

# **The Wealth and Poverty of Networks**

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## Networks in a Space of Flows

There is no question that networks have become a central focus and conceptual metaphor of activity in the late twentieth century. The interesting question is why this is so, and why it has happened now. In many senses, networks have become typical, even emblematic, of many kinds of processes in the world. These processes are often hailed as a step toward democracy, equality of opportunity, access to resources, and appropriate governance of the world's resources. All of these characterizations are reasonable. Nevertheless, networks offer no simple solutions to the world's problems. In the course of solving some problems, networks introduce challenges and problems of their own. The network society is an overlay wrapped around different kinds of societies and cultures, linking them and connecting them. The network society reshapes older societies, sometimes destroying them.

The first networks were physical. The rivers, irrigation canals, and road systems of the ancient hydraulic empires were networks. So were the maritime fleets and courier systems of the first nation-states, as well as the railroads and canals of the modern industrial states. When we think of networks now, we think of the electronic and electromechanical systems of our modern world. These networks transmit information. They began with the telegraph and telephone networks of the nineteenth century, moved through radio and television, and now embrace the global environment of the Internet, satellite systems, and more. However, networks remain physical as well, as we still use roads, railway systems, and even canals.

From the earliest times, the social and economic power of physical networks was visible to those who built and controlled them. This was certainly clear to the Sumerians and the Romans. As networks increased their speed and reach, their power multiplied in interesting and unpredictable ways. Robert Hooke wrote the first technical description of a semaphore as early as 1684.<sup>1</sup> By the late 1700s, the semaphore was used to develop semaphore telegraph systems, first in France, then in England. In 1794, one member of the French government hailed the new invention that made “distances between places disappear in a sense.”<sup>2</sup> This statement found an intriguing echo two centuries later in a book on today's digital network, *The Death of Distance: How the Communications Revolution Will Change Our Lives*.<sup>3</sup> With its clumsy wigwag signal arms and the limits of light and weather, the semaphore telegraph is primitive by today's standards. In its own time, it furthered revolutions of many kinds: military, communicative, and economic. It shortened the time

that a message took in crossing France from weeks to hours. Making market information available at distant points also forced uniformity of weights and measures, with significant effects on equality and access to markets that had previously been dominated locally by feudal landlords and dominated at a distance by monarchs and merchants. The semaphore telegraph network was followed by the electrical telegraph, electrical networks of other kinds, and the telephone, each time with surprising results. These were often linked to such phenomena as light urban railways or automobiles in reshaping the societies into which they were introduced. At the same time that these innovations shifted cultures in a democratic direction, they often homogenized the cultures that they transformed, in Carolyn Marvin's words, "annihilating space, time, and difference."<sup>4</sup>

Today's networks have equally significant properties. They tie distant individuals together, enabling them to structure and maintain far-flung organizations and communities. They make it possible to shift the locus of control in organizations away from a center or toward it. They permit teams and virtual organizations to work together in new and creative ways. They create special effects by virtue of their linking functions, generating network externalities and increasing returns for some innovations. They also speed the death of traditional ways and uncompetitive innovations or simply evaporate them.

The power of networks is twofold. The network society is constructed around information and the space of flows. This space is now synonymous with networked cyberspace. Although building cyberspace is a technological program, it is also a social and cultural project. The networked space of flows shifts the energies of business and changes the gearing ratios on the wheels of commerce. More than anything else, it changes the quality and structure of the physical world in which we live.

The space of flows moves through channels of communication laid down by geography. The political and geographic landscapes of the world establish the physical space within which the world of networked cyberspace is anchored. Because the space of flows is linked with the physical world, it ultimately becomes physical in importance, bending and stretching the social and economic world around it. In their union, these worlds create strange new morphologies.

## Intermedia and Media Convergence before the Internet

The space of flows became visible in the arts well before the Internet emerged as a channel for communication. By the 1950s, artists such as Nam June Paik and Wolf Vostell were working with television and dreaming of artist-controlled broadcast media. In the early 1960s, Paik called for a new utopia through television,<sup>5</sup> in a series of manifestoes that resembled many of the features that would later typify the Internet and the World Wide Web.

