

Emergence and Embodiment

New Essays on Second-Order Systems Theory

EDITED BY BRUCE CLARKE AND MARK B. N. HANSEN

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Complex Visuality

The Radical Middleground

IRA LIVINGSTON

He walked into the shreds of flame. But they did not bite into his flesh, they caressed him and engulfed him without heat or combustion. With relief, with humiliation, with terror, he understood that he too was an appearance, dreamt by another.

—BORGES, “The Circular Ruins”

I’m happy that the editors have allowed my rambling meditation to end this volume but without asking that I try to summarize, to round out the volume, or to provide any kind of *closure*, which—as this essay will amply demonstrate—I am neither able nor inclined to do. What follows, then, is instead a kind of loose but looping thread, of the kind that sticks out from the back of a complex tapestry. It is always a question as to whether a loose thread like this can simply be plucked off or whether—as I would like to think—it marks the ongoing vulnerabilities of a fabric (here, neocybernetics) to catch on other things (here, visual culture studies and ideology critique) and to alter the pattern. Of course such vulnerabilities can also be its *abilities*, the way it stays alive, grows and changes, engages and is engaged by its environment.

So here I try (and almost by definition fail) not to conclude but *to start over*, or as Foucault described his method, “to begin and begin again, to attempt and to be mistaken, to go back and rework everything.”¹ One might even say that this account works as a rough definition of scientific method, at least insofar as scientific “progress of knowledge” narratives demand that all theories be shown, in the fullness of time, to be radically inadequate if not fundamentally wrong. In this version, science is a particularly productive way of being wrong, continually wrong, and of falling/failing forward.

But how does the notion of remaking and even starting over—or in terms of knowledge, of sustaining “beginner’s mind”—jibe with the famously *conservative* nature of systems, which are mostly stuck with what they inherit

and can never truly begin again? At issue here is the tension *between* emergence and embodiment—the tension that generates both this volume and the systems that neocybernetics engages. For example, “humans, as you call them” (to use William Burroughs’s phrase) cannot renegotiate the most fundamental terms of our own embodiment;² we cannot “go back” and reject the evolution that has rendered us unable to fly (as a two-year-old I know has recently been having difficulty accepting) or decide that, after much consideration, we’d rather not be carbon-based life forms after all. But then again, how does this apparently uncontroversial account jibe with the narrative that we might someday transfer some essence of who we are into a silicon-based system (that is, a computer of some kind) or the recognition that in terms of our “extended phenotype,” we have always been posthuman cyborgs?

A dialectical answer, already suggested above, might begin with the recognition that this kind of contradiction and complexity are not only those that threaten the integrity of a system (whether from the outside or inside), but also the principles of a system’s organization and growth. In particular, though, I want to reject a tendency to situate (in one real place or one conceptual/disciplinary place) *an environment* of roiling, Wild West, edge-of-chaos complexity that acts as a fecund though dangerous matrix for the emergence of new systems (the space of birth or continual adolescence, as it were), and in another place (even if only an asymptotically approachable space), *the systems themselves* (where, one might expect, a kind of fully achieved embodiment or maturity must give way continually to deathly senility). To say “I want to” reject this is also to acknowledge a failure, the intensity of the desire marking the extent to which I remain structured by the dichotomy as a constitutive contradiction. Certainly anyone and everyone involved in the project of neocybernetics must recognize as a first principle the paradoxical dependence of openness on closure and vice versa and along with it the ongoing tension between emergence and embodiment. Call it a paradox or a contradiction or a tension or a dialectic—or simply a question. The question is both what drives neocybernetics to be born *and* where it gives way to other knowledge formations that will succeed it. Where I have in mind to look for an answer is in something like a kind of continual midlife crisis in which one is nonetheless most alive (my flagrant attempt to make my own condition exemplary). This project takes place in the no-man’s land between emergence and embodiment and continues to be guided by a perversity that would refuse the coding of closure with science and masculinity and of openness with a feminized humanism/humanities.

Questions

What can an exploration of the development of contemporary visual culture tell us about notions of emergence, complexity, and systematicity? Is visuality a system, or is it being systematized in postmodern culture? How is visual complexity (the complexity of visual images themselves) related to complex visuality (the complexity of the multiple networks in which visuality participates)? I find the resolution of these questions lies in coming to grips with their fundamental ambiguity, which I characterize in visual terms as a radical middleground. Along the way, I argue that we must continue to displace the metaphor of visuality that has informed the neocybernetic notion of the observer.

