Paul Ryan setting up *Everyman's Möbius Strip* for the exhibition TV as a Creative Medium, Howard Wise Gallery, 1969. Video still from documentation by Ira Schneider.

Cybernetic Guerilla Warfare Revisited: From Klein Worms to Relational Circuits

PAUL RYAN INTERVIEWED BY FELICITY D. SCOTT AND MARK WASIUTA

Paul Ryan's "Cybernetic Guerrilla Warfare" first appeared in spring 1971 in Radical Software*, the legendary alternative video magazine affiliated with the Raindance Corporation, which was wryly cast as an alternative "think tank" to the RAND Corporation and with which Ryan collaborated from 1969 to 1971. Illustrated by diagrams of the tubular topology of Klein worms delineated by his friend the painter Claude Ponsot, the article opened by suggesting the possible connections of guerrilla actions to portable video technology and the sciences of cybernetics and ecology. "Traditional guerrilla activity such as bombings, snipings and kidnappings complete with printed manifestos seem like so many ecologically risky short change feedback devices compared with the real possibilities of portable video, maverick data banks, acid metaprogramming, Cable TV, satellites, cybernetic craft industries, and alternative lifestyles," he proposed, adding, "Yet the guerrilla tradition is highly relevant in the current information environment. Guerrilla warfare is by nature irregular and non-repetitive. Like information theory, it recognizes that redundancy can easily become reactionary and result in entropy and defeat."*[1] *This nexus of video, cybernetics, and ecology remained central to Ryan's work and, along with his involvement with funding early video experiments through the New York State Council on the Arts (NYSCA), was key to his contribution to the early video movement. Ryan had published two earlier texts on video—"Videotape: Thinking about a Medium" (1968) and "Cable Television: The Raw and the Overcooked" (1969)—both appearing in* Media and Methods *and the latter reprinted in* Radical Software*. He had also completed a series of video installations—*Everyman's Möbius Strip *(1969),* Guns, Knives or Videotape *(1970),* Yes and No *(1970)—and produced video works including* Media Primer *(1970) and* Tender Is the Tape I *(1970).*[2] *Ryan's engagement with topology as a tool for thinking through video's relation to the social led to the development of a tubular topological figure called a "relational circuit" and further video and performance works such as* Earthscore Sketch *(1971–1976) and* The Triadic

Tapes *(1971–1976), work culminating in the 1974 publication of* Cybernetics of the Sacred *and in a 1976 show entitled Video Variations on Holy Week at The Kitchen, a space founded in 1971 by Woody Vasulka and Steina Vasulka for experimental video and performance. In late September 2009, Mark Wasiuta and Felicity D. Scott sat down with Ryan in his New York apartment to speak about his work from this period and its development into his notion of "threeing," which he has recently explored in his latest book,* The Three Person Solution.[3]

—Felicity D. Scott, for the editors

Felicity D. Scott: In our initial correspondence, you mentioned that Eric DeBruyn's "Topological Pathways of Post-Minimalism," which appeared in *Grey Room* 25 (2006), had "triggered" your interest in revisiting "Cybernetic Guerilla Warfare," published in *Radical Software* in 1971.[4] More specifically, you suggested that revisiting your work on topology from this earlier period, particularly the significance of its formal logics, might provide the occasion to think through what an "alternative topology of the social" might look like today. Given the widespread contemporary interest among historians as well as other scholars, critics, and artists in both work and critical concerns from the late 1960s and 1970s—including such concerns as ecological issues, neoimperial warfare and geopolitical transformations, and the rapidly transforming informatic milieu—we thought that looking at your work from this earlier period, particularly your early work with video from 1968 to 1971, might be a good place to begin.

So we'd like to start by asking you to talk a little about your work as an assistant to Marshall McLuhan from 1967 to 1969—when McLuhan was a visiting faculty member at Fordham University—and what took you to video and video technology in that context.

Paul Ryan: The arrangement I worked out with Fordham was that I would do my alternate service there as a conscientious objector, working with McLuhan directly during the 1967–1968 academic year and then experimenting with video for 1968–1969. It was terrific. I had an office two doors away from his. McLuhan would stop me in the hall and with great excitement tell me about a book he read the night before on the sense ratio of Russian peasants. Once he invited me into his office to talk about a paper I had written about war. He sat on this couch, spun around, lay on his back, held the paper up, read a bit from it, put it down, and continued to lie on the couch for a good hour, free-associating.

Before getting a BA from NYU and connecting with McLuhan at Fordham, I had been in a monastery for four-and-a-half years (the time period when

people are normally in college), and when I came out the first thing I had to deal with was the draft board. In some sense the army was the same as the monastery: requiring blind obedience to those in charge. But in the military those in charge could order you to kill people. So for me it was a very strange time. At that moment I thought of myself as a writer. I was holed up on the Lower East Side of Manhattan with my typewriter, trying to write, and I heard McLuhan on the radio saying, "of course, in this electronic age of computers, satellites, radio, and television, the writer is no longer somebody holed up in his garret pounding a typewriter!" It stopped me cold. I had to find out what this guy was about. I read a lot of his work and his sources and worked out a deal with the draft board and Fordham.

As I saw it then, what was going on was that we were moving from a literate to an electronic culture, and it became evident that the Marxist notion of economic determinism was not telling the whole story. I thought that it might be possible for me to help make the transition from literate to electronic happen. I had an advantage, the relatively rare experience of an oral monastic culture. McLuhan's thinking made sense in terms of that experience. While I was at Fordham, a man named Buckner showed up. He was an heir to the IBM fortune, owned 1 percent of Sony stock, and thought McLuhan was the best thing to come along since Jesus Christ. Buckner procured two Sony Portapaks and gave them to John Culkin, McLuhan's host at Fordham. Culkin said, "What are we going to do with this?" And I said, "I'll take them." The understanding was that I would experiment with the Portapaks and see what I could come up with. So I did all kinds of things that fed into this experimental approach, such as recording Montessori kids learning and playing it back for them, giving actors video feedback on their roles, recording and playing back therapy sessions for clients, therapists, and myself.

