

INFOLDING PAUL RYAN: AVERY JOHNSON

May 7, 1971

Good article by Paul in the No. 3 issue and the mention of my name in it toward the end was quite pleasing. What I really dug, though, was his willingness to let on that these ideas were some that he was wondering about, rather than his having to make it seem as though he were writing about something he knows! It's a breath of fresh air that sweeps away the ubiquitous mustiness of expertise.

I would like to infold—to loop back into—his Part II: *Attempting a Calculus of Intention*. As Paul said, it was Warren McCulloch who challenged the basic simplicities accepted in textbooks as God-given premises. He was thinking hard about, and the participation, contextual containment, and the inevitability of self-reference particularly during the last years of his life at M.I.T., and everywhere he went. He was and is a strong man. I will always account it as my own extreme dumb luck to have known McCulloch closely for 15 years and for the first five of those I was part of his Neurophysiology Laboratory with a room next door to his office. Warren was a communal type, so I saw a lot of him, and he used to worry out loud to all of us about the problems that he was playing with.

He had another office—a place of thinking and rapping—the F&T Delicatessen near Kendall Square in Cambridge, and his eclectic search for a calculus of intention often dominated the conversation. He agreed. The title he chose was: "The Implications of Complex Network Coupling and Triadic Relations." Only now, almost two years after his death, is its import beginning to lift into communicable pattern that which so many of us have been trying intensely but haltingly to reckon. What follows has grown out of mulling over his lecture in the series of contexts we shared. I have not read deeply into the people and works that he referred to most often: Charles Saunders Pierce, Hegel, Aristotle, Goethard Gunther, Turing, Russell, Goedel, and the Stoics, who seemed to have made inroads into the Logic of Relations. However, as I attempt to build upon his ideas, rearranged somewhat by my own wonderings, my hope is that a dialogue will ensue with Warren McCulloch's readership so that we can all wet our feet. Software's readership never did satisfy himself that he had a calculus of intention to work with, but he worked to get the questions right so that "youngsters", as he would say it, would recognize that they had the important answers. In any case, I doubt that he would have expected a relational calculus to reduce happily to words on paper—with or without diagrams. He would more likely have turned to videotape with its facility for infolding and self-reference as the appropriate medium for thinking and teaching about it.

Consider what you might do if you were trying to drive from Hometown, USA to New York City and you didn't have a map. The logical procedure is to follow the arrowhead end of the signs pointing toward NYC wherever they occur and just keep moving. Right. Now try finding your way home again, still without a map. Easy: follow the tail ends of the same signs! Or are those the same signs? They point toward the place from which I have just come, but which road does the tail point at? Where am I? The signs look the same but the countryside is different. How do I get home again? Always easy to get back to NYC, though. Might as well stay there.

And that process, my friends, is very similar to what happened over the years to logic. The crude

simplifications needed then are now habits; the old tricks, the value premises out of which the objective world is built, are impotent in a world demanding relevance.

In our daily dealings with each other, taking the world as it seems and as we wish it to become, we are operating at a level of complexity and of context-dependency where only a *Logic of Relations* could account formally for the intermingling of cross-couplings. Science, unfortunately, in its implacable search for Aristotle's truth, has been willing to settle for much less: pigeon-holing was interested in how to go about classifying things so as to set up a workable taxonomy to keep things straight for ever after. He succeeded in glueing the Western world into a *Logic of Classes* and its listedness: there grew the *Logic of Propositions* wherein, for example, one might explore named things in a manner sufficiently context-free that the set of all Truths: statements whose validity may be checked in a manner anywhere anytime may do the checking. The recipes for finding truth are unconcerned with consequences, but only with truth for its own sake. And at the bottom of the stack we find the *Logic of Predicates*, whose simple quality of if-this-then-that makes it easy to teach by rote. Repeat after me: "All men are mortal; Socrates is a man; therefore"

The trouble is, though, that once you go down a step in that ladder—from relations to classes and so on—if you become less than satisfied with your ability to understand the world on the lower rung, you cannot make any formal arrangement of the pieces in your pile that will get you back up a step again. The manipulation of lists of named things does not map them into their relations. Sometimes you can be lucky, and if you look all at once at a sufficient number of the *relata* you may be able to see a relation clearly that is lost if the *relata* are considered in more fragmented groupings. Such is the nature of the reading of words or sentences at a glance—easy to do in the cases where the context is pervasive and already grasped; difficult when the material is unfamiliar or is as formal and context-independent as, say, mathematics.