One of the most important developments was neither a medium nor a manifesto, but an essay looking at the history and philosophy of media. The essay was Dick Higgins's landmark "Intermedia,"<sup>6</sup> published nearly four decades ago. The first artwork to formally bear the designation *intermedia* was a delightfully simple artifact, created when Higgins published an artwork titled *Intermedial Object #1* (figure 19.1).<sup>7</sup> This work took the form of a performable score that resembled the event scores and instruction pieces of Higgins's colleagues in the international laboratory for experimental art, design, and music known as Fluxus.

*Intermedial Object #1* was an invitation to construct an object for which Higgins established nine parameters: size, shape, function, craftsmanship, taste, decoration, brightness, permanence, and impact. For each of these, he set a scale of numbers from one to ten, locating the object at some point along the scale. The scales that Higgins used for each parameter made the piece especially delightful and entertaining. For size, Higgins set 1 as "horse" and 10 as "elephant," locating the object at 6. He set taste with "lemon" at 1 and "hardware" at 10, placing the object at 5, and permanence with "cake" at 1 and "joy" at 10, with the object at 2. The ninth parameter, impact, was unusual, with two scales, adding an *x*-axis to the earlier single-line *y*-axis. The first scale was "political" at 1, "aesthetic" at 10, the second "political" at  $x1$  and "humorous" at  $x10$ . He located the object at 8 and  $x7$ .

The invitation to construct an object to fit this model was followed by an invitation to send photographs and movies of resulting objects to the publisher of Higgins's work, Something Else Press. *Intermedial Object #1* has continued to surface in different incarnations over the years. It was last seen in Geneva in a 1997 exhibition.<sup>8</sup> In this playful, poetic, and partially impossible way, Higgins exemplified and published one of the first works of art to bear the formal designation *intermedia*. Higgins coined the term *intermedia* at the end of 1965 to describe art forms that draw on several media and grow into new hybrids.

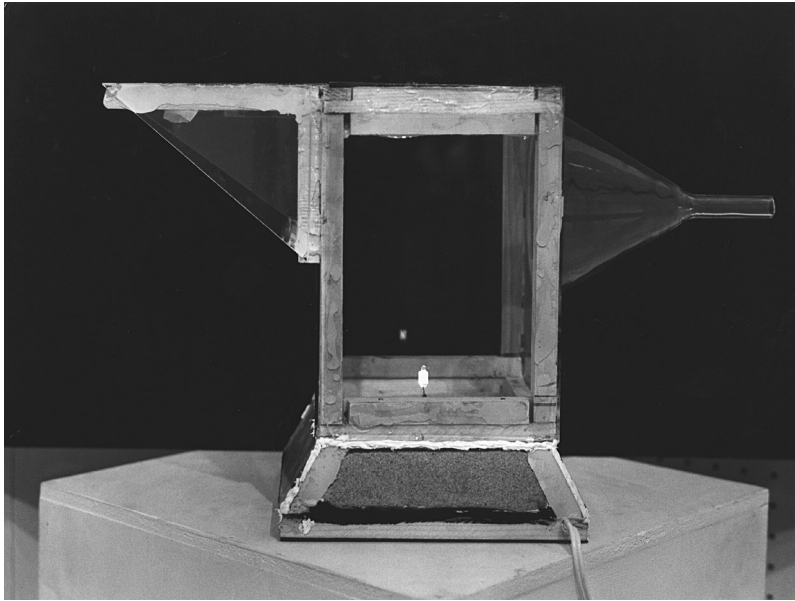


Figure 19.1 John M Armleder and Patrick Lucchini, *Intermedial Object No. 1* (for Dick Higgins), 1977. Wood, glass, sand, and light bulb; model (scale: 1/10th). 425 × 164 × 264 mm. Genève, Mamco (Dépôt Jean-Pierre Favre). Dick Higgins's *Intermedia Object No. 1* (1966) as realized from Higgins's original score by John Armleder and Patrick Lucchini, 1977. Photo: François Lagarde. Courtesy Cabinet des estampes (Ecart Archives), Geneva.