McLuhan had said, following Ezra Pound, that artists are the antennae of the human race, because artists can figure things out that the rest of us can't. So after my initial experimentation I said, "Okay, where can I find some artists to give this video technology to?" A man named Dennis Walsh, who also worked at Fordham, introduced me to the artist Frank Gillette from the 14th Street Free Academy or Free University, and I gave Frank the equipment to work with for the summer. He made some incredible tapes on the Lower East Side that sparked what became the countercultural video group Raindance, which in turn led to Frank and Ira Schneider and me participating in the Howard Wise Gallery show and in turn to their publication of *Radical Software*.

FS: For the Howard Wise Gallery exhibition TV as a Creative Medium (1969)

you presented *Everyman's Möbius Strip*, a work taking the form of a feedback booth, and your participation in this exhibition situated your early work within a pivotal moment of the emergence of video art as a practice.[5]

PR: It did. The Smithsonian, which archives my papers from that period, recently exhibited a letter I wrote to Howard Wise in which I'm totally ambivalent about being positioned as an artist, feeling that the label would make me impotent. I didn't want to get caught up in the art world.[6] But you're right that it gave me a platform and a level of prestige that enabled me to go to the New York State Council on the Arts and argue for funding video as an art form. Nelson Rockefeller was up for reelection and so there was a lot of "funny money" around, the budget for grants jumping from two to twenty million dollars in one year. McLuhan had also captivated Eric Larabee, the head of NYSCA at the time. With the weight of McLuhan's discourse behind me, I was able to secure over half a million dollars for "video art." The money went to artists like Nam June Paik and to a bunch of people on the street who were radicalized by the Vietnam War and running around with video cameras. After dealing with NYSCA and with the struggle that came out of it, I formulated the manifesto on cybernetic guerilla warfare. My mood was "Okay, you want art, how about dealing with The Art of War?" Short of the Weathermen, short of that sort of violence, what could we do? Perhaps we could take this video tool and use it as a weapon of cultural transformation. So in that context I appropriated the whole posture or rhetoric of the "guerilla," which was highly romantic, but also operative, and I carefully transposed cybernetic thinking to the emergent video medium.

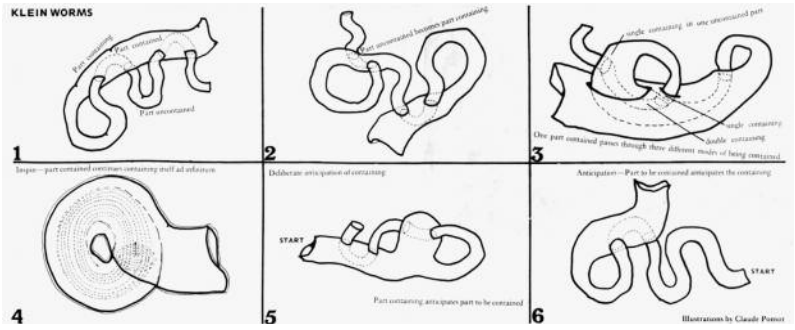
I understood at the time that it was just the beginning, that to have a long-term sustainable culture that is ecologically viable you would need to get from the guerilla phase to the stable ongoing phase. In my mind topology was tied to that because the irregular fighting one did as a guerilla was not the same as systematic cultural workers trying to build cultures that were sustainable. Irregular fighting as a guerrilla was ad hoc and needed no formal topology. But without evolving a formal mathematics (read, for me, topology; an "alternate topology of the social" in your felicitous phrase), the guerrilla rhetoric would result in just another romantic failure to change things. Systemic sustainable culture required more formal enduring topologies. My experience of the militant tradition of monasticism led me to think that analogous organizations could be built that, instead of chanting to God, took responsibility for interpreting ecological systems with electronic technology. Yet such organizations would not work if they merely imitated the ascetic tradition. Depending on ascetics to interpret ecological systems

would be a mistake. You need aesthetics. Perhaps what Willoughby Sharp later called "new aesthetic orders" could be organized topologically.

FS: Could you clarify the relation between the militant aspect of the monastery and that of the guerilla?

PR: Lots of solo hermits lived in the deserts around the Mediterranean during the fall of the Roman Empire. They related to each other informally. In the sixth century, Saint Benedict codified a rule that gave hermits a way to formalize their relationships and live in communities as monks. The rule for these ascetics functioned well because each monk vowed blind obedience to his superiors. The superiors, in turn, enforced a discipline on daily life for the whole community; it was like the army: you followed orders. I saw early video artists as "guerrillas" analogous to hermits. I saw the early monastic communities as work collaboratives that gave us a model of what video artists might do if they could organize topologically and aesthetically—but without a vow of obedience, for these orders imposed an obedience on members that cut them off from their own perception. It didn't make any sense to do that again. I had that monastic tradition ingrained in my thinking, and I thought, okay, if we could figure out what an order dedicated to the perception of ecological systems might be, then using video we might, over generations, generate an approach to information transmission based on perception. To me they were somehow connected. But how could you have sustained cultural work that was not driven by a vow of obedience; that is, without common faith in a creed, a set of shared unquestioning propositions? I also decided that I needed to figure out a way to evade the problematics of language, as revealed by Gödel's proof.[7] And that's where the topology began to work for me: I was reading Warren McCulloch and I was reading Charles Sanders Peirce looking for topologies that would help us extend the alternate culture beyond the glorious but impotent guerilla phase.

While I was at NYU completing my undergraduate studies I took a course in the history of mathematics. A brilliant young guy whose name I've forgotten was teaching it, and he said, "The way culture changes is that you have mathematicians out here, they come up with something, then the scientists figure out something to do with it, and a hundred years later it becomes culture." He was using Einstein and Riemann to make that point; so I went to see him and said, "So what's happening in mathematics?" His response: "Topology." He gave me a couple of books on topology, including *Intuitive Concepts in Elementary Topology* and *Elementary Concepts of Topology*, and I started absorbing it, without subsuming topological forms



to set theory.[8] When it came time to model video feedback in the Howard Wise show, using the Möbius strip made sense to me because this strange phenomenon of seeing yourself on video was not like a mirror; it had a different topology, similar to the Möbius strip. All of my topological thinking started to become operational.

