SUBJECT: THE SELFISHNESS GENE: NEOLIBERAL CAPITALISM—IT'S NOT JUST A GOOD IDEA, IT'S THE LAW

FROM: MARK DERY <MARKDERY@WELL.COM>
DATE: SUN, 20 SEP 1998 04:24:41 +0200

On June 2, 1997, John Perry Barlow—frequent-flyer, sometime Grateful Dead lyricist, and bearded prophet of our Divine Assumption into a cosmic web of psychic Oobleck (the "physical wiring of collective human consciousness" into a "collective organism of mind")—posted a note to Nettime (J. Zaleski, *The Soul of Cyberspace*, NY: HarperEdge, 1997, 46, 48). In it, he opined that "nature is itself a free market system. A rain forest is an unplanned economy, as is a coral reef." In the next breath, he inverted the metaphor: "The difference between an economy that sorts the information and energy in photons and one that sorts the information and energy in dollars is a slight one in my mind. Economy *is* ecology."

Increasingly, the global marketplace is conceived of in Darwinian terms, with the social and environmental depredations of multinationals rationalized as corporate life forms' struggle for survival in an economic ecosystem. "'Ecology' and 'economy' share more than linguistic roots," maintains the nanotechnologist K. Eric Drexler; corporations, he argues, are "evolved artificial systems" born of the marketplace's "Darwinian" competition (K. E. Drexler, *Engines of Creation*, NY: Anchor, 1986, 32, 182). In *Bionomics*, business consultant Michael Rothschild straightfacedly argues that "what we call capitalism (or free-market economics) is not an ism at all but a naturally occurring phenomenon" (and therefore presumably beyond reproach). The catalog copy for Perseus Books presents *Clockspeed* as Charles H. Fine's sociobiological parables about "industrial fruit-flies" for anxious managers, whom he promises to turn into "'corporate geneticists' who do not react to the forces of change but master them to engineer their company's destiny."

A 1996 issue of the digital business magazine *Fast Company* featured an unintentionally hilarious example of corporate biobabble. A profile of Eric Schmidt, Sun's chief technology officer, extols his expertise at corporate crossbreeding–"organizational genetics," to those in the know, which means "combining organizational DNA in unique and inventive ways." What's organizational DNA, you ask? Why, "it's the stuff, mostly intangible, that determines the basic character of a business. It's bred from the founders, saturates the early employees, and often shapes behavior long after the pioneers have moved on" (J. F. Moore, "How Companies Have Sex," *Fast Company*, Oct.–Nov. 1996, 66). Gene-splicing the latest in Darwinian metaphors to a sexual politics that is strictly from Bedrock, the article's author analogizes venture capitalists and entrepreneurs to "the male urge to sow seed widely and without responsibilities and the female desire for a mate who'll settle down and help with the kids" (ibid., 68).

We've heard this song before, of course, and when the hundredth trendhopping management consultant informs us, as James Martin does in *Cybercorp*,

Economy is ecology. OK, so now what? You are, I think, an ecologist of sorts, so you'll surely recognize how important it is to adapt, to develop, to absorb, to encompass, to mutate and to grow—so how should we elaborate on the idea that economy is, in a way, ecology? I'd suggest that we start to digest the two terms of this statement, to break them apart. Mind you, I disagree with you about this: I think that an economy can be seen as an "ecology," but I don't believe that ecologies should be seen as economies—and that lack of transitivity suggests, to me at least, that there is much more to be learned in questioning what you've said than in accepting it.

"Very well. Can you give me an example of a planned economy that seems to be healthy...and appears likely to remain so for the long term?"

Absolutely: The Roman Empire. The British Empire. The Ming Dynasty. Feudalism. Byzantium. Venice. The Netherlands. De Beers. The EEC. I don't toss these out to be glib; rather, I mention them to point up just how many people have constructed very impressive regimes: every one of them seemed (or seems) quite sensible—that is, according to its own terms. I don't see the Netherlands collapsing anytime soon; but for some pretty long stretches no one saw how Rome would fall apart or why Byzantium would collapse, and they surely did. I have little doubt that the nation-state will fall apart and be replaced by some other, similarly heterogeneous "solution," and that that "solution" will in turn collapse in the face of something else, and so one and so forth. Is this state of flux what you are advocating? Or, do you believe that we're on the verge of a terminal solution to the non-problem of historical change? [T. Byfield <tby≠field@panix.com>, Re: The Piran Nettime Manifesto, Tue, 3 Jun 1997 02:12:13 -0400]

Here's some basic banalities: Anarchism is neo-liberalism for hippies. Economy is social. Everyone should work so everyone can play. Giving gifts is better than exploiting others. [Richard Barbrook <richard≠@hrc.westminster.ac.uk>, More Provocations, Wed, 4 Jun 1997 00:14:08 +0000]

that high-tech corporations are "creature[s] designed to prosper in the corporate jungle," and that "capitalist society is based on competition and survival of the fittest, as in Darwin's world," we realize where we've heard it. It's the theme song of Herbert Spencer's social Darwinism, as popular in its day with monopoly-builders like John D. Rockefeller and Andrew Carnegie as Kevin Kelly's neobiological capitalism is with Tom Peters and his corporate flock. "'Social Darwinism,'" Stephen Jay Gould usefully reminds us, "has often been used as a general term for any evolutionary argument about the biological basis of human differences, but the initial 19th-century meaning referred to a specific theory of class stratification within industrial societies, and particularly to the idea that there was a permanently poor underclass consisting of genetically inferior people who had precipitated down into their inevitable fate" ("Curveball," in S. Fraser, ed., *The Bell Curve War*, NY: Basic, 1995, 12).

Cosic: When Negroponte came to Ljubljana, I had a big fight with him, and we interrupted his speech. Luka Frelih and I went around the city spraying grafitti: "WIRED = PRAVDA". I made it look like a secret internet terrorist organization. On the website we compare him to Tito. But we did it without fanaticism. [Tilman Baumgärtel <Tilman_Baumgaertel@compuserve.com>, Interview w/ Vuk Cosic, Mon, 30 Jun 1997 08:45:46 -0400]

The genealogical links between the public musings of the self-anointed "digital elite" and the Spencerian rhetoric of the robber barons is apparent at a glance, though they're separated by a century or so. Nicholas Negroponte, a sharp-dressed pitchman who hawks visions of a brighter, broader-bandwidth tomorrow to Fortune 500 executives (and to the unwashed AOL millions in his book *Being Digital*), breezily redefines the "needy" and the "have-nots" as the technologically illiterate—the "digitally homeless," a phrase that wins the Newt Gingrich Let Them Eat Laptops Award for cloud-dwelling detachment from the lives of the little people (N. Negroponte, "Homeless@info.hwy.net," *New York Times*, Feb. 11, 1995, 19). Stewart Brand, a charter member of the digerati, blithely informs the *Los Angeles Times* that "elites basically drive civilization" (P. Keegan, "The Digerati," *New York Times Magazine*, May 21, 1995, 42). *Wired* founder Louis Rossetto rails against the critic Gary Chapman as someone who "attacks technologically advanced people," as if website design were an inherited trait, a marker of evolutionary superiority" (P. Keegan, "Reality Distortion Field" <http://www.upside.com/> February 1, 1997).