The term, included in a famous 1966 essay,<sup>9</sup> described an art form appropriate to artists who felt that there were no boundaries between art and life. For a philosophy that denied the boundary between art and life, there could be no boundaries between art form and art form. Higgins used the word to describe the tendency of an increasing number of the most interesting artists to cross the boundaries of recognized media or to fuse the boundaries of art with media that had not previously been considered art forms. Intermedia is an art that lies on the edge of boundaries between forms and media. Intermedia also exists between art forms and non-art forms. It is sometimes difficult to imagine an intermedia form before it is created, but many can be imagined in theory.

While intermedia is often confused with multimedia, it should not be. The important distinction between intermedia and multimedia is the melding of aspects of different media into one form. When different forms merge, we see an intermedia form. The success of intermedia is seen in the coherence

of mergers that give rise to new forms. The most successful intermedia forms will eventually cease to be intermedia. They will develop characteristics of their own. They will finally become established media with name, history, and context.

In an important conceptual sense, intermedia was a precursor to media convergence in much the same way that art networks before the Internet era were precursors to today's network art. The conceptual and physical convergence of earlier media took on a new dimension in the virtual reality of the digital world. This convergence is powerful both because it permits the birth of new media forms, and because the intersection of the digital world with the physical world makes these new media powerful in physical and cultural terms.

### **Globalization — and Some of Its Discontents**

The restructured conceptual and social realm that is visible in the space of flows is mirrored by the phenomenon known as globalization. For some arts activists, the concept of globalization is akin to the Fluxus concept of globalism.<sup>10</sup> This idea is distinct from internationalism and the competition of multiple nations, and it recognizes that we live on a single planet, a world in which the boundaries of political states may not be identical with the boundaries of nature or culture. In metaphorical terms, globalism is an expression of the idea that national boundaries are problematic in some senses, meaningless in others. In the most important issues, there are no boundaries. A world inhabited by individuals of equal worth and value requires a framework that allows each individual to fulfill his or her potential. This demands a democratic polity within which each person can decide how and where to live, what to become, and how to do it.

Two aspects of globalization reveal deep contradictions in achieving this goal. Globalization enables the growth and power of large, multinational corporations. It is difficult for lone individuals or groups of individuals to compete against this power. It is equally difficult to demand universal law without developing a global context within which law applies equally and universally to all human beings.

The difficulty that artists have had in contributing substantively to global democracy involves two challenges. The first challenge requires understanding the nature of globalization and its discontents in a deep enough way to make a difference. The second involves offering solutions that embody the

necessary and sustainable energy for durable networks. In this, most artists have failed to offer more than elegant metaphors. Although these metaphors move beyond poetry or painting to social sculpture and interactive projects, they fail to meet the needs of sustainable engagement.

Joseph Beuys's Free International University is a case in point. Although the project engaged artists and the art world, occasionally interesting a wider public, Beuys never accepted the necessary discipline of moving beyond a metaphorical social network to generate a durable community. He never attended to the realities of building required for a university-like organization dedicated to learning. Beuys floated proposals, launched campaigns, and enjoyed a certain measure of public acclaim for his good intentions. He left the university itself in the hands of artists and dealers who never followed through on the initially promising idea. As a result, the Free International University was never a functioning network. It was a metaphor. The sad case of Beuys is that he was one of the few artists who had access to resources that could have brought the metaphor to life. The difficulty was that he never committed himself in an existential sense to the artistic metaphor he proposed.

Other cases were more quizzical. Robert Filliou's notion of the Eternal Network was not a call to action, but something between a metaphor and a description of what Filliou believed to be an emerging social reality. Filliou intended it as a genuine description, but the fact is that the Eternal Network functioned primarily on a metaphorical level. In one sense, this is not a problem. Filliou developed his concept of "The Eternal Network" in terms of the human condition rather than art. Filliou held that the purpose of art was to make life more important than art. That was the central idea of the Eternal Network.