Mark Wasiuta: Could you clarify how you move to topology from your reading of McLuhan? I'm thinking in particular of how you inherit McLuhan's idea of orality as a nonlinear system and wondering whether you're relating this to cybernetic feedback. Is this informing your idea of topology, or are these distinct for you?

PR: So you're asking how orality figures into this notion of topology and the cybernetic? That's a good question.

FS: Is this where Walter Ong comes in as well?

PR: I studied with Ong when he was at NYU.[9] To me orality and secondary orality are useful and convenient notions, important insights but essentially dead ends for social change. In my own thinking, orality and topology were muddled for a while. Only after I enacted the *Video Wake for My Father* (1971) did that muddle resolve.[10] When my father died suddenly of cancer, I went to the Raindance loft and played back video of him when he was alive and "spoke truth" for twelve hours on videotape. I was looking to start a tribe in McLuhan's literal sense, a retribalization through orality. I would be the chief, obviously [laughter], and I was willing to do it even though I hated the idea. But it was a bust. One of the reasons was that the formal structure of oral culture was not cybernetic. Recording "foundational" words and propositions on electronic devices is shooting yourself in the foot. What is foundational is not to be questioned all the time. Constant doubt undermines the social. If I'm speaking truth to power and I'm recording what I say and I'm replaying what I'm saying for the "tribe," the replay invites further questioning of authority. Oral culture cannot sustain constant questioning. So, in effect, using video, I experimentally tested out McLuhan's idea about retribalizing—that is, recreating oral cultures in the electronic world—and it just didn't work, at least for me.

After the *Video Wake*, I went back to topology, to the Klein worms that had evolved out of my work with the Möbius strip, to try to figure a way out of this impasse. In retrospect, I can say that I was trying to create a topological circuit, what became the relational circuit in the early seventies.[11] I understood that the proper organizing forms for electronic/ecological social

Opposite: Claude Ponsot. Klein worm diagrams illustrating Paul Ryan, "Cybernetic Guerrilla Warfare," 1971.

Right: Claude Ponsot. Illustration for Paul Ryan, "Cybernetic Guerrilla Warfare," 1971.

orders had to be circuits, not "fundamental" unquestioned propositions.

I had connections to *Scientific American* at this time, and people there put me in touch with René Thom, who responded positively to my Klein worms. We got together when he came to Columbia University for a talk in the early seventies. He did not know that I had anything to do with McLuhan, and he says to me in a conspiratorial way, "You know, I think McLuhan is right." To me Thom's topology is to television what Euclid's stuff is to paper, but the scientific community didn't get Thom because he wasn't predicting anything but rather was offering formulations of how you model something. For me, trying to develop a cyber/ecological notational system, it was exactly what was needed, a set of models with which to x-ray the process of events in nature and in culture and find a syntax demonstrating how the interplay actually works. Then, the idea was that you could build from that an information transmission system grounded in perception and not in speech or writing, because you had tools of perception and you had a vocabulary and you had this collaborative three-person process.

MW: With this, not only were you able to describe your own practice, but you also became a scholar of early video experiments. In your essay "A Genealogy of Video" (1988), you map quite carefully some of the critical distinctions among early video practices.[12] To return to the question of cybernetic or guerilla video, I'm wondering if you could explain how that approach differs from other early video practices from the late 1960s and early 1970s. In particular, I'm thinking about a term you used, *perceptual imperialism*, and how your own experiments and writing on early video use or interrogate this idea.[13]

PR: What flashes into my mind when you ask that is where that phrase came to me. I was on a small sailboat with four other people, and one woman kept on saying, "Oh look at that! Oh, look at that!" I was thinking, "I'll look at what I want to look at," and the phase "perceptual imperialist" came to mind.

Perhaps it is fair to say that many "other early video practices" weren't particularly concerned with criticizing the larger dynamics of "perceptual imperialism," dynamics made clear by the scholar Harold Innis in his book *Empire and Communications*.[14] In terms of the perpetual imperialism of broadcast television, the ultimate foil for guerrilla television, Nam June Paik was the great iconoclast. Once you'd seen his magnets distorting a broad-

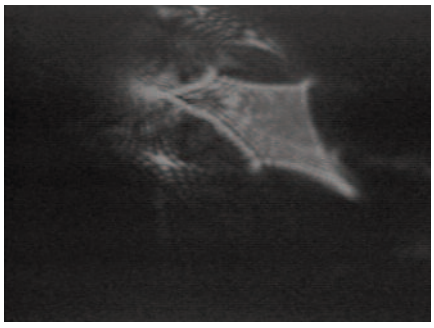
cast TV image or Charlotte Moorman perform *TV Bra* (1969), you knew network television was a "paper tiger."

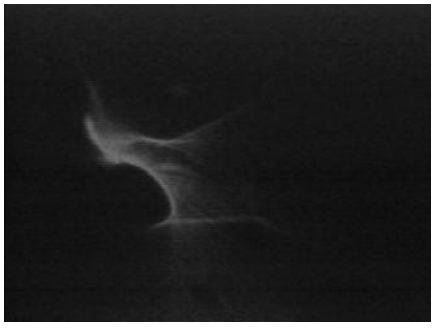
Other video practitioners were trying to generate video images that would be validated by the art world. Video showings at the Museum of Modern Art (MoMA) or the Whitney Museum meant you had somehow arrived as an artist. The artist Martha Rosler astutely called it the "museumification" of video.[15] Part of the problem was that, for the video world in New York, the money was there before the art was there. This tended to corrupt the situation. Validation was very important. Few people wanted to judge something so new. Other artists, unconcerned with perceptual imperialism, used museum showings of their "original" work, funded by NYSCA, as selling points for the commercial use of the same techniques in TV ads. At the time, there was no serious critique of the links between sanctioned video art and the imperialism of the United States, supported by broadcast TV.