If the analogy to social Darwinism seems overheated, consider Rossetto's belief, earnestly confided to a *New York Times* writer, that Homo Cyber is plugging himself into "exo-nervous systems, things that connect us up beyond–literally, physically–beyond our bodies, and we will discover that when enough of us get together this way, we will have created a new life form. It's evolutionary; it's what the human mind was destined to do" (Keegan, "Digerati," 88). As Rossetto readily acknowledges, his techno-Darwinian epiphany (like Barlow's) is borrowed from Pierre Teilhard de Chardin, the Jesuit philosopher and Lamarckian evolutionist who predicted the coming of an "ultra-humanity" destined to converge in a transcendental "Omega Point" that would be "the consummation of the evolutionary process" (M. Dery, *Escape Velocity*, NY: Grove, 1996, 45–48).

De Chardin's ideas are well known in theological and New Age circles and, increasingly, among the digerati. Less known is his passionate advocacy of eugenics as a means of preparing the way for ultrahumanity. "What fundamental attitude...should the advancing wing of humanity take to fixed or definitely unprogressive ethnical groups?" he wrote, in *Human Energy*. "The

earth is a closed and limited surface. To what extent should it tolerate, racially or nationally, areas of lesser activity? More generally still, how should we judge the efforts we lavish in all kinds of hospitals on saving what is so often no more than one of life's rejects?...[S]hould not the strong (to the extent that we can define this quality) take precedence over the preservation of the weak?" (P. Teilhard de Chardin, *Human Energy*, NY: Harcourt Brace Jovanovich, 1969, 132–33). Happily, the answer is readily at hand: "In the course of the coming centuries it is indispensable that a nobly human form of eugenics, on a standard worthy of our personalities, should be discovered and developed," he writes, in *The Phenomenon of Man* (Teilhard de Chardin, *The Phenomenon of Man*, NY: Harper, 1959, 282).

Since there's an implied guilt by association here, it's important to note that Rossetto and the other digital de Chardinians may well be unfamiliar with the philosopher's thoughts on eugenics. But given our increasingly "genocentric" mindset and the creepy popularity of books like *The Bell Curve*, as well as the potential misuses of vanguard technologies like gene therapy and genetic screening, the digerati would do well to consider the ugly underside of their techno-Darwinian vision of the ultra-human apotheosis of the "technologically advanced"—"the advancing wing of humanity" by any other name. Obviously, the *Wired* ideology is far less pervasive, and not quite as nasty and brutish, as social Darwinism in its heyday; none of the digerati have embraced eugenics, at least publicly. But 19th-century capitalists like Carnegie and Rockefeller, who in the words of Andrew Ross "seized for themselves the mantle of the fittest survivors as if it were indeed biologically ordained," would undoubtedly note a family resemblance in the digerati–Way Cool white guys secure in the knowledge that they are Brand's fabled "elite," guiding civilization from their rightful place atop the Great Chain of Being (Digital).

SUBJECT: MARKETS, ANTIMARKETS, AND THE INTERNET

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DATE: SUN, 20 SEP 1998 20:10:16 -0400

One hundred years ago, Western societies underwent a second Industrial Revolution, based on the interaction of several technologies: electricity, the internal combustion engine, oil, steel, and plastics. Although knowledge and information as inputs to production processes had already played a role in the first Industrial Revolution, it was the coming of electricity, and the creation of the first industrial research laboratories (such as the General Electric laboratory) that propelled knowledge to its position as the most important input to production. Information, of course, also plays key roles in other economic areas such as marketing and investment, and indeed, to the extent that a particular economy is truly driven by supply and demand, the information transmitted by prices has always played a central role. Without regard to the fact that knowledge has always been a key factor in the work-

ing of economies, electricity and the other innovations of the early twenty century greatly intensified its importance. The explosive growth of computer networks in the last three decades is bound to intensify the flow of knowledge and this intensification will undoubtedly transform the nature of the economy in the next century.

It follows that a very important task for today's intellectuals is to create realistic scenarios of the world of twenty-first century economics. The problem is that, when we try to imagine what the effects of the intensification of knowledge will be like, several obstacles stand in the way. The most important of these barriers is that intellectuals on the right, center and left sides of the political spectrum are all trying to predict what a twenty-first century economy will be like on the basis of theories that were devised to explain the workings of nineteenth century England. In other words, whether one is using the conceptual machinery of Adam Smith or of Karl Marx (or of any combination of the two), whether one sees in the recent commercialization of the internet a new "invisible hand" that will magically benefit society, or whether one sees in this commercialization the "commodification" of the net which will magically ruin society, one is still trying to understand what is a radically new phenomenon in terms of obsolete categories belonging to bankrupt systems of thought. It is time to go beyond both the "invisible handers" and the "commodifiers" and to attempt to construct a new economic theory that not only give us a clearer picture of the future, but almost as important, of the past, since it is impossible to know where we are going unless we know how we got where we are.

What follows is a brief sketch of what these new economic theories might be like. First of all, it is not as if we would need to manufacture a new theory out of thin air. Alternatives to the "invisible handers" and the "commodifiers" have existed in the past (such as the institutionalist school of the followers of Thorstein Veblen) and new theories are flourishing today, such as the neo-institutionalist school and the growing field of nonlinear economics (D. C. North, *Institutions, Institutional Change and Economic Performance*, NY: Cambridge University, 1990). In addition, economic historians like Fernand Braudel and his followers have given us an incredibly detailed account of the development of Western economies in the last eight hundred years—an account accompanied by research that has generated a wealth of empirical data which simply was not available to either Adam Smith or Karl Marx when they created their theories. Furthermore, this new data contradicts many of the foundations of those two systems of thought. Finally, not just economists and economic historians will be involved in developing the new ideas we need, philosophers will also participate: in the last twenty years the discipline of the philosophy of economics (that is the philosophy of science applied to economics) has grown at a tremendous pace and is today a very active field of research (U. Maki, "Economics with Institutions," and C. Knudsen, "Modelling Rationality, Institutions and Processes in Economic Theory," in Maki, B. Gustafsson, and C. Knudsen, eds., *Rationality, Institutions and Economic Methodology*, London: Routledge, 1993).