In the years since Filliou coined the term, the idea of the Eternal Network has taken on a life of its own, signifying a global community of people who believe in many of the ideas that Filliou cherished. This community is fluid, composed of people who may never meet one another in person and who do not always agree on their concepts of life and art. Those facts do not diminish the reality of an ongoing community, but the community is diffuse and weak. Although this community has exchanged ideas for over three decades, the community has relatively few durable engagements other than artistic contact. The metaphor is powerful. The reality is not, and the Eternal Network remains locked in the art world, where it does little to make life more important than art.

The concept of the Eternal Network leads any thoughtful observer to alternate between optimism and cheerful resignation.<sup>11</sup> It is easy to be cheerful, simply because this metaphor of the global village has survived for as long as it has. In a healthy sense, the Eternal Network foreshadowed other networks that would become possible later using such technologies as computer, telefax, electronic mail, and the World Wide Web. It also foreshadowed a poverty of commitment and a failure to establish the existential commitment and social memory that leads to durable action for change. I will discuss this problem later. For now, let us return briefly to the issue of globalism in Fluxus.

In suggesting a world with no restrictions, Fluxus suggests a world in which it is possible to create the greatest value for the greatest number of people. This finds its parallel in many of the central tenets of Buddhism. In economic terms, it leads to what could be called Buddhist capitalism or green capitalism.

Buddhist capitalism is the metaphor of economic structures that join the productive power of free markets to an ethical sensibility that respects the human value of all social and cultural groupings, large and small. Nam June Paik's *Utopian Laser Television* manifesto pointed in this direction.<sup>12</sup> Although Paik failed to offer a workable solution to the challenge of democratic each-to-all broadcasting, his proposal came oddly close to predicting the everywhere-available world of broadcasting via the World Wide Web. Paik's manifesto proposed a new communications medium based on hundreds of television channels. Each channel would narrowcast its own program to an audience of those who wanted the program without regard to the size of the audience. It would not make a difference whether the audience was made of two viewers or two billion. It would not even matter whether the programs were intelligent or ridiculous, commonly comprehensible or perfectly eccentric. The medium would make it possible for all information to be transmitted, and each member of each audience would be free to select or choose his own programming based on a menu of infinitely large possibilities.

Even though Paik wrote his manifesto for television rather than computer-based information, he effectively predicted the worldwide computer network and its effects. As technology advances to the point at which computer power will make it possible for the computer network to carry and deliver full audiovisual programming such as movies or videotapes, we will be



able to see Paik's *Utopian Laser Television*. That is the ultimate point of the Internet, with its promise of an information-rich world.

Nevertheless, information is not enough. As Buckminster Fuller suggested,<sup>13</sup> it must eventually make sense for all human beings to have access to multiplex distribution of resources in an environment of shared benefits, common concern, and mutual conservation of resources. One of Fuller's proposals for ensuring human rights and free access to all resources was abolishing the principle of national sovereignty. Put another way, Fuller argued for a form of globalism.

To understand the potentials and perils of globalism, we must avoid confusing specific actors or actions with "globalization." The often-cited examples of McDonald's and a metastasized Disneyworld are one aspect of globalization. They are not the whole of it. Second, we must avoid confusing effects with causes. The problematic symptoms of globalization are not causal factors. It is futile to blame globalization or even global capitalism for some of these symptoms. Third, we must understand and describe causes to know what the real problem is. If not, we merely describe symptoms, attributing them to the problem of our choice.

