CHASING THE BLAME

Ranulph Glanville
Portsmouth School of Architecture
King Henry I St
Portsmouth PO1 2DY, UK

Abstract

"The Buck Stops Here!"
Harry S Truman, President of the United States of America
and, under different circumstances,
"The Buck Stops Here!"
Richard M Nixon, President of the United States of America

Keywords

animal; cause; circularity; communication; control; involvement; machine, responsibility; self

Introduction

Second Order Cybernetics, the New Cybernetics or (henceforth) the Cybernetics of Cybernetics came into being during, roughly, the period 1968–75. It is characterised by its circularity, by the inclusion of the participant/actor/observer (Heinz von Foerster (1974) talked of the Cybernetics of Observing—as opposed to Observed—Systems). Often, questions have been asked as to its usefulness. I (the included author) have always found this question to be both difficult and misguided. Difficult, because I find the uses I see vanish as particularities of the Cybernetics of Cybernetics as its understandings become part and parcel of any and every area. Misguided, because I cannot see the relevance of the question: the requirement of usefulness is not a pre-requisite, and to make it so belies a quirk of philosophy[1]. When I am pressed, I say it is beautiful, it is human, and it keeps me off the streets. (This latter may be useful.)

However, prolonged back of the brain consideration has lead me to believe that it is possible and desirable to make the understanding of (and the understandings from) the Cybernetics of Cybernetics more apparent. To do this is the purpose of this paper.

The Cybernetics of Cybernetics

What characterises the Cybernetics of Cybernetics is the inclusion of the agent that is determining the system under consideration. It is the insistence that observation needs an observer and that any account that pretends otherwise is essentially in error. It is the insistence that there is (inter)action, that there are processes and that we are involved with and in our processes. It is the insistence that there is no thinking without the thinker and that there is no thinking without thinking.

What this means will become apparent later, as you, the reader, become (according to this paradigm) involved and shift to making your own meanings from this text. There is no meaning in the text. The meaning I mean is meaningless, without significance, except to me. The only meaning is the reader's meaning. I (the author) am a reader.

This may be apparent. If so, that is because this central insight, this crucial tenet, which was formulated, extended, examined, acted upon and became the *sine qua non* of the Cybernetics of Cybernetics is so central that it has been subsumed in a multitude of fields of endeavour without effort, seamlessly, so that it is now hard to see it as ever having been absent from those fields.

Yet for some it remains invisible because it seems trite: it makes no difference except for the terminal one that it removes the claim of naive and absolute objectivity that we have so (recently damagingly) built into our culture, our thinking and language, so that we deny experience and imagine (!) a universe that exists entirely free of our imagining. Maybe some will respond to this paper by loosening the bonds of such fallacious objectivity.

(Classical) Cybernetics

The metaphor of Wiener's Cybernetics is mechanism. His (1948) definition is "Cybernetics: or Control and Communication in the Animal and the Machine". (First Order) Cybernetics concerned itself with systems that

[1] the quirk is that materialism is seen as a primiary driver of Marxism, while usefulness is a (completely) capitalist attribute that just happens to be entirely materialist!

exhibited machine-like behaviour and were, therefore, machine-like to, by extension, be treated as machines.[2]

Although it was Wiener who expressed the intentions of Cybernetics, Ashby (1956) (probably) best distilled the essence of the subject and codified it into a formal field. Ashby's exposition is based around the metaphor of mechanism, of the input-output machine occupying a world of states. His views may be summarised as follows:

Cybernetics is concerned with machines in which an input is transformed by a mechanism, in a manner that is predictable, to become an output. As transformations occur, these machines change states. The paths of the machines changing states within their state spaces are their trajectories. The machines tend to particular states, which are called their goals. When the goal is contained within the machine, the machine has purpose. In Ashby's world, there is always mechanism, which may inhabit as well an animal as a machine: what matters is the principle of the mechanism rather than its embodiment. Hence Ashby's Design, for instance, for a Brain (1952).

All these properties are decided by a "classical" observer (ie an observer that is neutral, objective, obtaining an observation that is repeatable, without bias, undisturbed by both the observer and the act of observation etc), that, remaining outside the system, merely sees what's there, seeing it as it is, seeing it without interpretation. A very Newtonian observer in a very Newtonian universe—a universe that runs as a machine; and a universe of classical, one-to-one causality (or causal chains), in which the input is caused by the mechanism of the machine to transform into the output, so that the state is caused to change as a direct, unilateral and unambiguous result of the input. Thus, the observer always knows how (where) the machine is, can follow the changes it goes through.