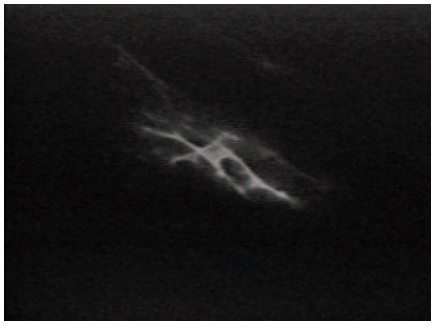
The gestalt of "guerrilla video," by contrast, gave us videographers a way to validate our own perceptual patterns, to grow ways of paying attention with a camera. In my own work, I started developing a handheld camera style based on tai chi moves. One exercise involved finding a spot I liked and doing hand-held tai chi camerawork for a continuous half hour. Attention to duration was one way of avoiding perceptual clichés and cultivating a "learning" camera.

FS: I want to try to further clarify the fault lines between the use of video as social activism and its conception as a medium of art at this moment and to see if we can make a connection from there to your remarks in "Videotape: Infolding Information" (1968) about extending McLuhan's reading of the Narcissus myth in *Understanding Media* from reflections in the water to video. After citing McLuhan on Narcissus—"This extension of himself by mirror numbed his perceptions until he became a servomechanism of his own extended or repeated image. . . .He had adapted to his extension of himself and become a closed system"—you remark, "As we grow more willing to contemplate 'what's happening' this need not be the case with videotape."[16] Are you speaking here to a break with the formal use of videotape as a medium, with its capacity of recording and instant feedback and dissemination, proposing something like the possibility of a social activism for video beyond narcissism?

PR: Yes, but in a larger sense related to a McLuhanesque question: What are the psychic and social effects of video? By contemplating our experience with video, using the insights of McLuhan and others, I hoped that we







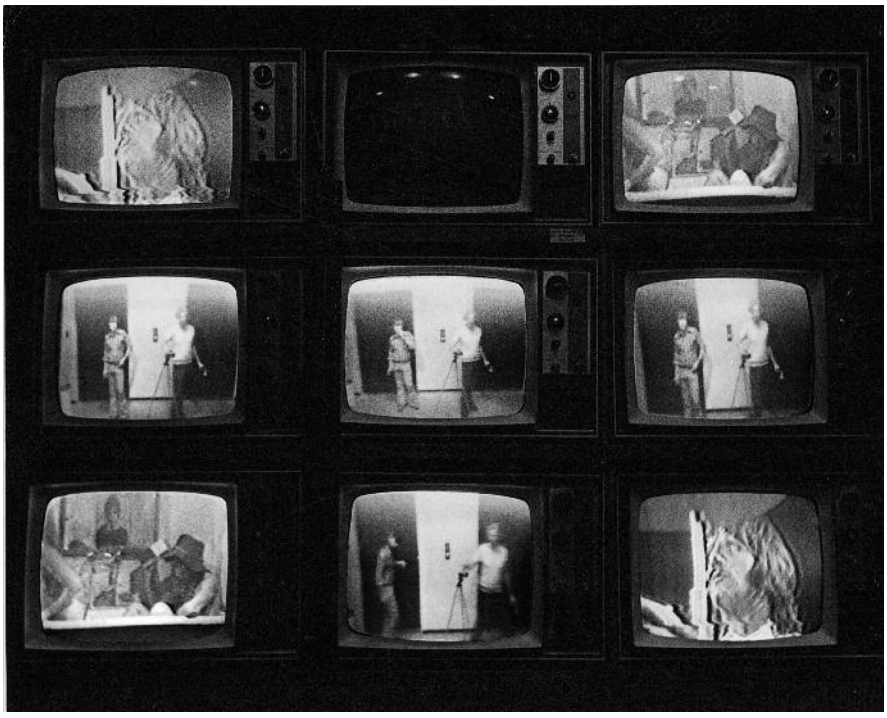
Paul Ryan and Brenda Bufalino.
***Tapping on Water I*, 1975.**
Video stills. Part of the
***Earthscore Sketch* series.**

could learn to use video in ways that avoid narcissistic closure and unintended consequences.

Take my 1969 *Everyman's Möbius Strip*, for example. My current thinking about *Everyman's Möbius Strip* is informed by the work of Stein Braten and others who have studied infant interpersonal communication. As you know, the Möbius strip offers no differentiation at all; it is a continuous undifferentiated surface. An adult can withdraw from the up/down, left/right, front/back world to a Möbius world by becoming a "whirling dervish" or, as in Dara Birnbaum's video piece *Technology/Transformation: Wonder Woman* (1978), a whirling Wonder Woman. Zen meditation and falling in love have both been described as states of mind where orientation is absent. Adults in this state can manage, at least for short periods of time, but a "Möbius" infant without the capacity for orientation is highly vulnerable. Boundaries are nowhere. Her inside is out. The outside doesn't protect. There is never a safe inside. Like a doughnut or a teacup with a handle, she cannot "compact" herself. I imagine social interaction would seem like a merciless nonstop flood of confusing signals. In effect, for her, there may be no operative distinction between the intrapersonal psyche and the social mind.

By contrast, the practice of threeing that I went on to invent during the period I was working on *Earthscore* is a social practice based on the topology of the relational circuit, which has an inside and an outside. Inside are six differentiated positions. A simple choreography enables three people to take turns sharing those positions without resorting to orientation. The normal two-against-one dynamic is neutralized and collaboration among three becomes the norm. In effect, the relational circuit offers a new topology for the social. By contrast, the Möbius strip offers only "in-spin" infinite regress. *Everyman's Möbius Strip* was successful at bringing attention to the nature of video feedback but operationally useless in cybernetic guerilla warfare. You cannot conflate the psyche with social communication and expect to get very far.

Georg Simmel argued that three is the minimum for a social unit. Cybernetics argues you need at least three differences to have a circuit. The practice of threeing, guided by the relational circuit, offers a "smallest unit" for a sustainable cybernetic electronic society. The "largest unit" would be the self-correcting, self-organizing planet earth. I proposed that multiple teams of three could use video/TV to "read" and monitor the patterns that



sustain earth's self-correcting process. The Earthscore Notation (1971–1976) was designed to formalize this monitoring process.[17] Various existing social organizations, referencing their bioregions, could reconfigure themselves in-between the small and the large units.