Here I only have space to discuss a few of the ideas that have been developed by economists, historians and philosophers. Perhaps the most dramatic new

insight emerges from Fernand Braudel's history of capitalism. Unlike theorists from the left and the right who believe capitalism developed through several stages, first being competitive and subservient to market forces and only later, in the twentieth century, becoming monopolistic, Braudel has shown with a wealth of historical evidence that as far back as the thirteenth century, and in all the centuries in between, capitalists have always engaged in anticompetitive practices, manipulating demand and supply in a variety of ways. Whenever large fortunes were made in the areas of foreign trade, wholesaling, finance, or large-scale industry and agriculture, market forces were not acting on their own, and in some cases not acting at all. In short, what Braudel shows is that we must carefully differentiate between the dynamics generated by many interacting small producers and traders (where automatic coordination via prices does occur), from the dynamics of a few big businesses (or oligopolies, to use the technical term), in which prices are increasingly replaced by commands as coordinating mechanisms, and spontaneous allocation by the market replaced with rigid planning by a managerial hierarchy. What these new historical findings suggest is that all that has existed in the West since the fourteenth century, and even after the Industrial Revolution, is a heterogeneous collection of institutions—some governed by market dynamics and others manipulating those dynamics—not a homogeneous, societywide "capitalist system." In the words of Fernand Braudel: "We should not be too quick to assume that capitalism embraces the whole of western society, that it accounts for every stitch in the social fabric...that our societies are organized from top to bottom in a 'capitalist system'. On the contrary, ...there is a dialectic still very much alive between capitalism on one hand, and its antithesis, the 'non-capitalism' of the lower level on the other" (Fernand Braudel, *The Perspective of the World*, NY: Harper and Row, 1986, 630). He adds that, indeed, capitalism was carried upward and onward on the shoulders of small shops and "the enormous creative powers of the market, of the lower story of exchange...[This] lowest level, not being paralyzed by the size of its plant or organization, is the one readiest to adapt; it is the seed bed of inspiration, improvisation and even innovation, although its most brilliant discoveries sooner or later fall into the hands of the holders of capital. It was not the capitalists who brought about the first cotton revolution; all the new ideas came from enterprising small businesses" (ibid., 631). Several things follow from Braudel's distinction between market and capitalist institutions (or as he calls them "antimarkets"). If markets and antimarkets have never been the same thing then both the invisible handers as well as the commodifiers are wrong, the former because spontaneous coordination by an invisible hand does not apply to big business, and the latter because commodity fetishism does not apply to the products created by small business but only to large hierarchical organizations capable of manipulating demand to create artificial needs. In other words, for people on the right and center of the political spectrum all monetary transactions, even if they involve large oligopolies or even monopolies, are considered market transactions. For the Marxist left, on the other hand, the very presence of money, regardless of whether it involves economic power or not, means that a social transaction has now been commodified and hence made part of capitalism.

The other mental characteristic of the virtual class is that it is deeply authoritarian. It believes that virtuality equals the coming-to-be of a fully free human society. As CEOs of leading corporations use to say, "adapt or you're toast"—uttering this with the total smugness of complacency itself. The other side of cyber-authoritarianism is the absolute outrage that grips those in authority when faced by the presence of opposition. Qualms about the emergence of the virtual class, or about the social consequences of technology are met with either indifference or total outrage. Quite on the contrary, members of the virtual class see themselves as the missionaries of the human race itself, the avant garde, in their terms, in honor-full collaboration with the telematic machines. The program of the virtual class is a curse for those who stand outside of it. Within, it is not even a hostile position—it is simply contempt for those members of the working class that do not have easy access and who cannot experience the new universal communion. At the same time you see the virtual class shutting down the internet and again, feeling nothing but contempt for the lost ideas of what they would like to call blue-eyed utopian thinkers who call for the possibilities of democratic use of the internet outside of the barriers of the state. But when they get challenged, they go for their class interests and actually suppress those members of competing classes who stand in opposition to them. The virtual class has this aspect of seduction, on the one hand, and, on the other, a policy of consolidation. This is the present reality in which we live. It is a grim, severe, and deeply fascistic class because it operates by means of the disciplinary state, imposing real austerity programs in order to fund research efforts that benefit itself. At the same time it politically controls the working class by severe taxation in order to make sure that people cannot be economically mobile and cannot accumulate capital in their own right. When it comes to Third World nations it acts in classic fascist ways. It imposes strict anti-emigration policies in the name of humane gestures. It shields its own local populace from the influx of immigrants by creating a "bunker state," by stressing a Will to Purity. In this way it can tolerate "ethnic cleansing" by way of infinite media coverage. For example, the Western reaction to the genocide in Bosnia is symptomatic of this condition. [Geert Lovink <geert@xs≠4all.nl>, Theory of the Virtual Class, Thu, 4 Jan 1996 23:11:59 +0100

It is my belief that Braudel's empirical data forces on us to make a distinction which is not made by the left or the right: that between market and antimarket institutions. In fact, we can already see the kind of dogmatic responses that the lack of this distinction promotes on discussions in the internet. As it became clear that digital cash and secure cryptographic technology for credit card transactions were going to transform the net into a place to do business, some intellectuals became euphoric about the utopic potential of digital "free enterprise," while others began to denounce the internet as the latest expression of international capitalism, or to claim that the net was becoming commodified and hence re-absorbed into the system. It is clear, however, that if we reject these two dogmatic positions, our evaluation of the economic impact of the net (its potential for both decentralization and empowerment of the individual producer and for centralization of content production by a few large firms) will have to become more finely nuanced and based on more complex models of economic reality.

Recognizing the complexity and heterogeneity of actual "institutional ecologies" may be crucial not only when thinking about internet economics but, more generally, when analyzing the oppressive aspects of today's economic system. That is, those aspects that we would want to change to make economic institutions more fair and less exploitative. We need to think of economic institutions as part of a larger institutional ecology, an ecology that must include, for example, military institutions. Only this way will we be able to locate the specific sources of certain forms of economic power, sources which would remain invisible if we simply thought of every aspect of our current situation as coming from free enterprise or from exploitative capitalism. In particular, many of the most oppressive aspects of industrial discipline and of the use of machines to control human workers in assembly line factories, were not originated by capitalists but by military engineers in eighteenth century French and nineteenth century American arsenals and armories. Without exaggeration, these and other military institutions created many of the techniques used to withdraw control of the production process from workers; they then exported these techniques to civilian enterprises, typically antimarket organizations (M. R. Smith, "Army Ordnance and the 'American System of Manufacturing,' 1815–61," and C. F. O'Connell, Jr., "The Corps of Engineers and the Rise of Modern Management, 1827–56," in Smith, ed., *Military Enterprise*, Cambridge: MIT, 1987). Hence, not to include in our economic models processes occurring within this wider institutional ecology renders invisible the source of the very structures we must change to create a better society. It also diminishes our chances of ever dismantling those same oppressive structures.

SUBJECT: CYBERLORDS: THE RENTIER CLASS OF THE INFORMATION SECTOR

FROM: ROBERTO VERZOLA <RVERZOLA@PHIL.GN.APC.ORG>
DATE: SUN, 15 MAR 1998 10:54:31 +0100

For the information sector and its information products, many open markets are turning into artificial monopolies and what Manuel DeLanda calls *antimarkets*. A major mechanism that facilitates this process is the concept of intellectual property rights (IPRs), which may be seen as a form of exclusive ownership over information products. This monopolistic ownership through IPRs facilitates the accumulation of wealth by an information elite and leads to the specific social stratification analyzed here. Once resolved, the social conflicts that emerge out of the stratification can lead to a new type of economy.

In the future, nonmonopolistic information economies may emerge that will remunerate intellectual activity through means other than monopolistic mechanisms such as patents, copyrights, and other IPRs (for example, salaries and wages, bonuses, awards, grants, and other forms that do not involve exclusive right of use). In such economies, the nature of intellectual rewards will be in much better harmony with the nature of information itself.

EXPANDING INFORMATION MONOPOLIES

The main forms of IPRs are patents and copyrights, both of which are statutory monopolies; that is, they are monopolies acquired by virtue of government statutes. These state-granted monopolies cover the exclusive rights to use, manufacture, copy, modify, and sell an information product. Recently, under the GATT/WTO, these rights have been expanded further to include the exclusive right to rent out copyrighted material and to import patented products.