Look at it for a moment as Pierce did. Aside from his proficiency as a logician, he was an interested chemist. The rare gases have no valence bonds; they are keeping their hands in their pockets and therefore make no compounds (except under extreme duress). Some elements have one hand out; like sulphur, can make strings or aren't very interesting either: only pairs. Those that can connect the string ends to make rings. But when you start considering elements that have three hands out, you can make compounds as complex as you wish: two of them together can have up to four hands out, three can give you five, and so on.

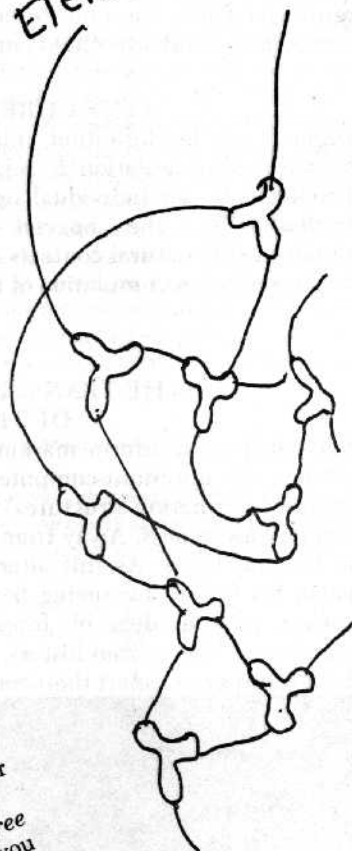
All of the logics on the scale that one finds below the *Logic of Relations* are like the compounds that can be made with the elements that have one or two hands out. The building blocks are at best diadic: simple causes leading to predictable effects. The most complicated statements that can be built are at best rings or strings where "if-this-then-that" can lead from start to finish and produce a closed, formal structure—unassailed by time or by variations in the way that the facts are observed: the sort of "holy, high, eternal noon" of science.

If you have the temerity to insist upon a logic of relations which takes into account the context of the observations or statements of the world, then its building blocks must be triadic. That is, the elements relate cause and effect where the relatedness is determined by a third something which may arise in some other part of the structure—and which might not even have occurred yet! We'll take up this peculiar notion about statements of the future in a moment. For now, note only this: what we are seeking is a *Logic of Becoming* rather than simply a *Logic of Being*.

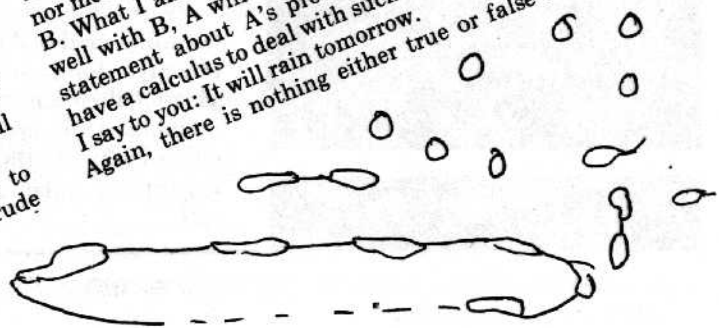
I say to you: A loves B. In making that statement I am saying nothing essential nor measurable about A right at this moment, nor about B. What I am implying is something like: "If things go well with B, A will be happy about it." I am making a statement about A's process of becoming. We do not have a calculus to deal with such matters. I say to you: It will rain tomorrow. Again, there is nothing either true or false about that

statement today, for what I am really saying is: "I think it will rain tomorrow; I know it will"; I am sure The statement I make is necessarily self-referent back upon me—I infold myself as tomorrow infolds what I say of it today—and what I have to say about tomorrow's weather tells you something about my process of becoming. We have no calculus to deal with such statements. I ran a race. Is the verb transitive? No. I ran me a race. Self-referent. No calculus for it. Think about it, you video freaks! Think about the vastly different way in which flash-back and flash-forward serve to recontext the present. Very different. Flash-back explains, it fills in details and allows you to "see"