FS: The experience of "infolding" sought by works such as *Everyman's Möbius Strip* has a clear historical specificity. The phenomenon of seeing yourself on videotape, an encounter with the logic of information feedback that was common (even central) to accounts of both early video art practices and video activism, was contingent on that experience still harboring the capacity to produce a type of affective encounter or self-reflexive moment, a capacity that no longer seems self-evident for a contemporary viewer. Could you talk about what was informing this at that historical moment?

PR: Perhaps the effect involved in seeing yourself on videotape lives on only in art schools where video teachers assign self-portraits because seeing oneself on videotape is so common now that we fail to note its significance. I assign a video self-portrait in my semiotics class. This is not a pure Möbius encounter, because students use Peirce's tenfold semiotic system to mediate the encounter with the video self, just as the audio track of gentle instructions mediated the experience of people who used the *Everyman's Möbius Strip* booth.

"Back in the day," when we called it "infolding," the feedback experience of video was thought of as cosmic. *Infolding* is a term taken from the cosmological thinker Teilhard de Chardin. Maybe this feeling was just a kind of "false positive." Perhaps personal video feedback simply falsifies intimacy with the numinous. But I do think something else was going on. Somehow our natural narcissism was extended by video in a way that was not just in-spinning us into separate strips of selfishness. We were becom-

Frank Gillette and Ira Schneider.
Wipe Cycle, 1969.

ing part of Teilhard's emergent noosphere. Or, at least the countercultural tendencies of the moment made such emergence seem self-evident.

During the crisis-ridden 1960s, the emotions that went with seeing oneself on video were not provided with what Walter Benjamin might have referred to, with respect to ritual, as a "crisis-proof" setting. That affect found its way into some of the art. I'm thinking of *Wipe Cycle* (1969), the piece that Frank Gillette and Ira Schneider did for the Howard Wise show that surprised visitors with their own face on a brief delay, and of some activist work such as the Lanesville TV project produced by the VideoFreex (1972–1977).[18] Only in retreat from the art world, during the early seventies, was I able to fold that "video feedback affect" into the nonsymbolic ritual of threeing.

Once I put the Möbius strip behind me, I realized that the really fruitful topological figure for social topology was the Klein bottle. Once I ignored the insistence of orthodox topology that the Klein bottle was about the surface and saw it as a tube and named the three different parts—part contained, part containing, and part uncontained—I was on my way to a social topology of threes.[19] Of course, there was much more to do. I had yet to absorb Peirce's categories of firstness, secondness, and thirdness; to understand Thom's chreods as "firstness of thirdness"; to create the topology of the relational circuit using Gregory Bateson's criteria for a circuit; to specify a yoga of threeing that accommodates our bilateral symmetry; and to map Peirce's 66-fold sign classification as subcircuits of the relational circuit. To build this social topology took years, but again the initial insight was the perception of the Klein bottle as a tube with three nameable parts.

MW: Your translation of cybernetic feedback into video departs from the cybernetics of Norbert Weiner and other early computational formulations. I'm interested in how you move from such a cybernetics of computation to a cybernetics of visual relay. Arguably, the process that remains consistent is self-correction, even as it appears in other terms and in distinct modalities. How did you come to consider the experience of "communicating with oneself" as both cybernetic self-correction and the therapeutic maneuver of "self-actualization?"

FS: . . . as opposed to a control maneuver?

MW: Yes, as opposed to a control maneuver, though control and correction may be related. I mention therapy to introduce how visual relay, or even "simultaneous monitoring" develops in your work. Once you establish what I read as a therapeutic imperative in your early writing, you move past

Right: Paul Ryan. Ecochannel Design, ca. 1981-1985. Video still.

Opposite, top: Jodie Sibert. Illustration for Paul Ryan, *Birth and Death and Cybernation: Cybernetics of the Sacred*, 1973.

Opposite, bottom: Paul Ryan. *Earthscore Sketch*, ca. 1971. Video still.

a corrective relationship to oneself to broader corrective or transformative procedures whether they be institutional, environmental, or ecological. I'm thinking of projects such as The Ecochannel Design (1981–1985) that proposed a television channel for monitoring the Hudson River Basin to generate discussion on the health of its ecosystem. Your initial study of correction in terms of self-perception and social behavior delivered wider possibilities for working with video. I'm interested in the persistence, and evolution, of cybernetic feedback as a correcting mechanism.

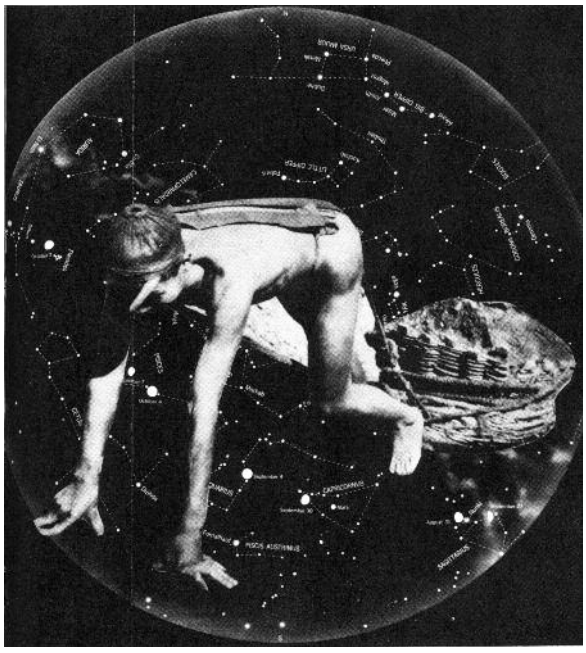
PR: Communication and control.