Visual complexity—or complex visuality—seems to be a signature of postmodern culture.³ Visual complexity seems to be as rife all around me—in the real streets and people and stores and signs of the city in which I live—as it is in the imagined worlds of film, television, and dreams. These observations suggest further, interlocking sets of questions: How are complexity and representations of complexity related? Are representations of complexity necessarily complex themselves, or is it possible to have simple representations of complexity? This latter could be the case when a merely quantitative complexity comes to stand for and even to displace the qualitatively complex. Arguably this is what happens in the “precession of simulacra,” the ever-expanding generation and saturation of commodities (including images) driven by the logic of capitalism. But the relationship between quantity and quality is itself complex. Visual complexity seems also to be *coordinated with* and to *participate in* complex visuality—that is, complexity considered entirely within the visual may be a kind of real echo, a kind of aesthetic subroutine, of the complexity of the networks into which visuality is wired. *Coordination* and *participation* tend to displace *representation* all together. Finally, to what extent is the complexity we think we see an emergent phenomenon in itself, and to what extent is an emergent episteme—a way of seeing—conditioning us to notice and privilege a complexity that was to some extent always already present?

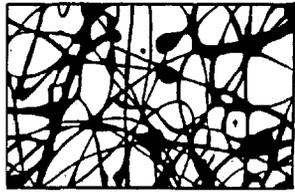
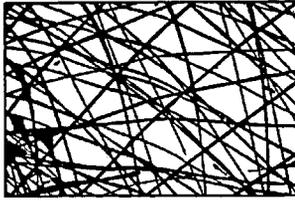
Instances

To begin with what comes most easily to hand, visual complexity may well be associated with multiple and rapidly changing and moving images, such as the fast-cut music videos often regarded as icons of postmodernism. The best claim to complexity in these cases is probably the continual perceptual and cognitive juggling and constellating that the barrage of images requires of the

viewer. It seems funny now that modernist cultural critics have more often cast such a viewer as *passive*, usually in contradistinction to the supposedly more active reader of literary texts. More aptly for postmodernity, cultural theorist Jonathan Beller has proposed that the work required of the viewer is actually the exemplary form of labor under what he calls the Cinematic Mode of Production, a mode in which attention—especially visual attention—confers value on objects.⁴ I will return to this idea below.

Visual complexity may also be fractal, involving orchestrations of pattern across scale. Here again, we can start by referring the complexity to the ocular and neurological fact of the multiple refocusing required of the viewer of an image that cannot be held together in a single glance. To take a familiar example, the fractal paintings of Jackson Pollock seem to me the height of a particularly formalist/modernist complexity. Pollock's expressionism evolved to cover the picture plane uniformly with an almost perfectly self-similar, abstract field—that is, his mature paintings retain the same density of detail at all scales from the very small to the large. This has been confirmed by computer analysis of the fractal dimensions of Pollock's paintings.⁵

Even so, it would seem that this uniformity makes such work less complex than other images—including the typically postmodern—that may be just as fractally dense but are also more heterogeneous. Such complexity is both enacted and thematized nicely in the iconic postmodern film *Blade Runner*, whose director spoke of making the film as assembling a “700-layer cake.”⁶ In addition to a *mise-en-scene* that is often visually busy and variously heterogeneous, the film offers several crucial scenes in which the small is conspicuously linked to the large by zooming in and refocusing—on a tiny origami figure, the minute details of a snapshot, the microscopic serial number printed around the base of a single artificial hair. This fractal layering in scale (a kind of complexity in itself) is linked both to a recursive loop whereby the film implicitly reflects on itself as an artifact of visual technology (this reflexivity constituting another kind of complexity) and, maybe somewhat more surprisingly, to an ongoing meditation in the film about the ambiguous and multiply crossed boundary between the natural and the artificial, a problematic undecidability that also yields another kind of complexity. Curiously, an ambiguated nature/culture boundary is also precisely that from which Jackson Pollock wove his fractal paintings, by working the physical properties of his paints (for example, their tendency, when flung, to form hairlike skeins or globby trails or to crackle as they dry). For us moderns anyway, there may be something almost archetypally complex—conceptually and aesthetically—about this kind of nature-culture hybridity.



Detail (bottom) from Jackson Pollock's painting Number 14 (1948), compared with nonchaotic (top) and chaotic (middle) drip trajectories generated by the "Pollockiser" machine. (All sections c. 13 cm x 20 cm. By permission of the Pollock-Krasner Association/ Artists Rights Society, New York.)

