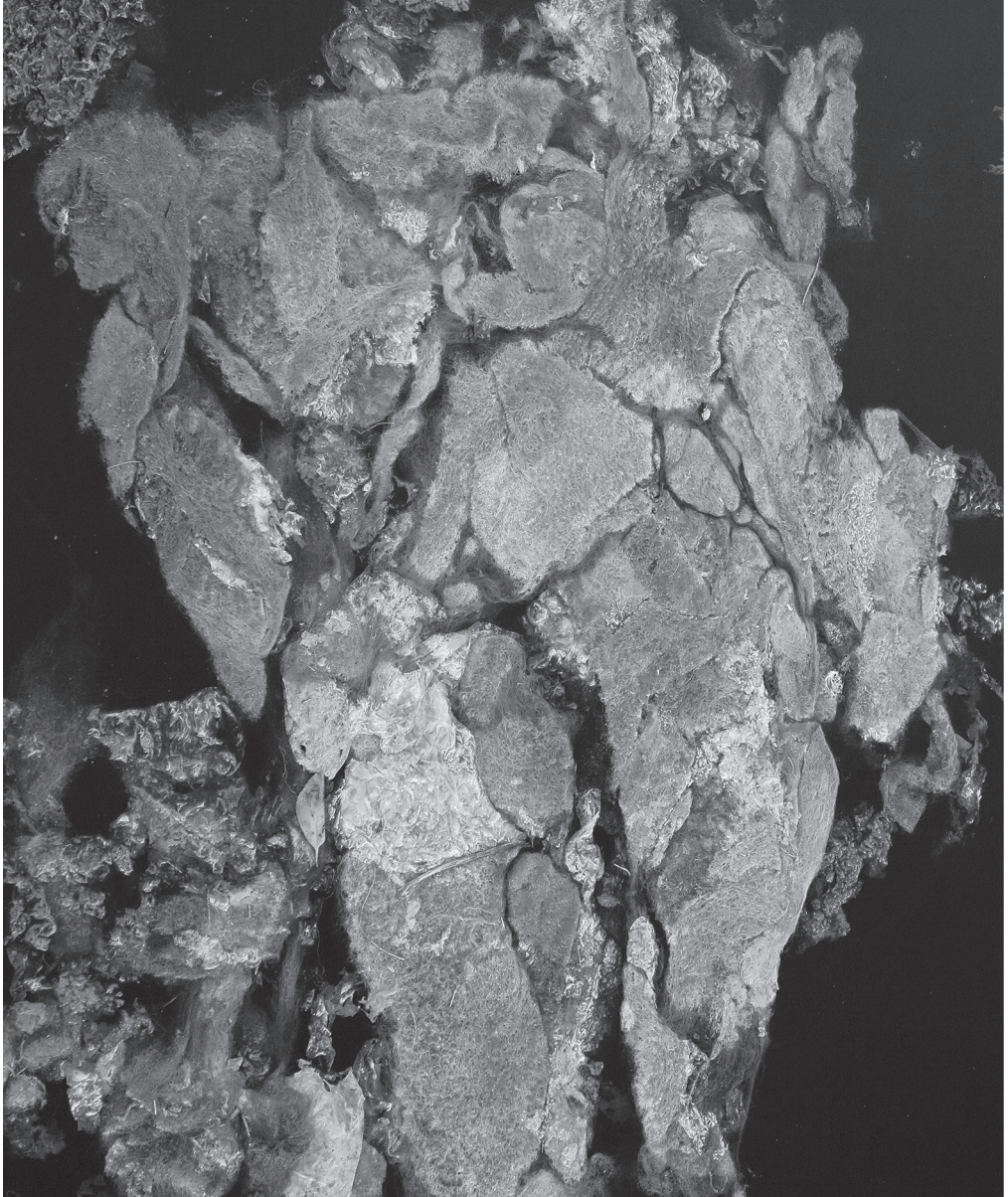
All these concepts and formulations are found at the basis of second-order cybernetics. Each merits a more extensive integration into the argument.

There is one final point I would like to make about circular systems: We are free to enter where we like, but where we enter will often reflect not only our interests (and personal history) but also how we understand the circularity. We have to enter somewhere, but where we enter is not neutral and does not have a neutral effect.

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