One of the best insights of Cybernetics, however, is that the world is an uneven place, and that all sorts of things go wrong: perturbations, uncertainties, limitations (eg formal), errors in our understandings and descriptions (accounted for in Ashby's work by the "Black Box"[3]), that which wasn't thought of, choices made by the system under consideration itself or even the bloody-mindedness of the universe (as eternally embodied in "Murphy's Law", and, more practically, in problems of computing the results of the complex computations needed to solve many equations used to describe aspects of the universe). Under these circumstances unexpected inputs may disturb a machine's trajectory, yet the machine may return to its desired path, attaining its goal by accommodating the perturbation. To do this, it needs to determine both that it has been disturbed and by how much, and how this affects its (desired) trajectory. It is not that it was the controlling that caused the possibility of alternative actions, and hence both error and choice—the controlling is a consequence. Or so it seems. Except, of course, that where there is control, error is, in principle, always and essentially possible.

An important aspect of this description is that it does not depend on the notion of (physical) force. Thus, a message (information) can be sent to create a change. Indeed, it is precisely to manage such systems that Cybernetics was formed: where only a little energy (the ignorable energy of information) is needed to create a large (physical) change, as when messages are used to command and control, for instance in the army or when using servo-mechanisms, etc. Further, these messages are assumed to be unambiguous, to convey precisely and automatically their intent: they are a code.

While Wiener's definition is entirely apposite, we need to clarify some of the interpretations that accompany it. Control is taken to be linear and to be causal: the controller controls the controlled: thus, blame is shifted from the actor. Communication is via a code; there is no ambiguity or interpretation, and meanings lie in the message, not the receiver. Responsibility is passed on. Communication also takes the form of a command with the expectation that the command is executed. That is, of course, the raison d'etre for communication. Execution (by the actor) is by (pre-determined) action, with (possible consequent) re-action. Error is unfortunate, the consequence of the unfortunate failing of our investigations of the (natural) world. There is little room for freedom (for that involves the positive acceptance of responsibility, or for error (equals mistake)). Animal and Machine are seen as essentially the same, the subjects of the metaphor of mechanism. And the observer, even when an active participant adjusting (for instance) the elevation of the muzzle of the gun, is external, objective, "classical": that he[4] adjusts the gun muzzle elevation is almost arbitrary, a mistake. For, by modeling his actions we shall model, simulate (and probably replace) him as a mechanism.

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[2] It is the irony of our image of the machine that we take the machine-metaphor to indicate unfailing, predictable reliability, whereas all we can really predict about machines is that they fail. Wiener was aware of this irony, and followed up with "The Human Use of Human Beings" (Wiener (1950)) which emphasised that the machine-metaphor was not to be taken as mechanistic. A similar point is made by Vickers (1983). It is important to register this, for the pioneers were not the mechanists they are sometimes presented as being. (I have this confirmed by Pask, who knew them personally.)

[3] In Asbhy's world, if a machine cannot be "opened up" to reveal the mechanism, it is treated as a Maxwell Black Box, and the description of the mechanism is derived (BY THE OBSERVER) from the behaviours observed. Ashby even went as far as to suggest that all systems might be similarly unopenable. Therefore, the accounts that form the descriptions of their behaviours are always dubious—or, at the very least, tenuous.

[4] For he read she throughout.

The Change: the Cybernetics of Cybernetics

The action of control, as well as the communication of a control intent to the site of its action (for the controller and the controlled are not co-locational), is circular. The significance of this circularity was not initially understood. After all, the amount of energy involved was small, and it was obvious (but why?) that the controller controlled the controlled. A General orders his troops: they obey. A gun is cranked: its muzzle raises. A switch is thrown: the heating comes on (only to go off when the connection is finally broken). A cause has an effect down its chain of control, unambiguously, constantly, repeatably, hopefully.

But consider, for a moment, the thermostat. Much quoted as an archetypal simple control system; much misunderstood because the thermostat is NOT the temperature sensing switch but the whole system. It is true that the switch turns the heating on. But it is equally true that the temperature produced by the heating system turns the switch—on, when the temperature falls and off when it rises (thus exploiting negative feedback). We talk, conventionally, of the switch controlling the heating, but, reciprocally, the heating controls the switch. And for any controller to be able to control a system, in any practical (that is, not perfectly determined) world, the system must control the "controller". Control is within the system and is circular. Reflection will show that this is so in all but the most crudely directional of systems (the dictator controlling the crowd, for instance). As Juvenal has it, who guards the guards? Yet whoever is in front of a crowd knows how that crowd controls them, too.

So, just as it was absurd to consider control without considering the controller, it was difficult to determine where control was located—it is everywhere, and what is called the controller is a convention concerning role.