Visual complexity may also involve what could be called visual hybridity or multi-modality. The most obvious examples here are interpenetrations of text and image and of reality and image. Here again the multiple modalities or dimensions of the image are linked to various perceptual and neurological modes that must be coordinated in order to engage them fully: imagine a pilot landing a plane, looking back and forth between multiple read-out screens and the real scene out the front window. Hybridity here might also refer to cases where more sophisticated kinds of visual "code-switching" are required, such as when multiple cultural and cross-cultural frameworks are involved; complexity here derives from the fact that we do not inhabit a single world with many things in it but multiple worlds, and we ourselves are necessarily multiple. (These points could again be illustrated by *Blade Runner*, famous for its visual mixing of a city that is both Los Angeles and New York, Asia and the West.)

But even in the relatively simple case of interpenetrations of reality and image, note that—in the case of films, for example—one would more accurately have to speak of the interpenetration of *images of reality* and *images of images*. This already suggests some of how visuality is itself complex: images

add a recursive loop to the world they inhabit; even at the neurological level, this means that watching a film, for example, means coordinating being both awake and asleep, at least insofar as one's locomotor responses to filmed images are switched off, as in dreams. It is not so much the images themselves that are complex but that images make the world more complex, or in Niklas Luhmann's more general formula, "parts of the world (or for that matter any unity) have higher reflective potential than the unity itself."⁷ It should be added here that visual imagery (and with it, the notion of consciousness-as-representation) can be considered a small addition to a world already built of multiple recursive loops, a world that never was a unity. In any case, though, it has become commonplace to refer to the ongoing explosion of images and image-making technologies as definitive for a modernity characterized by Heidegger as "the Age of the World Picture" and for a postmodernity construed by Debord's "Society of the Spectacle," Baudrillard's "Precession of Simulacra," or Beller's "Cinematic Mode of Production."

Throughout modernity and postmodernity, visibility has been increasingly separated out from other realms, increasingly commodified and mediated by assorted technologies. To take an early example, panel painting in the Renaissance helped to commodify art and contributed to prying it (literally and otherwise) away from the realms of religion and ritual; thus by the eighteenth century "aesthetics" was nameable as a separate realm unto itself. Visibility has been both increasingly distinguished as a realm unto itself and increasingly wired into the circuits of capital and social relations: modern systematization is marked by this simultaneous increase in the independence and interdependence of subsystems.

Definitions

Following the line of systems and autopoiesis theory, William Rasch cites biologist Robert Rosen's mandate "to view complexity not as an 'intrinsic property of a system [or] of a system description' but rather as an observer/observed relationship involving the choices that an observer makes, including the choice of what constitutes a system to begin with."⁸ Accordingly, when I have wanted to establish the complexity of an image or an object (above), I have begun by coordinating it with complexity in a subject, starting with an ocular and neurological level.

Rasch adds Luhmann's account—of the evanescence of communication in a social system—that a system's "basic elements are not stable units (like

cells or atoms or individuals) but events that vanish as soon as they appear.”⁹ The statement encapsulates one of post-structuralism’s most transformative principles. Its general account of systematicity also conforms so perfectly to a basic description of visual media like film—that is, something whose elements are “events that vanish as soon as they appear”—that we are thrown back to historicizing again: the account seems to have been shaped by the cinematic age in which it was generated. Note further that Luhmann’s statement can be taken as an ontological assertion of a general truth, something like the claim that “systems really exist in the world, as follows.” But the statement can just as easily be taken as a definitional one, something more like “the term *system* shall be defined as follows.” On one hand, then, it’s a referential statement about the world; on the other, a self-referential statement about language. No doubt this apparent two-facedness is characteristic of both the statement *and the systems it describes*, and the exploration of this apparent resonance between observer and observed—in broader terms, the way language “bears *witness*” to the world—is one of the most paradigm-changing possibilities for the project of neocybernetics.¹⁰ In any case, the notion of *performativity* offers a third way of understanding Luhmann’s statement, one that displaces both reference and self-reference. What kinds of language games is the statement playing? What does it *do*, and with and against what other kinds of statements does it operate? For example, we might consider here how Luhmann’s statement makes temporality itself—“eventness”—come to constitute complexity in relation to a kind of spatiality posited as a stable and knowable structure. This positing of *structure* as simple is a power move specific to how post-structuralism (the word itself no less than the theoretical movement it names) works to push structuralism into the past—precisely, one might say, to *historicize* it.