These statutory monopolies—which are gradually being strengthened and extended as the political and economic power of the propertied classes of the information sector grow—are in direct conflict with the information freedoms sought by the vast majority of information users. These freedoms include the freedom to use information, to share it with others, and to modify it. Information monopolies are also in conflict with the basic nature of information itself as a public good.

CLASSES IN THE INFORMATION SECTOR

Just like the ecology and industrial sectors, the information sector gives rise to various economic classes based on individuals' position in the production, distribution, and use of information. Analysis of these classes can provide useful insights about the underlying economic interests and typical attitudes of various social groups in the sector. The following major classes can be identified:

There are in total some 44,000 TNCs in the world, with 280,000 subsidiaries and an annual turnover of US$7,000 billion. Two thirds of world trade results from TNC production networks. The share of world GDP controlled by TNCs has grown from 17 percent in the mid-sixties to 24 percent in 1984 and almost 33 percent in 1995. In a parallel and related process, the largest TNCs are steadily increasing their global market shares. According to UNCTAD's 1997 World Investment Report, the ten largest TNCs now have an annual turnover of more than US$1,000 billion. Fifty-one of the world's largest economies are in fact TNCs. Continuous mergers and takeovers have created a situation in which almost every sector of the global economy is controlled by a handful of TNCs, the most recent being the service and pharmaceutical sectors. In January 1998, for example, the largest business merger in history took place in a US$70 billion deal in which Glaxo Wellcome and Smith-Kline Beecham became the largest pharmaceutical company on earth. [Corporate Europe Observatory <ceo@xs4all.nl>, MAI-GALOMANIA, Tue, 10 Feb 1998 16:01:35 +0100 (MET)]

Cyberlords: The propertied class of the information sector, they control either a body of information or the material infrastructure for creating, distributing, or using information. Cyberlords are rent-seeking members of the capitalist class. IPR holders make up the first category of cyberlords; they have staked their monopoly rights to a specific body of information, and earn their income by charging royalties, license fees, or other forms of rent from those who want to use this body of information. Because of these monopoly rights, they can set prices that are much higher than their marginal cost of production, helping them accumulate and concentrate wealth rapidly. Cyberlords include the owners of software companies, database companies, audio, video, and film companies, genetic engineering firms, pharmaceutical and seed firms, and similar companies that earn most of their income from IPR rents.

The infrastructure owners are the second category of cyberlords. They own or control the industrial infrastructure for creating, reproducing, distributing, or using information. They earn their income by charging rents for the use of these infrastructures. This category includes the owners of communication lines and equipment, radio and TV stations, internet service providers, theater distributors and owners, cable TV operators, and similar firms.

These industrial cyberlords are generally in alliance with the first group. However, they may not share the same rabid advocacy for IPRs that characterize the IPR-holding cyberlords, especially when IPRs impede wider use of the infrastructure from which infrastructure owners derive their own income. The distinction between them may occasionally become important in the struggle against the cyberlords of the first type, who are the true cyberlords of the information economy.

The cyberlord class also includes those highly paid professionals who earn their living under the employ or in the service of cyberlords. The best examples are the top-level managers as well as the lawyers who serve cyberlords and who derive their income mostly from the cyberlords they work for. These highly paid hirelings assume the class status and ideological outlook of the cyberlords they serve.

Cyberlords all over the world are scouring the public domain for information products that they can privatize and monopolize through IPRs. Some have already acquired the exclusive electronic reproduction rights to paintings and other cultural artifacts in the world's best museums. Others are engaged in a race to patent genetic information of all kinds, including parts of the human genome. Still others are eyeing governments' vast information outputs, which are normally in the public domain.

Most big cyberlords control corporations that operate globally. These firms are a major hidden force that drive the process of globalization. Because the social nature of information keeps asserting itself and information products tend to spread themselves globally as soon as they are released, cyberlords need a global legal infrastructure to impose their information monopolies and extract monopoly rents. Thus, they push the globalization process incessantly to ensure that every country, every nook and corner of the globe, is within their legal reach.

The highly advanced industrial infrastructures of the U.S. and Europe, together with extremist concepts of private property, have given their cyberlords a commanding lead over cyberlords elsewhere. (An extreme example is the claim that discovery of a particular DNA sequence entails ownership of that sequence through a patent.) Because they tend to suppress local efforts to acquire new technologies at the least cost, big cyberlords are a major hindrance to the development efforts of most national economies.

Compradors: These are the merchant capitalists of the information sector, and earn their living by selling patented or copyrighted products for profit. They very often come from the merchant classes of the industrial and ecology sectors, and may retain their businesses in these sectors. These merchant classes are attracted to the information sector because the extremely high profit margins enjoyed by successful cyberlords also give resellers better margins.
This class can be roughly divided into two—monopolistic and nonmonopolistic compradors. Monopolistic compradors make money by paying cyberlords for the right to sell patented or copyrighted goods. Thus, they derive their income from information rents, therefore supporting cyberlord interests. Nonmonopolistic compradors make money by reproducing and selling patented or copyrighted material, without paying the monopoly rents claimed by cyberlords. In a way, they help break the information monopolies imposed by cyberlords.
Because of the political clout of cyberlords, the nonmonopolistic compradors are often harassed and suppressed both to discourage them from their trade and to turn them into monopolistic compradors. They are frequently the targets of surveillance, legal suits, raids, and other forms of government and cyberlord harassment. Yet, there is no lack of nonmonopolistic compradors who trade in copyrighted and patented materials, making these materials more accessible to the public, which would otherwise be unable to afford them. Even under the worst forms of authoritarian rule, nonmonopolistic compradors continue to ply their trade by forming an underground network to break the cyberlord monopolies. These compradors can be allies of information users against the cyberlord class. Many of them, however, eventually surrender to the power of cyberlords, arrive at a profit-sharing arrangement with them, and turn into monopolistic compradors.

Intellectuals: They are the main creators of information in the information sector. They earn their living through mental labor, creating new and useful information. This class ranges widely, from those whose earnings come mostly from business contracts for information work, to wage-earning intellectuals who earn most of their income from fixed-rate payments such as wages and salaries and whose work—some of which may be patentable or copyrightable—is by contract the property of the company they work for. Most intellectuals belong to this wage-earning stratum.

Information users: Members of this group use information but are not generally involved in creating information products for sale. Whatever information they generate is either automatically shared with others or kept confidential.

The idea of claiming a monopoly over a body of information to make money out of it is quite alien to them. Because they generally earn their income elsewhere, information users are actually neither a single class nor a monolithic group, but a cluster of classes in the ecology, industrial, and information sectors. Since they are all information users, however, they actively seek the freedom to use, share, and modify information. Information users are the main force in the struggle to free information from cyberlord monopolies.

THE BASIC CONFLICT

These classes in a monopolistic information economy differ in their attitude toward IPRs, reflecting their class roles in the production, distribution, and use of information.

Cyberlords strongly advocate expanding these monopoly mechanisms, while information users want to limit IPRs as much as possible. Whenever IPR infringements encroach upon their profit margins, compradors take the side of cyberlords. But when monopoly rents themselves encroach upon their profit margins, other compradors oppose IPRs. Intellectuals may dream of owning some body of information in the future, from which they can themselves extract information rents. But largely they realize that this cannot be their main source of income, and that they themselves need access to bodies of information that are today monopolized through patents or copyrights.