Triadic Elements



Diadic Elements





"I have a full time—and I mean full time—repair business."

more as if your familiarity with a scene had been improved. It provides background but does very little to immerse you in the context because it fails to put you into someone else's memory, not yours, and it serves only weakly your power to anticipate the future course of present action. But flash-forward is another matter. It puts you right into the scene because it allows you anticipation as an observer, demanding self-reference in your observations and imposing upon you the onus of identification with the process of becoming of the plot.

Let's go back for a moment and look at the diagram Paul Ryan included at the bottom center of his first page; he did so without much explanation of it. There is shown on the left THE SUN as a real entity. On the right there is a statement made about it: "THE SUN IS SHINING". Above all there is the "LEKTON", a name given by the Stoics to that "thing in your head like the fist in your hand". The Lekton may be identified with a real, neurological event, but its importance to the diagram is that it relates the other two parts. Together they make a minimal triad.

Paul's diagram was mislabelled in one aspect, so please do not be confused by it. Consider it as Pierce did. He said that THE SUN has *firstness* because it simply is; the statement was made and so it exists and has *secondness*, but it also may be true or false and on that account it has *thirdness*; likewise the LEKTON is (something physically happens in your head) and it may be true or false when it happens, but it also relates the other two and so, in addition to firstness and secondness, it has *thirdness*.

Look at another aspect of the diagram. The direct relationship between THE SUN and the statement about it is a strictly true or false one, and so it is the kind of relatedness with which science mostly chooses to deal. It's clean.

However, the relation between THE SUN and the LEKTON is subject to disturbances due to the ambiguities of perception: I may or may not have seen the event correctly. My camera may have been out of focus, or misdirected, or whatever. The relation between the LEKTON (which is the "that-which-can-be-said") and my actual statement "THE SUN IS SHINING" is further subject to the ambiguities of language—or editing, or presentation. This makes the Lekton damnably hard to study. When challenged to come out and reveal itself, it puts up a self-referent defense: "I think the sun is shining". The statement is looped back through the Lekton itself. There are many necessary and artful dodges available to an elegant mind that wishes to present its thoughts triadically. One of them is statements by negation. Start listening and looking for them.

I say again to you: A loves B. What is the negation of that? Aristotle would only have settled for one: A does not love B. But would you believe that there are 11 more? You can negate the individual parts of the statement, or the whole thing, or parts first and then the whole thing, but it's often hard to see precisely the effect of the particular combination chosen. Generally, a statement of an intentional relation does not have a clear negation but the great variety of those available allow great complexity to be conveyed. Think on it: A loves someone other than B. It is not B whom A loves. It is not A who loves B. etc. . . . and none of these say quite the same thing. The process of becoming for A that is being described is a little different each time.

I can go into the local pizza joint and ask for a combination mushroom, pepper, and onion pizza and for my trouble of spelling out the details I am charged \$1.75 for a customized job. On the other hand, if I yell: "Calabrese and hold the tomato", I can have what I want for \$1.45. By naming the broader context in the cook's experience and then modifying it through negation, my intention becomes more clearly perceptible to him, and it is quite irrelevant to him that the fragments of what I want are separate elements in another context. Description by carefully constructing a hole into which will fit the things you intend may be much more "real" than trying to describe its old kind of positive, contextless specifics. The common confusion is for the listener to demand a positive statement as if the careful work at negation were a non-specific attack, rather than a working definition of that which is to become.