Globalism is sometimes superior to local or regional sovereignty. The first great movement to end the slave trade in America came from the nineteenth-century forces of "globalization." Britain and Europe outlawed chattel slavery long before the United States was ready to do so. Southern aristocrats argued for what they euphemistically labeled the "special institution" based on local democracy and individual rights. They claimed that abolitionism was an illegal attempt to interfere in a local arrangement between traders and plantation owners going about their business. Chattel slavery still exists today under other names. Many who engage in slavery still resist efforts to end the slave trade in the name of local sovereignty against globalization.<sup>14</sup>

Globalization created the United Nations, the Universal Declaration of Human Rights, the Hague Court, and other social goods. It takes centuries to bring about constructive change, and one of the greatest forces of resistance to constructive change involves locally enfranchised powers. In many cases, the same forces that shape problems also bring solutions, and the virtues of many solutions entail problems and crises of their own. The loopholes through which corrupt multinational corporations slip are neither the result nor the cause of globalization. They are the result of a regime of international law dating to the fifteenth and sixteenth centuries. Under this law,

the local sovereign is prime. Sovereigns may do as they will for any purpose within their sovereign jurisdiction.

Multinational corporations do not subvert local governments as the result of globalization. It is the lack of an appropriate global regime that makes this possible. A multimillion-dollar bribe is pocket money to corporations that pay out hundreds of millions a year in dividends and executive salaries. Bribing a local strongman with ten million or twenty million dollars in a Swiss bank—or paying it legitimately while knowing it will be stolen—is the cost of doing business under the fifteenth-century laws governing relations between and among nations. Every story of globalization has two faces.

### **The Wealth and Poverty of Networks**

The historical, conceptual, and physical nature of networks and networked art bring us to consider the meaning and impact of art networks today—both their potentials and their problems. So far, we have examined the technical opportunities made possible by networks. We have not examined the social dimensions of the network society, at least not more than to note the social and cultural effects of such phenomena as globalization or earlier network technologies.

Rather than consider the large-scale challenges of the network society, we will consider the more specific social and cultural dimensions of art networks in the light of general network properties. In examining the potentials and problems of art networks, we will ask why they achieved so much at the same time that they failed to fulfill so many of the hopes held out for them. The answers to these questions involve six basic issues: generative capacity, productive capacity, sustainability, commitment, memory, and learning.

One of the most visible aspects of failed networks is the failure to invest the resources and energy required for maintenance. When an individual stops maintaining a Web site, links go dead. When an organization stops maintaining a server, a node vanishes from the Internet. Organizations fail when individuals and communities fail to support them, and history is the long story of organizations, societies, and cultures that vanished because of maintenance problems or the lack of energy. Sometimes they fail when energy imports cease. At other times, they fail in the face of competitive forces.

Art networks thrive in a dialectical tension between change agency and the stable system of public and private support that makes networks possible. This metaphorical power is one of the true generative capacities of art.

Nevertheless, I wonder about the failure of so many art networks to generate or develop a sustained dialogue with the world around them. As it is with so many stories, this story can be told many ways, and I find myself thinking about this failure from several positions. From all positions, however, it remains the case that social structures and the organizations we build—formal and informal—are also a technology. In this area, the technology of artistic networks has failed to demonstrate the sustainability and resiliency that one might wish of a social agency that makes claims to social innovation.

One aspect of the problem involves productive capacity, the ability (or inability) of art networks to generate the resources needed to survive and grow while also generating the resources required to fulfill a goal or mission. Some art networks purposely never made the attempt. The mail art network is a case in point. It has always consisted of individuals who interact with one another in voluntary coalitions and short-term projects. One or two mail art projects briefly took on an institutional life in an effort to become durable institutions; this was particularly true in Canada, where Image Bank, Western Front, and General Idea became institutionalized through government funding in an era in which Canada was a center of arts patronage. Nevertheless, these institutions depended on external resources, the same resources that supported museums and festivals, and they never developed their own productive capacity.

In contrast, many Fluxus projects sought to develop productive capacity in several ways. These primarily included publishing ventures such as George Maciunas's Fluxus multiples publishing programs, Dick Higgins's Something Else Press, Beau Geste Press in England, or some of the Fluxus West ventures. There were also cooperative housing and community-building projects, commercial ventures such as Implosions or Festivals, and a few attempts to create research foundations organized for the study and promulgation or intermedia and Fluxus. Despite some good efforts and durable results, we failed to create the kind of productive capacity that would sustain the ventures themselves. I will tell this story another time. Here I will simply note that productive capacity requires interacting with a larger world so that resources come in as well as going out. It is one thing—and difficult enough—for an individual artist to do this. It is another and far more difficult matter for a network to develop the productive capacity for long-term survival.