To transform a monopolistic information economy into a nonmonopolistic information economy, monopolistic IPRs must be replaced with other means of rewarding intellectual activity. This will of course be opposed to the very end by the cyberlord class, which furthermore is politically and economically very strong. As the privatization process subsumes more and more of what is now public domain information under cyberlord monopolies, the information-using public will develop a higher level of political consciousness, and this struggle will eventually express itself as the main conflict in a monopolistic information economy. As such, it will increasingly manifest itself on cultural and economic as well as on political fronts.

A STRATEGY AGAINST MONOPOLIES

To defeat the powerful cyberlord class, we must advance a set of demands—one that will isolate the big cyberlords and their closest comprador allies, that will neutralize or win over the middle and small cyberlords, and that will convince the entire intellectual class to unite with the vast majority of information users. We must also involve other classes and social groups in the industrial and ecology sectors who support our demands. Without such a united front, it will be extremely difficult to defeat the information monopolies of the big cyberlords, and the latter will be able to use their increasing economic and political power to consolidate, codify, and further expand their statutory monopolies.

The long-term goal is to dismantle monopolistic forms of information ownership and replace them with nonmonopolistic forms. This will eventually enable users to enjoy the full information freedom that will unleash creativi-

ty not only among intellectuals, but among information users themselves.
Several demands can be identified now, because they have emerged historically and must necessarily become part of the overall set of demands made on information monopolies.
Compulsory licensing: The most important demand for breaking the cyberlords' information monopolies is to retain compulsory licensing and expand its coverage.
Compulsory licensing works as follows: Someone who wants to use/commercialize patented or copyrighted material approaches NOT the patent or copyright holder to obtain a license to do so, but the government. The government grants the license, whether the original patent or copyright holder agrees or not, but compels the licensee to pay the patent/copyright holder a royalty rate that is fixed by law. Many countries in the world have used compulsory licensing for important products like pharmaceuticals and books. (For example, Philippine law authorizes local publishers to reprint foreign textbooks for the use of the local educational system; it also provides for compulsory licensing of pharmaceutical products by local companies. Both laws are currently under heavy attack by cyberlord lobbyists. Efforts are now afoot to repeal them in order to align Philippine laws with the GATT/WTO agreement.)
Compulsory licensing (also called mandatory licensing) is good for countries that want to access technologies but cannot afford the price set by patent/copyright holders. While this internationally recognized mechanism was meant to benefit poorer countries, even the United States and many European countries use it.
This demand will split the cyberlord class. Small cyberlords who have neither the capital nor the production facilities to commercialize their own creations welcome compulsory licensing—although they will try to negotiate for higher royalty rates—because it will ensure them regular rent income. Big cyberlords who have the capability to commercialize products themselves are violently opposed to the idea of compulsory licensing, because it is a powerful threat to their monopoly over information.
No patenting of life forms: This demand emerged from the popular campaigns against genetic engineering and recombinant DNA technologies. It has become a major global issue, as genetic engineering continues to slide down that slippery slope leading corporations toward the direct manipulation and commercialization of human genetic material. True to their cyberlord nature, owners of biotech firms are racing against each other in patenting DNA sequences, microorganisms, plants, animals, human genetic matter, and all other kinds of biological material. Cyberlord representatives have already managed to insert protection in the GATT/WTO agreement for patents on microorganisms and microbiological processes.
Life-form patents raise religious and moral issues as well as impinge on indigenous community knowledge. Genetic engineering also threatens to give rise to a whole new class of harmful viruses, germs, microorganisms, and higher life forms that have no natural enemies. This demand to ban such patents can unite a wide range of sectors against the cyberlord ideology.
Expanding the fair-use policy: This struggle has historically been waged by

librarians (particularly in public libraries) who see themselves as guardians of the world's storehouse of knowledge. Most librarians want this storehouse of knowledge to be freely accessible to the public, and they have fought long battles and firmly held their ground on the issue of "fair use," which allows students and researchers access to copyrighted or patented materials without paying IPR rents. Recently, this ground has been suffering slow erosion from the increasing political power of cyberlords.

Support for nonmonopolistic mechanisms: Various concepts in software development and/or distribution have recently emerged. Some, such as shareware, are less monopolistic than IPR. Others, such as the GNU General Public License (GPL), are completely nonmonopolistic.

Shareware works under various schemes, such as free trial periods for use of software, free distribution, voluntary payments, and so on. These concepts have in effect abandoned the legal artifice of asserting exclusive monopoly over copying work in favor of granting users limited rights to use, copy, and distribute the material. Shareware authors, however, still balk at releasing their source code, and therefore continue to keep their users captive and unable to modify the software on their own.

The GNU GPL enables users to enjoy the fullest set of information freedoms, including the freedom to use information, to share it with others, and to modify it. The GPL—a project of the Free Software Foundation to elaborate existing copyright concepts toward nonmonopolistic forms—shows how current copyright concepts may be used in moving away from monopolistic arrangements, and points the way toward future nonmonopolistic software development. Software as well as books that fall under the GPL copyright may be freely used by anyone who may find them useful. They may also be freely copied and shared with others. Finally, the software may be freely modified because the package includes the source code, that is, the legible text files of formalized instructions that are "compiled" in order to make a computer program.

General wage increases: In a way, salaries and wages are a specific form of nonmonopolistic remuneration for intellectual activity. This is the most relevant demand for most intellectuals, who will stay on the side of information users as long as they are assured some reasonable remuneration for their work as information creators. In this respect, the vast majority of intellectuals can unite with other wage-earning classes to raise common demands.

The list above is not complete. A comprehensive set of demands will emerge when the various classes ranged against the cyberlords acquire an economic and political consciousness that will make clear where their interests lie.

TOWARD A NEW SOCIAL ORDER

These demands in the information sector must also be linked with the demands of other change-oriented classes and groups in the ecology and industrial sectors, such as farmers, fisherfolk, workers, women, and indigenous peoples. The key is to bring together the widest range of people whose unity and joint action can develop a political structure for evolving new forms of rewarding intellectual activity. In the future, such forms will lead to a nonmonopolistic information sector. The rethinking of property concepts that this will

bring about will then reinforce demands for restructuring the industrial and agriculture sectors as well.
From such a confluence of social movements, enough social forces for change can emerge to bring forth a society in which knowledge and culture are freely shared, where industrial machinery is carefully designed for genuine human and community needs, and where agriculture is an ecological and not an industrial undertaking.

