Cybernetics and Form

During a period in beginning 1978, when my wife, daughter, and I moved to Glendale Avenue in Albany, Robert Duncan stayed with us rather regularly when he made reading tours in the Northeast. Robert was my mentor, friend, queer father, and grandfather to my daughter, Anne. Once, when Anne was about three, we are startled, sitting around the dinner table, by a nearby lightning strike and a thunderclap that rattled the dishes. After locating where the lightning had struck and settling down a bit, Robert said to Anne, "The lightning hit the tree. Where was the thunder?" She said, "In my mouth." Without missing a step, Robert began to inquire about what she meant, and soon, they were clapping their hands together to make lightning and loudly roaring to make thunder. I was not sure what they were talking about, but eventually they seemed to have satisfied themselves that they understood the matter. During the rest of the visit, however, they clapped their hands and made thunder sounds at one another. Anne is now working on a Ph.D. in Art History at Berkeley.

In the spring of 1983, on his last visit to Albany, before he fell ill and entered a long decline, Duncan had a question for me which I did not answer as confidently as Anne answered the question about the thunder. He arrived on a talking jag, not finishing one thought before beginning two more, as he often did. He knew it was a tiresome habit, tedious for his friends, and wrote a poem about it ("a circling man / in a seizure of talk that he hears too as he goes on… excited in a manic spiel of wheel in wheel").

Finally he blurted out, "Olson and I are cybernetic poets. It is what distinguishes us the others of our generation, even Creeley." There, in our kitchen, he was a cyborg certainly, his feedback mechanism having gone into "wild oscillation" or what the cyberneticists call "hunting." He was overshooting the mark and overcorrecting. It is a typical fault in feedback mechanisms. Indeed it was poetry that gave measure to the emergent complexities that sometimes in ordinary speech overwhelmed him. "And what I want to ask you," he said, "if I can shut up long enough for you to answer, is: what does it mean to be a cybernetic poet?" I was not sharp enough to say, Robert, write the question in a poem, and we will study it as a mechanism of cybernetic control. That would have been a beginning on a right answer.

I did realize, at the time, that he should claim to be precisely what he was inquiring about was itself grounds—and perhaps grounds enough—for the claim. The science of cybernetics studies certain kinds of events, largely unconsidered and even unidentified before the twentieth century, that create the grounds on which they themselves take place. Had I know at the time that the composer Herbert Brün defined cybernetics as "the ability to cure all temporary truth of eternal triteness," I would have said that qualified Olson and Duncan as cybernetic poets.

There were clear reasons for considering Olson a cybernetic poet. In "The Kingfishers" (1949), he wrote:

> We can be precise. The factors are
> in the animal and / or the machine the factors are
> communication and / or control, both involve
> the message. And what is the message? The message is
> a discrete or continuous sequence of measurable events distributed in time.

He refers to the subtitle of Norbert Wiener's book, *Cybernetics, or Control and Communication in the Animal and the Machine,* and in the definition of message, he is quoting directly from it. Olson knew Wiener and convinced him to join the Advisory Board of Black Mountain College in 1954, when he was restructuring the college with the hopes of raising the necessary money to keep it afloat. Although there is not much evidence either in the published writings or the archives that he studied cybernetics as he did non-Euclidean geometry or Whitehead's pre-cybernetic *Process and Reality,* the definition of the message stuck with him, and he referred to it again in a poem seventeen years later.

External evidence for Duncan as a cybernetic poet is even slimmer than for Olson. Kenneth Irby tells me that he recalls Duncan talking enthusiastically about cybernetics when they first met in the early 1960s, but I know of no direct reference to it in the published work.

At any rate, Robert was in the Northeast for a couple of weeks, as I best recall, staying with us in Albany off and on between reading gigs and lectures. We walked and talked about what a cybernetic poet might be. I was carrying a camera at least part of the time, so I know that we walked around the New York State Capitol, along the Hudson, and that we drove to Olana, the painter Fredrick Church's remarkable house, across the river from Catskill, New York. In retrospect, one can see in the photographs that his health was not good.