The sustainability of a network flows from the productive capacity of the system or from the willingness of individuals to support its generative capacity. This requires existential commitment of a kind that is extremely rare. So far, there has been no example of an art network that demonstrates the sustainability and resilience of most successful social networks. Some art networks have survived longer than expected: Fluxus is a case in point. This has to do with unusual factors, and one of these is the fact that some members of the network have always been willing to generate and contribute resources in excess of the network's own productive capacity. What is unusual about Fluxus, in contrast with most art networks, is that this condition has prevailed for over four decades.

Memory is one condition of successful network. There are three kinds of social memory at work in most networks. These parallel the different kinds of memory seen in individual human beings. One kind of social memory is short-term or immediate transaction memory. The specific individuals or members of a network (or any organization) rely on short-term memory to work together. This is seen in teams, virtual organizations, and current processes. It might be comparable to short-term memory in human beings.

A second kind of social memory is medium-term memory. This is the memory of current and recent knowledge distributed through the network organization, whether it is formal or informal. This memory is closely linked to organizational learning, even in informal social groupings. At this level, networks process information into knowledge. Workable social memory is embodied in individuals. The working knowledge of any network is what human beings know and remember. This requires a robust distinction between social memory (knowledge) and the facts recorded in documents or held in knowledge technology systems (information). The knowledge of individuals is information for the organization as a whole until it is transmitted widely enough to be known by a reasonably broad constituency. Only then does it become social knowledge.

The third kind of organizational memory is long-term memory. This involves a deep understanding of the reasons for which something is done and of the relationship between activities and the ultimate purposes for which they were created. Most networks tend to be very bad in this area. At this level, behaviors are often disconnected from memory. For this reason, valuable practices may be sacrificed or neglected because no one knows why these practices exist. Paradoxically, useless activities may continue for nearly the

same reason. They may be retained and continued on the false assumption that they are valuable. This is so in spite of—or because of—the fact that no one knows why they began.

There may even be a fourth kind of memory, embedded so deeply as to be almost subconscious. This includes memories so central to a network's early foundation and way of being that they are part of the culture. It also includes memories of activities on which no formal documents ever existed. These memories are linked to behaviors for reasons long lost, reasons that can no longer be uncovered.

The first kind of memory corresponds to know-how, the second to know-what, the third to know-why, and the last to a kind of existential quality of being. The kinds of processes that a network can understand and the goals it can achieve are always linked to kinds of understanding it embodies. This understanding is lodged in social memory. The behavioral context within which individuals operate in a network and the processes they are permitted to develop are also linked to culture and to social memory.

Learning depends on memory. One reason that art networks so often fail to achieve the goals for which they are established is that they do not remember long enough to learn enough. Networks often have enough short-term and middle-term memory to achieve notable results and specific works, but the social and cultural change implicit in activism requires more.

Networks offer important advantages. At the same time, the shift to networks in organizational structures and thinking introduces difficulties. This is a topic that has been developed beautifully by the sociologist Richard Sennett and one that is rarely discussed in an art community for which the word *network* represents only benefits and no drawbacks. Five years ago, Sennett examined the consequences of flexible organization in work life.<sup>15</sup> In earlier books, Sennett had examined problems of social life in contemporary industrial democracies. He studied conscience, authority, public life, and—notably—the continuing problem of class. In his 1998 book, *The Corrosion of Character: The Personal Consequences of Work in the New Capitalism*, he examined what happens when organizations move from long-term commitments to short-term network structures, and he examines the consequences that arise as the bonds of social life and work life are loosened in comparison with earlier systems.

The challenges of existential commitment and memory that art networks face in seeking to generate social transformation occur in working life when

today's flexible organizations relax the bonds that ought properly to generate solidarity and engagement. The meaning of career and life work changes dramatically in networked societies, and this involves troubling effects of alienation and disconnection as much as it engenders freedom and personal choice. The stability and sense of belonging that comes with tradition is balanced in a dialectical tension with the fluidity and freedom that arise as traditions weaken. On the one hand, the individual gains power against the group and personal freedom rises. On the other, social group support for individual human beings vanishes as loose temporary aggregations of individuals meet to pursue short-term personal interests on a project-oriented basis.