SUBJECT: THE TOPOI OF E-SPACE: PRIVATE AND PUBLIC CYBERSPACE

FROM: SASKIA SASSEN <SASSEN@COLUMBIA.EDU>
DATE: TUE, 27 OCT 1998 11:58:12 -0600

We need to retheorize electronic space and uncouple it analytically from the properties of the internet which have shaped our thinking about electronic space. We tend to think of this space as one that is characterized by distributed power, by the absence of hierarchy. The internet is probably the best known and most noted. Its particular attributes have engendered the notion of distributed power: decentralization, openness, possibility of expansion, no hierarchy, no center, no conditions for authoritarian or monopoly control.
Yet the networks are also making possible other forms of power. The financial markets, operating largely through private electronic networks, are a good instance of an alternative form of power. The three properties of electronic networks: speed, simultaneity, and interconnectivity have produced strikingly different outcomes in this case from those of the internet. These properties have made possible orders of magnitude and concentration far surpassing anything we had ever seen in financial markets. The consequence has been that the global capital market now has the power to discipline national governments, as became evident with the Mexico "crisis" of December 1994. We are seeing the formation of new power structures in electronic space, perhaps most clearly in the private networks of finance but also in other cases.

1. THE TOPOI OF E-SPACE: GLOBAL CITIES AND GLOBAL VALUE CHAINS

The vast new economic topography that is being implemented through electronic space is but one moment, one fragment, of an even vaster economic chain that is largely embedded in nonelectronic spaces. There is no fully virtualized firm and no fully digitalized industry. Even the most advanced information industries, such as finance, are installed only partly in electronic space. So are industries that produce digital products such as software. The growing digitalization of economic activities has not eliminated the need for

major international business and financial centers and all the material resources they concentrate, from state-of-the-art telematic infrastructure to brain talent.

Nonetheless, telematics and globalization have emerged as fundamental forces reshaping the organization of economic space. This reshaping ranges from the spatial virtualization of a growing number of economic activities to the reconfiguration of the geography of the built environment for economic activity. Whether in electronic space or in the geography of the built environment, this reshaping involves organizational and structural changes. Telematics maximizes the potential for geographic dispersal and globalization entails an economic logic that maximizes the attraction and profitability of such dispersal.

Centrality remains a key property of the economic system but the spatial correlates of centrality are profoundly altered by the new technologies and by globalization. This engenders a whole new problematic around the definition of what constitutes centrality today in an economic system where (1) a share of transactions occur through technologies that neutralize distance and place, and do so on a global scale; (2) centrality has historically been embodied in certain types of built environments and urban forms. Economic globalization and the new information technologies have not only reconfigured centrality and its spatial correlates, they have also created new spaces for centrality.

To some extent when I look at the global economy I see a network of about thirty or forty strategic places—it is a changing animal that depends on all kinds of things—where there is an enormous concentration of all those resources. They are largely cities but not exclusively, Silicon Valley would be one, as well as other industrial areas with telecommunications industries like Lille, for instance. The point is: yes, globalization, yes, digitalization, yes, dematerialization, yes, instantaneous communication, but because it is a system characterized not by distributed power, distributed ownership, distributed application of profits, but by the opposite, concentration of profits, concentration in ownership, concentration of control, you also have a material correlate to this, which is this enormous concentration of strategic resources in major cities.

2. A NEW GEOGRAPHY OF CENTRALITY

We are seeing a spatialization of inequality that is evident both in the geography of the communications infrastructure and in the emergent geographies in electronic space itself. Global cities are hyperconcentrations of infrastructure and the attendant resources while vast areas in less developed regions are poorly served. Even within global cities we see a geography of centrality and one of marginality. For instance, New York City has the largest concentration of fiber-optic cable–served buildings in the world; but they are mostly in the center of the city, while Harlem, the black ghetto, has only one such building. South Central Los Angeles, the site of the 1993 uprisings, has none.

There are many examples of this new unequal geography of access. Infrastructure requires enormous amounts of money. For example, it is esti-

mated that it will cost US$120 billion for the next ten years just to bring the communication networks in the Central and Eastern European countries up to date. The European Union will spend US$25 billion per year to develop a broadband telecommunications infrastructure. The levels of technical development to be achieved by different regions and countries, and indeed, whole continents, depend on the public and private resources available and on the logic guiding the development. This is evident even with very basic technologies such as telephone and fax. In very rich countries there are 50 telephone lines per person, in poor countries, fewer than ten. In the U.S. there are 4.5 million fax machines and in Japan, 4.3 million, but only 90,000 in Brazil, 30,000 each in Turkey and Portugal, and 40,000 in Greece.

Once in Cyberspace, users will also encounter an unequal geography of access. Those who can pay for it will have high-speed service, while those who cannot pay will increasingly find themselves with very slow service. For instance, Time Warner ran a pilot project in a medium-sized community in the U.S. to find out whether customers would be willing to pay rather high fees for fast services; they found that customers would—that is, those who could pay.

3. EMERGENT CYBERSEGMENTATIONS

One way of beginning to conceptualize possible structural forms in electronic space is to specify emerging forms of segmentation. There are at least three distinct forms of cybersegmentation we can see today. One of these is the commercialization of access—a familiar enough subject. The second is the emergence of intermediary filters to evaluate sort, and chose information for paying customers. The third, and the one I want to focus on in some detail, is the formation of private firewalled corporate networks on the web. We cannot underestimate how pervasive is the search for ways to control, privatize and commercialize. Three major global alliances have been formed that aim at delivering a whole range of services to clients. While the mechanisms for commercialization may not be available now, there is an enormous effort to invent the appropriate billing systems. It is worth remembering that in the U.S. the telephone system started in the late 1800s as a decentralized, multiple-owner network of networks: there were farmers telephone networks, mutual aid societies telephone networks, and so on. This went on for decades. But then in 1934 the Communications Act was passed defining the communication systems as a “natural monopoly situation” and granting AT&T the monopoly. AT&T is up to 60 percent a billing company: it has invented and implemented billing systems. Much effort today is likely to address the question of a billing system for access to and use of what is now public electronic space.

Today most big infrastructure projects—laying fiber-optic cable across the bottom of the oceans—are carried out by three major engineering companies who do it on “spec”—that is not because they were contracted to do so by a government or a company, but on their own because they know that there is a market of actors with very deep pockets, such as the multinationals and the financial services firms and the financial markets, which will buy the bandwidth. We fight for the right of access to using bandwidth because

we are fighting around issues concerning the internet—public space, a public good. It is like poor workers demanding public transportation to get them to their jobs.

Internet activists and experts don't usually recognize or often have not thought about the world of private digital space because they really are two separate worlds. To me, someone who focuses also on finance, it is always astounding to hear generalizations made about the features of digital networks in general, when what they are talking about is the features of the net. I think this shows us once again that technology is, ultimately, embedded. There is no neutral technology. The structures of power also shape some of the decisive features of the digital networks as I compared earlier for the internet and the private networks of finance.

CONCLUSION: SPACE AND POWER

Electronic space has emerged not simply as a means for transmitting information, but as a major new theater for the accumulation and the operation of global capital. This is one way of saying that electronic space is embedded within the larger dynamic of organized society, particularly economic areas.

There is no doubt that the internet is a space of distributed power that limits the possibilities of authoritarian and monopoly control. But it is becoming evident over the last two years that it is also a space for contestation and segmentation. Further, when it comes to the broader subject of the power of the networks, most computer networks are private. That leaves a lot of network power that may not necessarily have the properties/attributes of the internet. Indeed, much of this is concentrated power and reproduces hierarchy rather than distributed power systems.