For Luhmann (going back to Rasch’s account), “complexity, in turn, is seen as an observer’s inability to define completely all these elements’ connections and interactions. . . . Within the matrix of *observation as selection* there is no totalizing perspective or omniscient selector. Each act of observation is embedded in what it observes.”¹¹ Again, this is a crucial principle, but thinking performatively about the statement—here, thinking what context it posits itself against—yields a more complex and contradictory picture. It is only against what I would call the *fantasy* of a disinterested and transcendently objective perspective—a fantasy that should be historically identified as specific to and definitive for imperialist modernity—that complexity can come to be defined as embeddedness, or rather, as the contradiction between transcendence and embeddedness. This contradiction has been characteristic of modern Western subjectivity at least since the late eighteenth century.¹²

Physicist and cellular automata guru Stephen Wolfram's definition of visual complexity also coordinates an observed and an observer in the act of description:

In everyday language, when we say that something seems complex what we typically mean is that we have not managed to find any simple description of it—or at least of those features in which we happen to be interested. . . .

When we are presented with a complex image, our eyes tend to dwell on it, presumably in an effort to give our brains a chance to extract a simple description.

If we can find no simple features whatsoever—as in the case of simple randomness—then we tend to lose interest. But somehow the images that draw us in the most—and typically that we find most aesthetically pleasing—are those for which some features are simple for us to describe, but others have no short description that can be found by any of our standard processes of visual perception.¹³

Try to set aside, for the moment, the blithe trans-historical and trans-cultural universalizing of what “we” find pleasing. More interesting is what seems to be circular about this account—complexity is what interests us and what interests us is complex—and paradoxical: complexity is the necessary entanglement of the simple and the complex. This circularity and paradoxicality are not necessarily logical flaws but *traces* of the reflexive systems involved. The paradox can be developed by observing that if what we are interested in is complexity itself, then an image that we can easily identify as complex is thereby *less* complex than one whose complexity we find it difficult or impossible to ascertain.

Wolfram's approximate definition of visual complexity as the ability to capture and hold the eye and brain (a colloquial term for this is *velcro*) accords well with Beller's *Cinematic Mode of Production (CMP)*, since the *CMP*'s prime directive is to catch and hold attention—to make the viewer work, much as the flower makes the bee work. By the way, bees making honey is a common early modern metaphor for aesthetic labor, and it is more than a metaphor, really, since in both cases we are talking about a kind of co-evolution and interpenetration of systems. The flower becomes part of the bee's metabolism as the bee becomes part of the flower's reproductive system. Visuality becomes complex as more systems are wired through it and as it is wired through more other systems; as it becomes the switchboard for psyches, identities, economies; as culture and society increasingly reproduce visually and have a visual metabolism. For example, I have been repeatedly struck by how much this observation seems to apply to

the U.S. invasion and occupation of Iraq (during which this essay was written and revised). Early on, it seemed very much like the image of the just-captured and haggard Saddam Hussein on the cover of American newspapers was the political capital for which billions of dollars and thousands of lives had been spent; later, the photographs from Abu Ghraib were both records and instruments of torture, images that “backfired” to undercut the U.S. representation of itself as a “liberator” and to fuel resistance to the occupation.

Middleground

If visual complexity has to be defined in part by its ability to interest us, we would do well to come to terms with Isabelle Stengers’s observation that “‘interest’ actually derives from *interesse*, ‘to be situated between.’” “To interest someone in something,” Stengers contends, “means, first and above all to act in such a way that this thing—apparatus, argument, or hypothesis in the case of scientists—can concern the person, intervene in his or her life, and eventually transform it.”¹⁴ In the case of science, Stengers continues, interest works not just to configure scientists but to constellate “the multiple relations between scientific, social, industrial, and other interests,” and thus “every interesting proposition redistributes the relations of signification, creates meaning but destroys it as well.”¹⁵ Notice that like the word *interest*, the word *meaning*—and the word *mediating*—also refer to a “being-in-the-middle” that brings us back to the notion of complexity as embeddedness. I’m tempted to say that at some level there is what might be called an anthropic principle at work here in the sense that we find ourselves—and life itself—necessarily in the middle of the universe, in terms of time, in terms of scale, and especially in terms of a temperature gradient, where the middle is an edge-of-chaos between order and disorder. Much more narrowly, though, I want to literalize Stengers’s point and define visual complexity as a *middle-grounding*, as that which throws figure-and-ground into question. Note that by *ground* here I mean not simply that which is less interesting (in other words, that which is implied in the term *background*) but that against which a figure is made to appear, a frame or framework.