Despite my long-time interested in cybernetics—I had read Norbert Wiener's autobiography, *I Am a Mathematician* and *The Human Use of Human Beings* in high school—and had kept up with cybernetics into the 1970s. I had only a vague idea of what a cybernetic poet might. After twenty years of research and thinking (I have obsessed and do obsess still about Duncan's question and its implications), I can say that Duncan and Olson were and were not cybernetic poets. No one has been sure what to make of cybernetics and its consequences. Even the great cyberneticists themselves — Wiener, McCulloch, Bateson—were not, I think, cybernetic cyberneticists. *Being* cybernetic may not be possible, and the consequences of cybernetics, if they are cybernetic, are also much more than cybernetic. Cybernetics was not a new science or a new paradigm; it was a name for the discovery of abstraction as such. *What is required is a capacious and reliable facility of abstraction, an ease with formal strategies that are useful not because of their maintenance of an origin, not because they are obsessed with the mystery of the center, not because they are concentrated, but because they are dispersed, but because they orient action toward its consequences.*

Olson and Duncan, Sun Ra, Cecil Taylor, Ornette Coleman, John Coltrane, Jackson Pollock, Cy Twombly, John Chamberlain, Donald Judd, Richard Serra, and Robert Smithson (and surely others; these I have reasonable knowledge of) belonged to a formal upheaval that had come to a head in the work of Alan Turing and Alonzo Church in the 1930 and was developed into cybernetics by Norbert Wiener and the cyberneticists. It was not until the appearance of second-order cybernetics in the 1960s and early 70s that there was a formal sense among the engineers rich enough to be useful in the discussion of poetry. It was the universalism of form that had broken down. The relationship between the poetic forms of Olson and Duncan and the second-order cybernetic forms of Heinz von Foerster, Humberto Maturana, Francisco Varela, Stafford Beer and other was that they had all developed effective forms that did not require participation in the sprawling system of the generalized universe. *Form was specific to the occasion of its use.*

Duncan might have said, "Something happened in the 1930s and 1940s that changed everything. It wasn't just intellectual or theoretical. It was in the air. Olson spoke about it as 'stance'; people who *got it* stood differently; they played musical instruments differently, and paint differently; their gaits as they walked down the street were different; their proprioceptive sense—their feeling of how the organs hung in their bodies and the way their muscles moved their limbs—were different. Norbert Wiener gave a name cybernetics to a science that has to do with this something, this difference. What does it have to do with poetry, *with making*? We have done something that is different as poets. Painters and musicians have done something different. Politicians and business managers are doing something different or should be. What is it?"

When Duncan asked his question, "cyber" as the universal prefix—cyberspace, cyberthis, and cyberthat—was still some years in the future. He was asking about something far less obvious than that. It was not even necessarily a new idea. Although themes that may be taken as cybernetic began to appear in his work in the 1970s, the difference was there, we agreed, before the themes were. In the poem that initiated the middle period of his work, the first poem in the volume, *The Opening of the Field*, is not thematically a cybernetic poem; it explicitly expresses neo-Platonic—and non-cybernetic—doctrines:

> OFTEN I AM PERMITTED TO RETURN
> TO A MEADOW
>
> as if it were a scene made-up by the mind,
> that is not mine, but is a made place,
>
> that is mine, it is so near to the heart,
> an eternal pasture folded in all thought
> so that there is a hall therein
>
> that is a made place, created by light
> wherefrom the shadows that are forms fall.

The poem stands as the doctrinal center of the book, and it is clear that this passage owes more to Plotinus, or even Plato himself, than to Norbert Wiener. It was a doctrine that had held for twenty-five centuries. Something happens in the movement of the words, however, in the way the phrases fall into the lines, that is as distinctive as what happens when Charlie Parker plays the chord changes of "I Got Rhythm" to produce new tune after new tune. What is it about these words, working in both directions? Lines follow previous lines, but they reach back and change the meaning of the words that have gone before. The causation is not linear but circular. Duncan would have been aware that the subordinate clauses that hang at the beginning of the third, fourth, and seventh lines—"that is not mine" / "that is mine" / "that is a made place"—constituted a logical loop and an adjustment. He would have known also that with each repetition of "made" and "place" and the vowel they shared reached back, changing the prior instances of the words as much as they were required by the prior instances. Above all, he would have known that the Platonic doctrine hangs from the grand permission of poetry by way of the "as if" that introduces the passage; it is allegory, like all post-Newtonian Platonism.

Olson and Duncan conceived of their work in world-historical terms. The third from the last Maximus poem ends:

> …one suddenly is walking
> in Tartarian-Erojan, Geaan-Ouranian
> time and life love space
> time and exact
> analogy time & intellect time & mind time & time
> spirit
>
> the initiation
> of another kind of nation.

And Duncan, writing in the early 1980s, about the time he was inquiring about cybernetic poetry:

> IN THIS MUSIC (Webern): "Everything is a principle idea"
>
> Everywhere central to inquiry.
>
> Every time initial.
>
> The people of this nation thruout time are not one but a multitude each from his one heart/mind coming forward masst.