The internet and private computer networks have coexisted for many years. This situation is changing, however, and that drives my concern for the need to retheorize the internet and the need to address the larger issue of electronic space rather than just the part of the internet that is a public electronic space. The three subjects discussed above may be read as an empirical specification of two major new conditions: (1) the growing digitalization and globalization of leading economic sectors has further contributed to the hyperconcentration of resources, infrastructure and central functions, with global cities as one strategic site in the new global economic order; (2) the growing economic importance of electronic space which has furthered global alliances and massive concentrations of capital and corporate power, and has contributed to new forms of segmentation in electronic space. These have made electronic space one of the sites for the operations of global capital and the formation of new power structures.

What these developments have meant is that suddenly the two major actors in electronic space—the corporate sector and civil society—which until recently had little to do with one another in electronic space, are running into each other. Corporate players largely operate in private computer networks. But two years ago business had not yet discovered the internet in a significant way. The world wide web—the multimedia portion of the net with all its potentials for commercialization—had not yet been invented, and the

digitalization of the entertainment industry and of business services had not exploded on the scene.

One of the concerns for me has been to understand the differences between private and public digital space. A lot of theoretical work has been done on public digital space, for example about the Digital City in Amsterdam. I have been more concerned with private digital space and with what I see as a colonizing of public digital space by private (that is, corporate) players. We have three historical eras of the internet. The first phase is that of the hackers, where access was the issue as well as making the software available. The second phase is when you begin to have the interest by private players that did not quite know how to use it. At that point it was still primarily a public space, though in some ways protected. And presently the third stage which is the invasion of cyberspace by corporate players—it is really combat out there. So, for me, the internet becomes a space for contestation. I am here not only thinking about multinational corporations. I am thinking of all kind of players, including those that misuse the internet, something which is serious also.

This is also the context within which we need to examine the present trends towards deregulation and privatization that have allowed the telecommunications industry to operate globally in an increasing number of economic sectors. These changes have profoundly altered the role of government in the industry, and, as a consequence, have further raised the importance of civil society as a site where a multiplicity of public interests can resist the overwhelming influence of the new corporate global players. Civil society, from individuals to NGOs, has engaged in a very energetic use of cyberspace from the bottom up.

When we talk about regulation today we tend ascribe to it a narrow meaning having to do with the government regulating content. This is a totally different notion compared with the regulation of access and accountability. We need to free the concept of regulation from what it is. We should innovate and begin to think about how we can regulate those big conglomerates. They are reshaping the topography of communications. They are now moving into Latin America, where national telecoms are being privatized. For the upper middle classes and above, this is an acceptable situation. The problem lies with lower income communities and more isolated areas. Even in the U.S. there are people who cannot even afford a telephone. Global telecoms are dealing with a service that is essential to us—whether we look at it as individuals, who have forms of sociability, or if we look at it as a democracy, where communication is necessary. At this moment, however, these firms are privatized and not accountable, a fact that suggests that we might run into scenarios in the future that are very nasty.

To the extent that national communication systems are increasingly integrated into global networks, national governments will have less control. Further, national governments will feel great pressure to help local firms become incorporated into the global network, to avoid the risk of being excluded from the increasingly electronically operated global economic system. If foreign capital is necessary to develop the infrastructure in developing countries, the goals of these investors may well rule and shape the design

of that infrastructure. This is of course reminiscent of the development of railroads in colonial empires, which were clearly geared towards facilitating imperial trade rather than the territorial integration of the colony. Such dependence on foreign investors is also likely to minimize concerns with public applications, from public access to uses in education and health.

There are today few institutions at the national or global level that can deal with these various issues. It is in the private sector where this capacity lies, and even then only among the major players. We are at risk of being ruled by multinational corporations—organizations accountable only to the global market. Most governmental, nonprofit, and supranational organizations are not ready to enter the digital age. Political systems, even in the most highly developed countries, are operating in a predigital era.

One issue that characterizes the present time is that you have an interstate (transnational) system, yes, but that you also have an international economic system that operates partly outside the interstate system. The second big difference—and I should really say that these are very much my own ideas with which many economists would not agree—the second big difference today is that you have the formation and the development of an intermediary world of strategic agents like financial services firms, international accounting experts, international legal experts, international organization experts, and so on.

This is an intermediary world that operates between nation states. It means that in the past, when a country entered the international system it almost inevitably engaged another nation state. Today a country can enter the international system and not engage another state, but engage J. P. Morgan, the Swiss Kreditanstalt, and so on. A very good example is when China recently entered the global capital market with a hundred-year bond issue from the Chinese government. It was sold in New York and in Hong Kong. China did not have to deal with the government of the U.S., rather, it dealt with J. P. Morgan and a few other brokerage firms.

The overwhelming influence that global firms and markets have gained in the last two years in the production, shaping, and use of electronic space, parallel with the shrinking role of governments, has created a political vacuum. However, it does not have to be a political vacuum.

Because the ascendance of digitalization is a new source of major transformations in society, we need to develop it as one of the driving forces of sustainable and equitable world development. This should be a key issue in political debates about society, particularly about equity and development. We should not let business and the market shape "development" and dominate the policy debate. The positive side of the new technology, from democratic participation to telemedicine, is not necessarily going to come as a result of market dynamics.

Further, even in the sites of concentrated power, these technologies can be destabilizing. The properties of electronic networks have created elements of a crisis of control within the institutions of the financial industry itself. There are a number of instances that illustrate this—for example—the stock market crash of 1987 brought on by programmed trading and the collapse of Barings Bank brought on by a young trader who managed to mobilize enor-

mous amounts of capital in several markets over a period of six weeks. Electronic networks have produced conditions that may not always be controlled by those who thought to profit the most from these new electronic capacities. Existing regulatory mechanism do not always cope with the volatile nature of electronic markets. Precisely because they are deeply embedded in telematics, advanced information industries also shed light on questions of control in the global economy that not only go beyond the state but also beyond the notions of non–state centered systems of coordination prevalent in the literature of governance.

I am convinced that we need to fight for free and public content. But bandwidth is the infrastructure that is intimately linked to the formation and multiplication of public activity on the internet. Public space and free content have always required access to specific conditions, even if elementary. What looms ahead is a sharpening division between a slow moving space for those who lack the resources and a fast moving space (quick connections, enormous bandwidth) for those who can pay for it. Although it is really very different, for illustration we could say that this is a new version of an old syndrome: the public busses in poor neighborhoods are often of poorer quality than those for rich neighborhoods. It seemed, once, like these forms of inequality could not be enacted in the internet. Today it would seem that they are.

This is a particular moment in the history of electronic space, a moment when powerful corporate players and high-performance networks are strengthening the role of private electronic space and altering the structure of public electronic space. However, it is also a moment when we are seeing the emergence of a fairly broad-based—though as yet demographically isolated—civil society in electronic space. This sets the stage for contestation.

[This text is a compilation of excerpts of four texts that appeared on Nettime: "The Topoi of E-space: Global Cities and the Global Value Chains" (Oct. 28, 1996), "Interview with Andreas Broeckman" (June 12, 1997), and interviews with Geert Lovink entitled "Bandwidth and Accountability" (Hybrid Workspace, Documenta X, Kassel, July 11, 1997) and "Public Cyberspaces" (Sept. 25, 1998). Edited by Felix Stalder.]