In recent tests of the visual perception of Asians and Westerners, members of both groups were shown simple computer-animated images of assorted fish swimming in a tank and asked to describe what they saw.¹⁶ Westerners tended to identify a particular fish (the biggest one, generally) as more prominent and to make it the clear protagonist in their accounts, while Asians tended to describe collective relationships and patterns among the fish and their environment. To

make this reductive characterization even more so, Westerners tended to stress figure, Asians ground.

Let's take this result at face value for the moment and ask what would tend to make the image more complex for *both* groups. Presumably this would be whatever interfered with the habitual foci of both groups in a way that (to use Wolfram's terms) made the usual short description impossible. The recipe for visual complexity, then, would involve whatever shaking, stirring, and cooking will make for an irreducibly heterogeneous middleground. If you aren't already using this principle when you make images, I invite you to try it. I want to call this a *radical* middleground to distinguish it from the kind of middleground that could easily be interpreted any way you like, since it compromises the figure/ground relationship in a way that ambiguates both. This is also the way I would like to approach neocybernetics' system/environment distinction.

If the complexity of our images is of a piece with the complexity of our world, this is not to say that our images accurately represent worldly complexity but that they participate directly in it in a way that displaces questions of representation all together, as subroutines wired into a networked and a *virtual* world, as Katherine Hayles has defined it: a world in which materiality is suffused with information. Historicization is paradoxical here in that we come to see that the world has always been virtual and are driven to ask why we didn't see it before, and thus to the narrative of a recovery *from* modernity, from the modernist fetish for purity and simple formalisms that keep trying to situate their figures of intelligibility against a ground of chaos. Bruno Latour's account is relevant here: we can recognize that we have never been modern insofar as the various nature/culture hybrids we have created have overrun our capacity to disavow them, a process (I would add) rather uncannily similar to the implosions of diversity back to the imperialist metropole. But we must also be suspicious of stories of evolution as increasing complexity (and following this, of modernity and postmodernity as increasingly complex systematizations and linkages at all scales) as artifacts of an ongoing reductionism that demands simple first principles and thus necessarily creates narratives of increasing complexity.

Neocybernetics

The attempt to use neocybernetic principles in approaching visibility (a project merely *posited* here) is complicated by the fact that the visual metaphor of *observation* has often been used in neocybernetics, and as is often the case, its metaphoricity tends to slip out of view. This section can be taken as part of the

ongoing move to displace this metaphor, a move variously engaged by essays in this volume (I am particularly fond of Thompson's use of "sense-making"). Even so, the visual metaphor seems to me part of the ideological baggage that the project of neocybernetics must continue to unpack—or to carry.

Luhmann is especially clear, up front, on the metaphoricity of the notion of observation: "On the level of general systems theory, observation means nothing more than handling distinctions" and "self-observation is the introduction of the system/environment distinction within the system."¹⁷ Accordingly (for example), single living cells—while they make no "observations" as such—do *handle distinctions*; in fact, they might well be fully describable as distinction-handling entities. Even so (for example, in Luhmann's sustained discussions of observation), the metaphor often seems to lose its implicit quotation marks and to become unmarked. What ideological or conceptual work does this slip-page do?

Visual metaphors tend to bring the epistemological baggage of representationalism. This may happen in neocybernetics at some level even though, from its earliest usages in autopoiesis theory, the visual has also been used pointedly *against* representationalism and the naive notions of realism it can be made to underwrite. In the 1960s, Maturana participated in studies of frog vision that moved—from correlating retinal activity with external stimuli—to "understanding the nervous system as a closed network of interacting neurons" selectively *triggered by* but not *correlated with* an environment.¹⁸ Notice that this paradigm shift develops structuralism's inaugural revelation that language be treated not in its referentiality to an outside world but as a system unto itself. As before, thinking in terms of *performativity* may be the simplest antidote to *both* representationalism and anti-representationalism.

Visual metaphors are also notorious for producing a false sense of distance or removal from what is being observed and, in turn, sneaking in a false sense of the observer's objectivity and even a transcendent perspective (that is, situating the observer as outside of the observed or, in other words, *desituating*). The sneakiness comes in because this action can be performed while being explicitly and even elaborately denied—as can be the case with universalizing statements such as "all perspectives are non-universal." Among the best antidotes continue to be *historicizing* (a sustained exploration of the historical embeddedness and contingency of all observations, including one's own) and *feminism* (which has understood visual privilege and the "god's eye view" as particular artifacts of patriarchy).