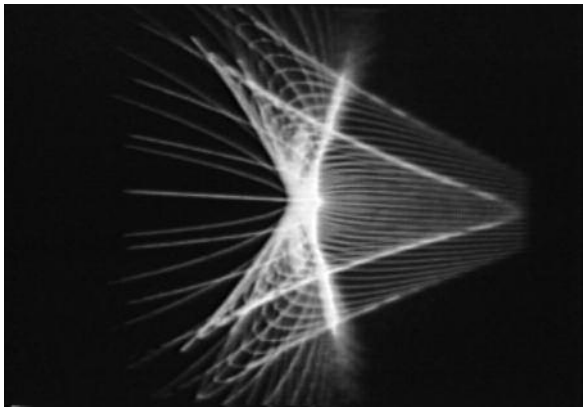
MW: Exactly. And *this* notion of correction seems to be the one you import from cybernetics and work through in your early video projects and that becomes a more flexible strategy in your later work.

PR: Yes, I'd say that reading my work in terms of "corrective procedures" and a therapeutic imperative that opens up new possibilities beyond mere therapy is not inaccurate. However, I would not use the term *therapeutic*. Maybe the stumbling block is that I was trying to envision a "video therapy" based on observations and replay that went beyond the talking cure and other nonvideo approaches, and therefore I saw all therapy as competition. I'm one of those people Julia Kristeva describes who has been raised Catholic and doesn't like the whole notion of therapy. Catholics prefer shared cosmology to privatized psychology.

Another caveat to your reading is that I would avoid the term *visual* to describe video. You can *see* a bottle of perfume, but sight is not the sense it really affects. You can see video images but their effect is primarily kinesthetic or proprioceptive when you see yourself. Video is about perceiving events with the nervous system, not visualizing in a pictorial way. And, as you say, "video" cybernetics is definitely not Weiner's computational math, a math suited to paper, keyboard punching, and point-and-click procedures.

FS: Your 1993 book *Video Mind, Earth Mind: Art, Communications and Ecology* traces some shifts in your thinking about video that might be important to what we are talking about. The initial phase of your work, investigating the cybernetic potential of television, indicates the presence of a certain critical self-reflexivity with respect to the technological apparatus, with the Portapak being deployed tactically against the centralized logic of broadcast television. The subsequent Earthscore material





(1972–1976) and, in turn, your proposal for an environmental television channel suggest a different logic and a very different ecology, so to speak, in which it is almost as though you are regarding video as somehow operating seamlessly with regard to the semantic structuring of nature, as though video and nature have real affinities. Are you still seeing video as a tactical mediating device at this moment? Would that even be possible with such a naturalizing move? In other words, is there a shift in the figuring of video as a mediating platform?

PR: Yes, that shift you describe is there. Perhaps it can also be described as moving away from confrontation and oppositional politics to addressing how our species as a whole could survive. As a videographer I would say that a lot of nonmilitary cybernetic ideas could grow only in the context of evolving projects. Multiple landscape projects were behind the *Earthscore Notation* and the Ecochannel Design. The Ecochannel used Peirce's entire 66-fold sign classification. I was able to identify each of them as a subcircuit of the relational circuit. The argument is that differences in the ecology make differences in what can be represented; differences in what can be represented make differences in what is represented; differences in how it is represented make differences in how it could be interpreted, which make differences in how the community interprets it and how the community in turn behaves toward the ecology in the first place. So you've got a full circuit, one that's beyond an individual and the problems of psychology. You are trying to set up a self-correcting information system that would enable people to live in a bioregion in the long-term, sustainably. If they understand the topology of the system, which is not hard to understand, then they can keep working the topology and keep living sustainably.

FS: Could you talk about your relation to the philosopher Victor Gioscia and his Center for the Study of Social Change, with which you were affiliated from 1969 to 1971? Was Gioscia's work on time and his reading of LSD use as a compensatory mechanism for coping with exacerbated rates of change

Paul Ryan. *Triadic Tapes*, ca. 1971-1976. Video Still. <<Fig 10>> ?is this a placeholder image?

under cybernetic technologies important to your own work?

PR: I met Victor through Frank Gillette, and his work with time was certainly part of the conversation. One's personal experience of LSD is inaccessible to another person, and to me what Timothy Leary was doing was irresponsible. I started thinking of video as something that could get you to a similar distanced space—not *that* space but an "other" space in McLuhan's anti-environment way—and without the false mystification that went with the LSD world. I can't say that I engaged Vic's theories of time with any focused explicitness. The center was important to me; it was instrumental in publishing *Cybernetics of the Sacred* in 1974, and it provided a rigorous context in which to carry out experiments and not just go off on your own. And Vic himself was a generous friend.

MW: You make a distinction between screen and system in your historical account of early video. In your formulation, much of the video work before the arrival of the Sony Portapak in 1968 involved manipulation and reprocessing of signals on the television screen. Subsequent projects such as *Wipe Cycle* by Frank Gillette introduced time-delay images of viewers, which you characterize as a concern with "the systemics of communication." A system-oriented video practice appears to operate according to the formal logic of video—playback, loops, relays, and other temporal distortions. Is this temporality a fundamental distinction for you, or do you also identify a temporality proper to screen video?

PR: I think of it a little differently. Though I think the approach you suggest can be fruitful, I've just had no luck trying to compare temporalities. The original distinction of surface and system is Davidson Gigliotti's. He was trying to distinguish between the work of Aldo Tambellini—who gave you black screens and soundtracks that tortured you—and the sort of thing I was doing when the viewer went into a booth and got some feedback. Frank Gillette and I were incorporating circuitry into systems. Nam June Paik was mainly screen, or display. You could say Paik's work does have a cybernetic function, but it's not designed that way.

For me the body of work that Frank Gillette did in the early seventies with the support of Jim Harithas and Ann Harithas combined screen and system in a really successful way; it was accessible, ecologically literate, cybernetically savvy, and aesthetically very strong. *Aransas* (1978), Gillette's multichannel video study of a strip of land in Texas along the Gulf Coast, should be revived and set against the BP disaster.