This chapter has considered human and social aspects of networks by studying their physical and technical properties, examining how these properties affect art networks in the global knowledge economy. It seems to me that art networks are a hopeful phenomenon in a complex world. The open question is whether these networks can achieve their purposes. Recovering the history of past networks can help us to learn from what they achieved. It is equally important to examine the problems and unresolved challenges of these networks to learn from what failed.

### Notes

1. Patrice Flichy, *Dynamics of Modern Communication: The Shaping and Impact of New Communication Technologies* (London: Sage, 1995), 7.
2. *Ibid.*, 9.
3. Frances Cairncross, *The Death of Distance: How the Communications Revolution Will Change Our Lives* (London: Orion Business, 1998).
4. Carolyn Marvin, *When Old Technologies Were New: Thinking about Electric Communication in the Late Nineteenth Century* (Oxford: Oxford University Press, 1988), 191–231.
5. Nam June Paik, "Utopian Laser Television," in *Manifestoes*, ed. Dick Higgins and Emmett Williams (New York: Something Else Press, [1962] 1964), xxx–xxx.
6. Dick Higgins, "Intermedia," *Something Else Newsletter* 1, no. 1 (1966): 1–6; reprinted in *Multimedia: From Wagner to Virtual Reality*, ed. Randal Packer and Ken Jordan (New York: Norton, 2001), 27–32.

7. Dick Higgins, *Intermedial Object #1* (New York: Something Else Press, 1966); *Foew&ombwbnw: A Grammar of the Mind and a Phenomenology of Love and a Science of the Arts as Seen by a Stalker of the Wild Mushroom* (New York: Something Else Press, 1969), 22.
  
8. Lionel Bovier and Christophe Cherix, *L'irresolution commune d'un engagement equivoque: Ecart, Geneve, 1969–1982* (Geneva: Mamco et Cabinet des Estampes, 1997), 65–66.
  
9. Higgins, “Intermedia”; *Foew&ombwbnw*, 11–29.
  
10. Ken Friedman, “A Fluxus Idea,” in *The Electronic Superhighway: Travels with Nam June Paik*, ed. Nam June Paik and Kenworth W. Moffett (New York: Holly Solomon Gallery, Seoul: Hyundai Gallery, and Fort Lauderdale: Fort Lauderdale Museum of Art, 1995, 87–97), 41, reprinted as “Fluxus and Company,” in *The Fluxus Reader*, ed. Ken Friedman (Chichester, England: Academy Editions, Wiley, 1988), 237–253; “Cuarenta Anos de Fluxus,” in *Fluxus y Fluxfilms, 1962–2002*, ed. Berta Sichel in collaboration with Peter Frank (Madrid: Museo Nacional Centro de Arte Reina Sofia, 2002) 41–83, 60–65.
  
11. Ken Friedman, “The Early Days of Mail Art: An Historical Overview” and “Eternal Network,” in *Eternal Network: A Mail Art Anthology*, ed. Chuck Welch (Calgary, Alberta: University of Calgary Press, 1995), 3–16 and xiv–xvii.
  
12. Paik, “Utopian Laser Television.”
  
13. Buckminster Fuller, *Critical Path* (New York: St. Martin’s, 1981), 198–266; *Earth, Inc.* (New York: Doubleday Anchor, 1973), 175–180.
  
14. Anti-Slavery International “Anti-slavery Homepage” (2003), available at <<http://www.antislavery.org/>> (accessed February 10, 2003); iAbolish, Web portal of the American Anti-Slavery Group (2003), available at <<http://www.iabolish.org/>> (accessed February 10, 2003).
  
15. Richard Sennett, *The Corrosion of Character: The Personal Consequences of Work in the New Capitalism* (New York: Norton, 1998).