So far so good. But part of the impossibility of simply rejecting the representationalism and false sense of distance that tend to come with notions of

“observation” is that this rejection also tends to situate these kinds of epistemological mistakes as inherent in systems to begin with. Take, for example, the claim that neocybernetics allows us to escape solipsism, meaning (presumably) the solipsism of a self that believes that it is a self and in its version of the world as *the* world. The escape-from-solipsism account sounds good—much in the same way that formulations of ethics based on recognition of otherness sound good—and I would certainly want to affirm both principles *in themselves*. But again, thinking performatively about such statements and beginning to historicize them yields a contradictory and complex discursive picture. Notice that such formulae leverage their knowledge claim (that is, their claim to show us something counterintuitive) by *positing a world of naturally solipsistic creatures*. It is just along these lines that von Foerster gently satirized his “American friends” of the early 1960s as excited by the revelation that “I live in an Environment.”¹⁹ If, as von Foerster seems to be suggesting, there is something particularly American about such a realization, laudable in itself, it must be because imperially and patriarchally privileged American subjectivity tends otherwise to assume what Keats once called, in reference to William Wordsworth, the “egotistical sublime.” As Clarke and Hansen point out in the introduction to this volume (and then as Clarke goes on to elaborate), after the revelation of an environment, at least two more self-reflexive steps are necessary to inaugurate neocybernetics. First is the recognition that the environment I posit is posited by me (or as Maturana and Varela put it, “anything said is said by an observer”).²⁰ But can this really be the escape from solipsism, the recognition that the world out there, and all of you people (and especially you, dear reader), are figments of my imagination? On the contrary, if this were all there was to it, this would be solipsism itself, and more than just subjectivity (the posited “I”) would remain to be displaced. The second step is in coming to grips with the plurality—the always-already networked nature—of self and mind: the social production of “stable yet mobile and multiple recursive consensuses about shared environments,” as Clarke defines von Foerster’s “eigenvalues” (in this volume). Please notice that in the move from the first to the second step, I’ve changed the metaphor from visual (“recognition”) to tactile (“coming to grips”). This gesture is meant to signal that to make the second step count, we must leave the realm of visual metaphors of observation and representation, and with them too the realms of epistemology and of the self. What I want to do here is keep pushing Clarke’s crucial account of von Foerster—the account of solipsism not simply “transcended” but revealed as a false problem in the first place, leaving us to start again if we can.

The displacement of one self by many selves or one epistemology by another (or by many) always risks putting us (and by *us* I mean something like von Foerster's "American friends") back and back again into the paradox narrated by Isaac Bashevis Singer in his story of the snowfall in Chelm, the village of fools in Yiddish folktales. The elders of Chelm, believing that a sparkling treasure has fallen from the sky (recognizing an environment, one might say), meet to discuss how to take advantage of the gift. They agree that a messenger must be sent to warn people to stay in their houses lest they trample the treasure. But when they realize that the messenger will himself damage the treasure, they come to the happy solution of putting the messenger on a table and having him carried door-to-door by four men. When this plan is carried out and they see that the treasure has been trampled after all, they resolve that in the event of another snowfall, the four men carrying the table should themselves stand on tables carried by a total of sixteen *other* men. At this proposal—which is of course exactly what we hope the plurality of "second-order" cybernetics is *not*—the villagers rejoice in the wisdom of their elders.²¹ Or shall we say the story is a warning to knowledge workers in imperialist nations to watch what our political feet are doing while we issue our epistemological warnings—or at least to be mindful of what continues to be "carried" by our metaphors?

If plurality or "promiscuous realism" (in John Dupré's formula) may only exacerbate the problem, maybe we can "start again" from a different place.²² The notion of escaping solipsism, like the notion of an ethics based on recognition of otherness, is one of those things that make me feel I must be coming from another planet. Where I come from, I want to say, we started out as quite the opposite of solipsistic entities: we began as *figments of the dreams of others*. (This, by the way, is why I've used the Borges epigraph to begin this essay rather than situating it as a punchline.) In a world entirely defined and controlled by others, it was an epistemological leap to realize that we exist in some fashion, that we have needs and desires, that we can try to leverage a partial autonomy. And this leap continues to be all the more difficult and finally impossible since it is resisted at every turn, not only by others but also by ourselves insofar as we have been manufactured largely by the others and remain to a large extent their creatures. It is not that there are *simply* two worlds, one overprivileged one where people have the luxury of escaping their solipsism as a sort of ethical hobby, and another subaltern world in which people struggle to exist at all. In any case (just for starters), these are also contradictions that divide us from ourselves. Do you recognize any of yourself in these statements? The positioning of an "I" and a "we" and a "they" in these statements is just that, a

performative positioning rather than a truth claim; all I really want to *do* with these statements is to open up the possibility of subaltern affiliation/recognition in neocybernetics.