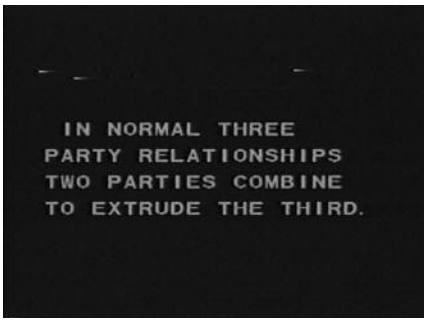
MW: I was thinking about the fault lines Felicity mentioned earlier—between the use and conception of video as a type of social activism—or even, in the terms used by Michael Shamberg and yourself, as a kind of evolutionary mechanism—and a figure like Dan Graham who started working with video in ways that are both similar and dissimilar to how you describe system video. I'm thinking in particular of Graham's temporal distortion projects, such as *Present Continuous Past* (1974), which has a video and a mirror installation on a time-delayed playback loop. In contrast, with *Everyman's Möbius Strip* viewers see themselves implicated and interpolated into the circuitry of the video. Yet, I would not identify those types of video practices as social activism.

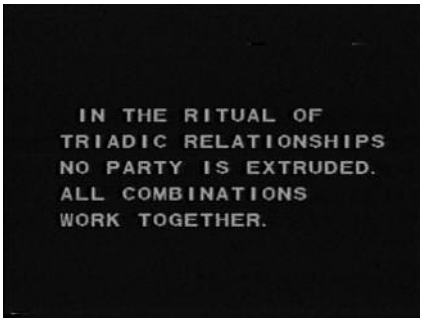
PR: I think you're right. Video activism was a different world. Someone like Ken Marsh and People's Video Theater, or what Dee Halleck had going, the Paper Tiger, was explicitly about social change and did not bring in this reflective loop. I was riding both horses for a long time, and what's come out of that ride is a formal approach to social change, hopefully an aesthetic shortcut to ecological sanity. To go back to the monastic analogy, I would say that the Earthscore Notational System could serve artists the way the rule of St. Benedict served solo hermits. Artists who want to collaborate on interpreting ecological systems in the context of social change for sustainability now have a formal way to do just that. I met Dan Graham only a few years ago and know very little of his work, so I don't think I'm in a position to comment. Perhaps he found a successful way to combine video and mirrors. But for me one of the critical things was to get rid of the mirror. When you're playing with the mirror, you're playing with all the paradoxes of perception, so you're reintroducing Gödel's ambiguity into the perceptual field rather than working perceptually.

FS: One of the moments in your work in which you are most evidently straddling those two sides is *Tender Is the Tape I* (1970), a project using two portable production systems. As you describe this: "The viewer of the tape sees and hears me talking to them on a TV screen contained within another TV screen on which I was commenting on what I was saying and doing on the first screen. This commentary is, in turn, contained within another commentary."[20] Filmmaker Shirley Clarke, as you go on to mention, suggested that this was the first video she had seen that was not attempting to copy film; in other words, it addressed the technology of video as a medium.

Right: Paul Ryan. *Video Variations on Holy Week*, 1976. Performed at The Kitchen, New York. Video stills.

Opposite: Paul Ryan. *The Ritual of Triadic Relationships*, 1984. Video still.





PR: Yes, that was McLuhan: find the medium's uniqueness and work with it. Shirley Clarke was doing a lot of experiments at the Chelsea Hotel, and she had asked Peter Bradley of NYSCA to recruit someone who could help her figure out video. So we used to hang out in her teepee on top of the Chelsea, play with video, and talk about these things. She had, already, insisted on having two systems. Her instinct was right: if you had two systems you could do loops, and loops within loops.

FS: Did you collaborate with Clarke?

PR: We didn't ever do a project together; it was more an informal consulting about the nature of video.

MW: We've discussed your relation to other figures and groups, such as the Raindance Collective, Michael Shamberg, and Guerilla Television. Could you also comment on your relationship to other ecological projects of the 1960s and 1970s? I'm thinking, in particular, of figures like John McHale and the *World Resources Inventory* during the 1960s and, in turn, Fuller's *World Game*. A concern in those projects was the massive accumulation of environmental and ecological data and the establishment of networks of data distribution. Although not identical to your own work with environmental monitoring or your *Earthscore* project, there is possibly an affinity, though perhaps a different conception of ecological information and of the appropriate methods of dissemination.

FS: . . . to which we might add visualization.

PR: I had enormous respect for Fuller. I did an interview with him once. I actually have the tape. I never knew McHale personally. I liked the World Game, but it seemed to me that world gamers were not unlike the computational people—there was no flesh, no living in place, no bioregional politic—it was all mechanical. It was wonderful but I was not convinced it would work. McLuhan said at one point, "We need to restructure the primitive emotions," and in a certain sense my own move toward triadic practice was attempting to do that. Following Bateson's idea of an ecology of mind, I thought that with topology we could form at least one of many new ecolo-

gies of human beings on Earth, that it could work collaboratively with other ecologies. I'm not so convinced by ecologies of media, or media ecology. It's like they took the metaphor, stripped it, took no responsibility for the natural world, and they're off there thinking they're doing ecology.

FS: Since you have brought up the question of primitivism in the context of your notion of triadic relations, I was wondering if you could talk about the project that appeared in the Museum of Modern Art's 1984 exhibition "'Primitivism' in Twentieth Century Art" and how you understood it to fit within the curatorial ambitions of that show.

PR: Well, as you know, the chief curator, William Rubin, wanted the show to demonstrate deep spiritual and cultural connections between the primitive and the modern. I didn't think the show demonstrated any such connection. Certainly my video, *The Ritual of Triadic Relationships* (1984), did not. To tell you the truth, I paid little attention to the controversy surrounding the show; it didn't interest me. I was living in Hoboken, driving a cab in New York City, teaching math part-time to grammar school children, and trying to figure out how to complete the design for an environmental television channel that I had begun many years earlier. I was not active in the art world at the time, nor was I working explicitly on three-person relationships. Barbara London, the video curator at MoMA, called me up and said, "I have this show I'm doing with video and ritual. I'd like to look at some of your triadic tape, see if it makes sense to include it." She looked and she liked it and she gave me a bit of money to produce some new tapes for the show. That got me going. I asked an actor friend to pick a colleague to work with and then for the two of them to pick a third. We met twice a week for six weeks, always pushing the range of emotions they could bring to the ritual.