Control is chosen as an example to illustrate how the initial tenets of Cybernetics anticipated some further examination and refinement, in part because control is so central to Cybernetics, in part because the example is so simple and obvious, and in part because the example is mine, originally (Glanville (1990)). But there are many others, not always identical in form but surely the same in spirit. For instance:

Life is living (not dead) is process. Biologists had examined living systems in a manner that entirely denied (destroyed, in fact) their essential property: that they were living. As a result, they had much information on the dead but (relatively) little on the living. In particular, they had no way of accounting for living as a process—as an experience—in larger organisms. This was because they had ruled life out. Varela, Maturana and Uribe (1974) determined that life should be included, that life is (maintaining the conditions for) the continuation of living, ie that living was the ability to go on generating living. This is a form of standing alone, of autonomy, rather than a chain of dependency (not to be confused with questions of the super-soup and the origins of life).

Such systems are named "autopoietic", by definition "*organised (defined as a unity) as a network of processes of production (transformation and destruction) of components that produce the components that: (1) through their interactions and transformations continuously regenerate and realise the network of processes (relations) that produced them: and (2) constitute it (the machine) as a concrete unity in the space in which they exist by specifying the topological domain of its realisation as such a network.*" (Varela (1979)).

Equally, as living organisms ourselves, to consider the living by killing it, whether the it is the it of the organism studied or the organism studying (the biologist, for instance) is to deny precisely that property that is central, to exclude from consideration the very thing that is supposedly under consideration.

Thus, it is strange to exclude, for instance the observer from the act of observation (von Foerster's (1974) origination of the Cybernetics of Cybernetics as the Cybernetics of Observing Systems), the knower from the act of knowing (Glanville (1975), Pask (1976)), the communicator from communicating (Pask (1976), in the form of "Conversation Theory", in which the semantics of communication is given to the receiver rather than the messaging in code). The paradigm is inclusion of the instrument and the quality, the insistence that inclusion means that the now participating observer must make his contribution—and, of course, be held responsible for it.

And there is the notion, closely related to the circularity of control, of circular causality. If cause and effect are truly linear, Juvenal's question again appears and again and again and… Where does the buck stop? Where is the root, what is at the root? Where are the axioms, the atoms? For cause (and effect) are regressive, infinitely regressive unless an arbitrary stop is put on them. X causes Y. What causes X? W causes X. What causes W?… The difficulty derives from the formulation, for almost no cause is simply effective except under very particular, isolationist (and deathly) conditions. The sky is cloudy. Water lies in the sea. The temperature falls. Precipitation clears the sky. The sun shines through. The surface temperature of the sea rises. The sea evaporates. Clouds form in the sky.

Wheels leave tracks, circles print lines: but lines are not circles, wheels are not tracks. Tracks and lines are merely the residues, traces of passage.

The social sciences are full of such circles of causality—indeed human action is deeply embedded in the mechanism of circular causality (Gregory Bateson's (1972) term, tied in with his "double-bind"). A conversation works like this (Laing et al (1966), Pask (1976)). So does design (Pask (1969), Glanville (1981)). While sociology has moved in this direction especially under the influence of Luhmann and his followers (eg Baecker (1992)), the

Dutch field of Andragology is based in it (eg Glanville and de Zeeuw (1993)).

There are many further examples, some of less immediate relevance here. The point is that this notion of involvement is central, and the Cybernetics of Cybernetics welcomed it as such rather than pushing it to the side until it had to be accepted with ill grace! It IS the observer who characterises and determines and values. To consider, eg, control as a mechanism without considering its nature is crude. When Cybernetics considers its own subject matter Cybernetically, it is being truly Cybernetic. Then we have the Cybernetics of Cybernetics.

What the Cybernetics of Cybernetics can teach us

If we return to those central ideas of (classical) Cybernetics, we can now consider how the Cybernetics of Cybernetics implies different interpretations, and extends them. For this is, I believe, the true gift of the Cybernetics of Cybernetics for us, in how we live (and how we value) our lives today.

The Cybernetics of Cybernetics is, as its name suggests, full of circles. Circularity is one of its major characteristics, for that is what involvement means, and the Cybernetics of Cybernetics is full of involvement. By this, I mean the involvement of the observer in his observing (I use the term "observe" as a general term for all actions of involvement), of the acting of the actor, of the knower in his knowing (knowing needs a knower who can only emerge through knowing his self himself), of the conversationalist in his conversing, of that which is alive in his living (it is important, now, to use the verbs rather than the nouns). The Cybernetics of Cybernetics is distinguished by the involvement of participation, rather than the cool detachment of objective observation. Therefore, of the distinguishing of the distinguisher, in the terms of the logic that has come to be the chosen logic of the Cybernetics of Cybernetics—Spencer Brown's (1969).

And, ultimately, in the self-distinguishing of the distinguisher's self.