The worm of history was turning and it still is; we are still trying to break free from the cocoon of cosmologies that synthesize Plato and Einsteinian physics. This change still does not have a good name. "Cybernetics" is not right. Let me try to say briefly—as I understand it—what was and still is trying to happen.

Modernism was the final form of human coherence. For thirty millennia or more, perhaps beginning with the painting of the Paleolithic caves in France and Spain, the

history of art was a preparation for the moment when it would be possible for autonomous artists to intervene in the world directly and begin to do art in earnest, when they would construct their environments with the same fervor and skill that they had devoted to creating symbolic forms of their longing. That we have reached this time in a limited way, after eons of anticipation, is daunting. That our ability to intervene in the physical world will likely expand exponentially in the present century opens questions of an order that philosophy has never raised or had the occasion to raise.

The crucial events in the history of knowing are sudden increases in the resources of abstraction—rare profusions of form and expansion of the *power* of knowing. The painters in the Paleolithic caves and the first epic poets dissociated images and words from things themselves and processed them as ritual and narrative; the Greek philosophers dissociated concepts from the archaic and mimetic forms and processed them dialectically or syllogistically; the moderns dissociated abstract relations or mathematical functions from concepts and processed them empirically; and the cyberneticists dissociated abstract machines or algorithms from algebraic logic and processed them as technology. These were leaps in the order of abstraction, abstraction taking its own distances into itself, profoundest recursions.

Ritual and narrative made culture possible; the concept made fully theological, monotheistic religion and empire possible; the fluency of abstract relations made modern science and capitalism possible; the abstract machine made information technology and global communities possible.

For nearly three millennia abstraction was the central cultural mystery and fetish; its embodiment in the book and in the body were occasions of profoundest meditation—the inscription of god's word, the logos made flesh, even the postmodern worry over the status of the body as a thing known. In the twentieth century, abstraction itself was understood. This power that we had, and for which we had suffered greatly, became our machine. Knowing begins not with its origins but with its consequences, with the future flowing into the present. This is not to say that the abstract machines we inherit—archaic narrative, the syllogism, the differential equation, and so forth—do not continue to be viable and useful. Their final implications and use are still to be found out (and, it appears, always will be).

Abstraction was power but divine power. We did not know what to do with it. The job of the artist was to "Go in fear of abstraction," an Ezra Pound said. Credit "No ideas but in things," William Carlos Williams said. With cybernetics this change in the mid-twentieth century, a few took possession of abstraction or ended themselves in taking possession of abstraction, thus, becoming cyborgs.

Those few words that Olson took from Wiener were crucial: communication and control in animals and machines:

1) At this level of abstraction animals and machines are the same kinds of things.

2) In cybernetics, the issues are communication and control. Thus, *information* belongs as much to the physical world as matter and energy. *The measure of the poet is physical measure in physical space and time*.

Most of what passes as cyberart—hypertext, web art, and so forth—in fact only uses the cybermachines as media to create works of virtual modernism.

Poetry, as Duncan understood it, however, is a languageless art: "I want to describe Poetry as it was before words, or signs, before beauty, or eternity, or meaning were. Poetry would not allow the brain to falsify what it was in giving it a word or a "meaning"; and so the "meaning" of the word "poetry" or a "Poetry" is a making. The organs of the body not only communicated but all of the organs made things. The act was dancing, the product of the act was the dance, poetry." Language as such is used to produce poetic algorithms by which to recover the abstract physical states of knowing.

Duncan's remarkable set of Passages, "The Regulators," in *Groundwork, In the Dark*, have not been well read. The measure of those long lines has not been assimilated.

> And if terror be the threshold of Angelic In-Formation, the Masters
> of Nuclear Power, malevolent dreamers, knowing, and unknowing,
> (Einstein before Roosevelt urging the project of the Bomb to defeat Hitler)
> undo the inner structure at the atomic level to release its energies
>
> out from millions upon millions of suns the Angel of this Polluting radiance
> streams, does and undoes the concordances of the DNA helix, viral fragments
>
> Mind comes into this language as if into an Abyss.

It is passages like this one that one must read to answer Duncan's question.

Cybernetics was not a new paradigm. It was an early and powerful instance of form that does not belong to a universal form. This had been thought since the Pythagoreans to be impossible. For cybernetics, form is never more than an extension of content. In the 1960s and 70s, form attained a fluidity and effectiveness, an availability to anyone who takes up its power. Olson and Duncan were unique in their use of these formal resources. For the most part, however, we have allowed them to be used against us.

I would now tell Robert that he and Olson were not cybernetic poets, but that what they were doing was more interesting than that. They and the cyberneticists were participants in an inconceivable profusion of form, not the form of a universe or paradigm but of many possible universes still to be constructed.