I edited this work along with earlier work and produced a thirty-minute tape for the "Video and Ritual" component of the show. It was more a tape of record than an art piece. I've never found a way to create video "art" tapes about triadics. Gilles Deleuze says it's impossible to artistically compose three person relationships for the two-dimensional film screen. I think that may be true of video as well. My constant desire was/is to experiment with the practice of threeing, develop it further among real people into an operative "live" art of relationships, not to make "art tapes." Ironically, when I show triadic tape from the 1970s now, people say they love the aesthetic. When I produced them, aesthetics was the last thing on my mind.

Notes

1. Paul Ryan, "Cybernetic Guerilla Warfare," *Radical Software* 3 (Spring 1971): 1–2. The article was presented in two parts: "Part I: Guerilla Strategy and Cybernetic Theory" and "Part II: Attempting a Calculus of Intention." They are reprinted separately in Paul Ryan, *Cybernetics of the Sacred: Birth and Death and Cybernation* (New York: Anchor Books, 1974), 55–64, 66–77; and Paul Ryan, *Video Mind, Earth Mind: Art, Communications and Ecology* (New York: Peter Lang, 1993), 41–46, 47–52.

2. A short description of *Guns, Knives or Videotape* appeared in Paul Ryan, "Three Pieces: Some Explication: Ego Me Absolvo; Guns, Knives or Videotape; College Is a High Chair," *Radical Software* 1, no. 1 (Spring 1970): 13.

3. Ryan's notion of Threeing derived from workshops exploring triadic relationships at The Kitchen. See Paul Ryan, "Threeing," in *Video Mind, Earth Mind*, 104–113. The notion of threeing ultimately led to his search to produce "sustainable collaborative relationships among three or more people." See Paul Ryan, *The Three Person Solution* (West Lafayette, IN: Purdue University Press, 2009).

4. Ryan, "Cybernetic Guerilla Warfare," 1.

5. See Jud Yalkut, "TV as a Creative Medium," *Arts Magazine*, September–October 1969, 18–21; and Marita Sturken, "TV as a Creative Medium: Howard Wise and Video Art," *Afterimage*, May 1984, 5–9.

6. The Smithsonian exhibition was entitled "Media Utopia: Art and Advocacy of Paul Ryan" and was held at the Archives of American Art, New York Research Center, 8 October through 31 December 2008.

7. In 1931 Kurt Gödel set out two important theorems of mathematical logic that proved the incompleteness or structural limitations of axiomatic systems within mathematics, arguing that proofs remained either subject to incompleteness or inconsistency. See Kurt Gödel, *On Formally Undecidable Propositions of Principa Mathematica and Related Systems*, trans. B. Meltzer (New York: Dover Publications, 1992).

8. See Bradford Henry Arnold, *Intuitive Concepts in Elementary Topology* (Englewood Cliffs, NJ: Prentice-Hall, 1962) and Pavel Sergeevich Aleksandrov, *Elementary Concepts of Topology* (New York: Dover Publications, 1961).

9. Walter Ong was the Berg Visiting Professor of English at New York University from 1966 through 1967. See Thomas J Farrell, *Walter Ong's Contribution to Cultural Studies: The Phenomenology of the Word and I-Thou Communication* (Cresskill, NJ: Hampton Press, 2000).

10. On *Video Wake for My Father*, see Paul Ryan, "Video Wake," in *Cybernetics of the Sacred* (New York: Anchor Books, 1974), 100–115; and Victor Gioscia, "Practice Dying and Dance as Often as You Can," in *Cybernetics of the Sacred*, 117–129.

11. Derived from the experience of seeing oneself on video and using the Möbius strip to model that experience, Ryan's relational circuit was, technically, a six-part closed Kleinform that achieved the cybernetic criteria for a circuit. The relational circuit would be key to his conception of video as an "evolutionary tool" in the early 1970s, as well as to *Earthscore* (1972–1976), an idea for an ecologically sound intentional community. Research on the relational circuit and *Earthscore* was initially presented at The Kitchen. See Paul Ryan, "Part Two: *Earthscore*, 1972–1976," in *Video Mind, Earth Mind*, 53–117, esp. 93–103.

12. Paul Ryan, "A Genealogy of Video," *Leonardo* 21, no. 1 (1988): 39–44. Reprinted in *Video Mind, Earth Mind*.

13. Ryan uses the term *perceptual imperialism* in "Cybernetic Guerilla Warfare," 1.

14. Harold A. Innis, *Empire and Communications* (1950), with a forward by Marshall McLuhan (Toronto: University of Toronto Press, 1972).

15. See Martha Rosler, "Video: Shedding the Utopian Moment," in *Illuminating Video: An Essential Guide to Video Art*, ed. Doug Hall and Sally Jo Fifer (New York: Aperture, in association with the Bay Area Video Coalition, 1990), 31–50.

16. Paul Ryan, "Videotape: Infolding Information," in *Cybernetics of the Sacred* (New York: Anchor Books, 1974), 4–18. Initially published as Paul Ryan, "Videotape: Thinking about a Medium," *Media and Methods* 5, no. 4 (December 1968): 36–41.

17. The Earthscore Notation System derived from the thinking of biologist C.H. Waddington, the semiotic system of C.S. Peirce, and Ryan's work on video as a tool to interpret the natural world. See Paul Ryan, "The Earthscore Notational System for Orchestrating Perceptual Consensus about the Natural World," in *Video Mind, Earth Mind*, 379–393.

18. The Videofreex's Lanesville TV project was the first unlicensed pirate or "guerilla" television station. Broadcast from a home-built TV station in the Catskills, "Lanesville TV" ran as a weekly program.

19. See the tubular diagrams accompanying "Cybernetic Guerrilla Warfare" (1971).

20. Ryan, Video Mind, Earth Mind, 16.