Let me put it more usefully into your terms (at the risk of a bump on the head) by likening the use of video to what goes on in a newspaper. Pick up any reputable newspaper and do a brief experiment. By "reputable" I mean one that clearly separates reporting from editorial comment. Look at both kinds of writing. I can virtually guarantee that it will not take you long to convince yourself that good reportage never uses negation in stating the facts—while editorials abound with negative refinements of positive statements. The purpose of the editorial is to explore relations, while reporting is supposed to give the simple facts without imputing underlying relations to them.

Think of the ways in which you use statements by negation on videotape. Some might call it editing; some will say that you haven't given all the facts. Others might point out that you have to degrade the message in order to draw your audience into an involvement in fleshing it out for themselves. McLuhan would recommend cool statements: It's what you don't say that counts.

Finally, let's loop way back into Paul Ryan's Part I where he talked of Guerilla Warfare in general terms. It seems to me that guerilla action derives its power versus "the establishment and its cultural automatons" through its ability to shift the context of their encounters. That's what really throws someone off base: it's the power of the punchline in a joke. Establishment forces with their hierarchical chains of command from Johnson to Meadlo must necessarily operate in a context-free modality giving positive, unambiguous orders from the top down with consequences which never can loop back to the originator. And that's what makes them vulnerable. Guerilla action has the flexibility and the redundancy of potential command to make negative statements possible and thus cause its adversary to exhaust itself where it is not being attacked but might be. Alan Paton pointed out in "Too Late the Phalarope" that the jailer must watch all potential avenues of escape while the prisoner need only watch one.

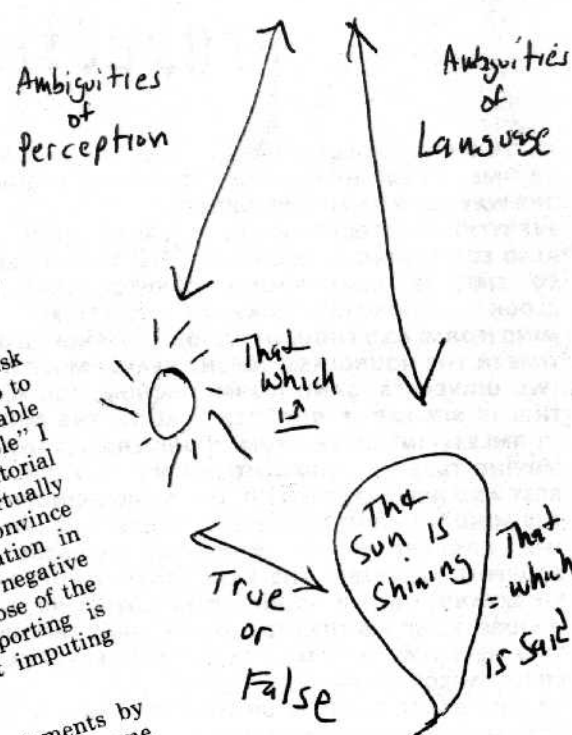
A conventional pyramidal chain of command must maintain its ambiguity levels below a narrow, tolerable limit or risk confusion and disassociation of its parts; guerilla forces must maintain a high level of ambiguity and must engage constantly in energetic, strongly self-referent explorations of the contexts of action—with attentive relaxation of those members not in the line of fire.

Lastly, let me comfort Paul somewhat in his wondering on what to do about deception as a tool of guerilla warfare—since deception is despicable. Think about it. In a society educated not to accept any statement simpler than a triadic one, the notion of deception is meaningless. Deception can only work when you can speak with a forked tongue: when the context of your words can be different for different hearers. If, on the other hand, your communications media can provide a rich opportunity for contextual explorations of your metaphors of expression, you need have no fear of deceiving anyone who is skilled in the perceptive arts. He will stand with you in the context you intend.

Anyone foolish enough to accept diadic statements of "truth" deserves to be deceived.

You can contact Avery Johnson at Ecology Tool & Toy, Armory Road, Milford, N.H. 03055.

"Lekton" = That which can be said



"Lekton" has

1stness: It is
2ndness: It can be true or false
3rdness: It relates the other two