To turn back for a moment to the introduction to this volume, Clarke and Hansen (following Luhmann and others) stake neocybernetics on several key distinctions: the system/environment distinction, the operational closure of systems, and the reduction of complexity that this closure enables. For example, they define neocybernetics in opposition to Katherine Hayles's statement that places "flows across borders" in the subject position; according to Hayles, flows "create complex dynamics of intermediation."²³ In their rejoinder, Clarke and Hansen put "the injunction against such flows"—presumably an injunction issued by a system—in the subject position. There is an easy way of splitting this difference, and my impulse to do so is related to the way my argumentative strategies take their cue from the systems that are my object (or is it vice versa?), which I think are better described as difference-splitters than difference-makers. In any case, there is no question that a system like a living body also *creates* multiple flows between itself and its environment (even if as a result of some injunction *against* flows) whereas a nonsystem like a rock is much more inert. A system is like an eddy in a stream; one can say that the eddy is a kind of injunction against the lateral flow of the stream or a kind of amplification of it. If this is one of those constitutive paradoxes of systems, we should be careful to continue to honor it as such, rather than using the distinction more baldly to separate neocybernetics from its "others."

Take a more extended example from contemporary visual culture: the rise of what has come to be called "reality television." Here I am merely "neocyberneticizing" a few of the observations from the excellent anthology *Understanding Reality Television*, a kind of translation I would like to see practiced much more broadly in visual culture studies and in neocybernetics.²⁴ (In the latter case, in other words, my fantasy is that students of neocybernetics would take various classic texts—of theory, history, and so forth—and translate them into neocybernetic terms—*hint, hint*—for example, as Clarke has just done so compellingly with narrative theory in *Posthuman Metamorphosis*.) At one level, in any case, it seems obvious that the emergence of reality tv has been generated by the self-reflexive closure of what we might call "the television system." This is especially clear insofar as (1) the system has always produced novelty through a very self-reflexive and ongoing generic mixing (in the case of reality tv, a mixing of documentary, soap opera, game show, etc.), and insofar as (2) the television system has always been defined and driven by the way it handles the distinction between celebrity and ordinariness. This distinction

never has been that which separates the inside of television from the outside, but the contradiction at its heart, the way it meditates on its own production of ordinariness. This is fine as far as it goes, and part of what these “observations” do is to produce and handle distinctions that mark out an emergent academic field of “television studies.” But what does it do to this field—and to the notion of a television system—to observe (as I began to do above) that the U.S. invasion of Iraq is also reality television—and here I don’t mean that it is “like” reality television but that it *is*; an engineered intervention organized on fictional premises for purposes that include generating images and ideological narratives and revenue, mesmerizing people, and so on. For those who like their system boundaries crisp, this makes the notion of reality tv too broad and unwieldy; for the rest of us, it points toward something essential for understanding both reality tv and the U.S. invasion of Iraq.

Should we say, then, with Hayles, that the flows across borders between television and the world create a complex dynamics of intermediation in a world that must be said to have always been more or less virtual? Or should we say with Clarke and Hansen that the television system sustains itself via an injunction to selectively process the world, to radically reduce its complexity, and that our academic disciplines must do some version of the same and that, like it or not, we must come to some kind of terms with this? It seems obvious that, for starters, the only responsible answer is *both*.

My final example is a more pointedly reflexive one: neocybernetics itself. Let’s begin by granting that there is a network of authors and texts (such as represented in this volume)—along with events such as panels at conferences, and if you prefer something more ethereal, a *set of ideas*—that can be called *neocybernetics*. Let’s say that it has boundaries (in other words, that some authors and texts and ideas belong to it and others do not, even if both belonging and nonbelonging are complex and contradictory) and that it can reflect upon itself. We could say that it can claim anything it likes as part of itself and exclude anything or even that this claiming/excluding *is what it is*. For example, let it claim a history for itself that begins with systems theory, and let it disavow any other intellectual debts if it likes—a mystification one might find annoying, but never mind, since we are concerned here with the performative value of the disavowal, not its truth status. Is neocybernetics an emergent system? Will it continue to grow, pulling more and more authors, texts, and events into its constellation, becoming a more or less discrete discipline or meta-discipline? Or will it stabilize as a small but intrepid band passing down its wisdom to a few disciples? Or yet again, will it be recognized as fundamentally erroneous and be discarded, its practitioners shamed and then forgotten? Or in contradistinc-

tion to all of these rather melodramatic scenarios, will its insights be variously adopted, adapted, displaced into other knowledge formations?