What we can understand from this is that the observer is responsible for both his observing and its frozen version, which we like to call observation): he is responsible, it is his, his own, he owns it and he must own it—as the therapist will tell us. We, as humans, as cognitive beings, must take responsibility for our observing (our knowing, our living, our acting, our being…) for we cannot pass on our observing: it is ours, integrally ours. There is no buck to stop, but, if there were, it would not need to be stopped since it would never be passed. The regression that we have come to learn to live with as if we loved it is the result of our pretence that we can observe without, ourselves, being involved. By not accepting that our observing is ours, we exteriorise and reject it. Thus, we make cause and effect, for cause is the mechanism that explains why we are not (often, in general) responsible for the effect (that is, excuses our unwillingness to accept our responsibility). Not to accept the responsibility is the recipe for fascism. Accepting it as described here is the recipe for a genuine anarchy, even for love (Barnes (in press)).

This, cause, is the source of blame (and guilt): the blame of the buck passed, the blame of the logic of the regression of blaming (as in insurance claims) that will always try to find a scapegoat, will never allow the acceptance of proper responsibility and which even and absurdly denies the accident that is without fault. It is the blame of regression: Beware the attributing of blame. But cause and effect is also the sibling of control: for what is control if not the psychology of cause and effect? To control is to cause an effect.

Control, however, is circular, too. And if control is circular, then causality may also be circular (as we know it often is). And if there is a regression, this may be curable by creating a circle, by accepting the involvement of the observer. Circularity as cure-all?

For circle and line are complements. They derive from the difference between the view within the system and that from without: the wheel and its track, the self and the other. And this reflects upon the problem Goedel (1931) created: that systems cannot be assumed to be simultaneously both complete and consistent: the origin of this difficulty is the attempt to define complete and consistent in terms of the other rather than the self.

This is not to say that there is no cause and effect, any more than there is no control. We all know that is nonsense. What it is to say is that we do not have to give primacy to causality or to linear control: they come about from looking at a system as an uninvolved outsider. We can accept responsibility for actions without apportioning blame. We can be whole. Cause and effect (and the controller) are a convention, a role, a result of splitting circles to lay them out cold, as the biologist splits the circle of life to study the living in death.

And we find that control is mutual. Control occurs through interaction, between, and within, with respect.

There is a consequence for truth, too. We have learnt that truth (traditional logical truth) is tautological (Wittgenstein (1971)). That means it is circular: logical truth merely circulates, truth is between and within. Yet there are other ways of considering truth, developed to cope with our old belief that there is something beyond our responsibility in truth: coherence, correspondence and consensus truths, each tuned to external reference, to treating the other, to help us where classical truth has shown us that circularity is central.

Communication also occurs through interaction, between, and within. In the simplest of cases we can talk of

impoverished communication occurring through the use of uni-directional coded message passing, but that is a peculiarly restricted view. It is odd that we have (until recently) allowed this impoverished view, the view from without the mechanism, to hold sway. When we enter the realm of the Cybernetics of Cybernetics we negotiate in communication through a process of conversation. Negotiate our own meanings by construction, negotiate our shared meanings (that exist between and within the circle of our communicating) by conversation: continuous, rolling feedback, with meanings resolving and dissolving as the conversation flows on. Who has not been lost in its magic, driven into the unity of sharing beings?

For, if each of us has our own self, if each is private and excluded (in the sense that I am, myself, my self and no other) to others, we can nevertheless form unities between us that are new selves, transient perhaps (but are we so intransient?), but selves where we are within where we can share, exchange, develop: within the being together of (for instance) the conversation—with its own integrity. Thus we can have a society, we can share even though our selves are inaccessible to others, we can converse (communicate).

Ultimately, this view, the view of the Cybernetics of Cybernetics (which arises when we look carefully at the ideas of (classical) Cybernetics), enriches us. It is deeply human, deeply humane. Cybernetics was founded on the metaphor of mechanism but confused mechanism with machine, and treated both as if the controller, the feedback generator, was separate and external from the system. Thus it supported the classical notion of control, a notion that is unsupportable, really. The view developed here from the Cybernetics of Cybernetics is not of the machine (although it does not deny it as a special simplification). What it says is that the machine doesn't get to the heart of the matter, where the quality lies (rather than the quantity), where there is identity and selfness.

We can recognise this. We recognise qualities (the quality of intelligence, for instance, by whatever means we do not know, but we can test that we recognise it using Turing's (1950) test). But intelligence is not a mechanism, although it might be in a machine.

Quality is in its ineffable self: what makes quality keep its quality is what, in this discussion, we must believe is its self. There is NO quantity, no measure, inside. They belong outside.

The self is responsible for itself. In the Cybernetics of Cybernetics, BEING IS.

There is no need to swap materialism ideologies, one for another, when it is possible to swap materialism ideology for freedom and responsibility. And humanity.

The buck does not exist. So you see, the buck need never be passed, Mister President, Mister President.

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