I for one am so sure that *only this last case will come to pass* that I'm staking my eternal reputation on this prediction, which also has the virtue that it can relatively easily be verified (or at any rate falsified) by future generations, right here on the spot: *dear reader, was I right?* Do you identify neocybernetics as your dogma or discipline (does the word *neocyberneticist* appear under your name on your business card?), or do you scorn the entire project, having read this volume merely as the quaint and curious relic of some short-lived epistemological bubble? Or are you, like me, not quite what you would call a neocyberneticist but quite interested in what insights you can produce with something that could be called neocybernetics? Call it irony or postmodern identity if you like, this condition of being problematically both an insider and an outsider. And please excuse my universalism, but such a position seems to me the prerequisite for any kind of meaning or knowledge whatsoever.

It's easy enough to say that all this just means that neocybernetics is not a system or subsystem but a mere structure and that the real system is to be found at another level (for example, academia). This argument is always available (and always worth entertaining), but as in the case of visuality, as I have attempted to demonstrate here, we can best advance our understanding by pursuing the question of whether it is a system or not and by *not* deciding—that is, by recognizing and *sustaining* the undecidability. There is some danger that describing what systems do in terms of their ongoing success at sustaining undecidability is too blithe, so this account should probably be balanced by being recast as ongoing failure, something along the lines of Lacan's principle that "meaning indicates the direction in which it fails," Robert Frost's dictum that "like a piece of ice on a hot stove the poem must ride on its own melting," or some amplification of Luhmann's account of how systems "depend on constant disintegration."²⁵ Notice how far this account of surfing on one's own dissolution—a nice encapsulation of how dissipative systems work—takes us from the notion of systems that "perpetuate themselves." There are political and epistemological stakes in rejecting the Self-Perpetuating Paradigm.

To make a long story short, perpetuating themselves and policing their boundaries sounds an awful lot like what patriarchal nations and empires, and the subjectivities and systems modeled in their image, seek to do—just as "managing flows" seems like a mantra of neoliberal economics. Neocybernetics is necessarily shaped by the world and the history out of which it emerges, but can we leverage some choice as to what politics and ideology it will be made to serve? To bend neocybernetics to other than currently dominant

political ends is, by definition, an uphill battle, one that requires sustained attention.

Notes

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1. Foucault, *Use of Pleasure*, 7.
2. Burroughs, "Ah Pook the Destroyer."
3. Mirzoeff, *The Visual Culture Reader*, 4–10.
4. See Beller, *The Cinematic Mode of Production*, or, for a nutshell version, see his "Kino-I, Kino-World."
5. Taylor, "Fractal Expressionism," 129–42.
6. Cited in Sammon, *Future Noir*, 47.
7. Luhmann, "Deconstruction as Second-Order Observing," 101.
8. Rasch, *Niklas Luhmann's Modernity*, 38–39.
9. Luhmann, *Political Theory in the Welfare State*, 83.
10. Livingston, *Between Science and Literature*, 4.
11. Rasch, *Niklas Luhmann's Modernity*, 47; my emphasis.
12. See Livingston, *Arrow of Chaos*, 84–104.
13. Wolfram, *A New Kind of Science*, 557, 559.
14. Stengers, *Power and Invention*, 83–84.
15. *Ibid.*, 84.
16. See Nisbett, *The Geography of Thought*, 89–92.
17. Luhmann, *Social Systems*, 36–37.
18. Maturana, xv; emphasis in original.
19. Von Foerster, "On Constructing a Reality," 211.
20. Maturana and Varela, 8.
21. Singer, "The Snow in Chelm."
22. Dupré, *The Disorder of Things*.
23. Hayles, *My Mother Was a Computer*, 280.
24. Holmes and Jermyn, *Understanding Reality Television*.
25. Lacan, *Feminine Sexuality*, 150; Frost, *Collected Poems, Prose, and Plays*, 778; Luhmann, *Social Systems*, 48.