SUBJECT: GLOBAL FINANCIAL MARKETS AND THE BIAS OF NETWORKS

FROM: FELIX STALDER <STALDER@FIS.UTORONTO.EDU>
DATE: SAT, 17 OCT 1998 11:41:33 -0400

Media are never neutral. They have biases which deeply affect the cultures that create them, and which, in turn, they create. Harold Innis described the most basic type of bias in communication media (*Empire and Communications*, Oxford: Clarendon, 1950, and *The Bias of Communication*. Toronto: University of Toronto, 1951). Hieroglyphs and stone, he observed, have a bias toward time, whereas the alphabet and paper—among other media—have a bias toward space. Cultures built on media with a time bias, such as ancient Egypt, tend to be more concerned with the organization of time and were often governed by a religious bureaucracy. Cultures using media with a space bias, for example ancient Greece, are generally more concerned with the organization of space and privilege secular, state or military, bureaucracies. The printing press joined the alphabet and paper into a new medium, the printed text, unleashing the full power of their combined space biases. This new medium provided the catalyst for phenomena such as the rapid rise of the nation-state, the unfolding of scientific rationality, and individuation. Communication media and common culture have a close interrelation in which the media provide the environment in which the social dynamics develop. This environment, however, is not just a simple container, but is a set of distinct processes that reconfigure to a varying degree everything that is carried out through them. Taken together, these processes form the bias of a medium.

To understand the kind of bias introduced into our current culture by the spread of computer networks as communication media, the best place to investigate is not the internet, but, rather, the financial networks. In contrast to the internet, where almost nothing has found a well developed form yet, the financial networks have been fully functioning for decades. Furthermore, money itself is a pure medium in the same way than light is a pure medium—as Marshall McLuhan once noted: all medium, no content. A similar observation was made by Karl Marx, who wrote in his *Grundrisse* (1857) that the circulation of money "as the most superficial (in the sense of driven out onto the surface) and the most abstract form of the entire production process is in itself quite without content." Being without content, money can have any form and still be money. It can be a coin in one's pocket or it can be an option traded back and forth between London, Tokyo, and New York. Monetary value can take on any form that is supported by the medium in which it circulates. Competitive pressures and the relentless chase for profits under the logic of postindustrial capitalism push monetary value into ever new forms, exploiting the full potential of the new media spaces. This process has consistently expanded the possibilities of the technology to tap

into new opportunities for trading. The current financial markets are the most advanced and most media-specific electronic space yet created.

Financial markets have a network-based history of some twenty-five years. In 1973 Reuters started its screen service, which provided dealers with information and a shared environment to execute the trading in. In 1979 it had already connected 250,000 terminals into the increasingly global markets (P. Fallon, "The Age of Economic Reason," *Euromoney*, June 1994, 28–35). At this time the internet was still in an embryonic state with little more than 100 hosts. In an accelerating volume, huge investments have been poured into the expansion of the financial networks. The ten largest U.S. investment banks, for example, spent in 1995 alone some $17 billion on new technologies: this amounts to more than $400,000 per employee in just one year (B. Lowell and D. Farrell, *Market Unbound*, NY: Wiley, 1996, 41). Over the last two decades such massive expenditures have turned the financial markets from a relatively peripheral, supporting phenomenon into the central event of the mainstream economy. This development is driven by capitalistic competition, not the technology—there cannot be any illusions about that—but, nevertheless, the development of the financial markets is enabled and deeply affected by advanced network technologies which create three self-enforcing dynamics:

1. The automation of the financial markets made it possible to increase dramatically the volume of money and transactions. By the mid-nineties, about 500,000 people have been working worldwide in the institutions that make up the financial markets (ibid.). They have managed the circulation of more than $1500 billion per day. By far the biggest single market is the foreign currency exchange, which amounts to more than $1300 billion per day. In the early eighties, the foreign exchange transactions were ten times larger that the world trade; in the early nineties they were sixty times larger (S. Sassen, *Losing Control?* NY: Columbia University, 1996, 40). Circulating in ever-expandable networks the markets could pick up speed without material friction. As the markets have grown beyond any limitations, more money has become concentrated there. And with deeper markets, the opportunities to make money have expanded, further increasing the incentive to employ the most advanced technology.

2. Automation of the markets makes it possible to provide ever more customized services at ever lower rates, allowing for an increased participation of small investors: the middle class concerned about their pensions becoming insecure in crumbling state pension plans. Not only has the volume of transactions handled in the markets increased, but also the number of market participants and the demographic profile of those participants has changed. It shifted from highly educated professionals to the upper and middle-class segments of the general public. Information technology provided the means for putting an easy-to-use interface in front of extremely complex processes. Mutual funds and other previously exotic financial products have become advertised heavily in mass media in recent years. Access through home computers has been created.

3. Increased computerization and increased volume lead to a simultaneous integration and fragmentation of the markets. On the one hand, more and

more abstract, complex and entirely computer-based products—such as derivatives—greatly expand the number and types of tools available to brokers and their customers. On the other, the markets fragmented into a plethora of submarkets. New submarkets create new possibilities for arbitrage—that is, purchasing financial products on one market for immediate resale on another market to profit from a price discrepancy—which are based on the real-time processing of information.
Pushed to the extreme by these self-enforcing dynamics, the fully integrated financial networks offer the clearest picture of the bias of networks, a bias that affects in one way or another everything that is done through them.

RECONFIGURATION 1: CONTENT AND CONTEXT

The financial markets have become their own integral environment which not only communicates, but also produces the events communicated—the rise and the fall of prices. As such, these networks are content and context at the same time. The surrounding larger social and economic environment is structurally separated and its relevance is assessed according to whether it has to be translated into the closed universe of the financial market or not. News, for example, is evaluated primarily from the vantage point of whether it is going to influence the fever curve of the market. The importance of information is decided *within* the markets and is independent from the "value" of the information as such. The context of the market defines the content of the information. If everyone expects a company, or a country, to report huge losses, then the news of merely moderate losses boosts the price. In contrast, if everyone expects the opposite, the same piece of information can have a devastating influence on the market value of the asset.
As an integral environment, the financial networks are fully self-referential. Everything that counts happens within the networks. The single most important questions is: What are the other participants doing? Since the direct connection to other environments is broken, the ultimate determination of the (immediate) future takes place within the markets themselves. Evidently, the markets react very fast to new information and the consequences of political and economic events are almost immediate. Nevertheless, the connection is indirect. The markets as a closed system react to news because the dealers, or the artificial intelligence systems, expect each other to react and each tries to react before everyone else. It is the expectation of a reaction to an event that drives the development, not the event itself. John M. Keynes described this structure in his famous beauty contest analogy:

> Professional investment may be likened to those newspaper competitions in which the competitors have to pick out the six prettiest faces from a hundred photographs, the prize being awarded to the competitor whose choice most nearly corresponds to the average preferences of the competitors as a whole; so that each competitor has to pick, not those faces he himself finds the prettiest, but those which he thinks likeliest to catch the fancy of the other competitors, all of whom are looking at the problem from the same point of view. It is not the case of choosing those which, to the best of one's judgment, are really the prettiest, not even those which average opinion genuinely thinks the prettiest. We have

reached the third degree, where we devote our intelligence to anticipating what average opinion expects average opinion to be. And there are some, I believe, who practice the fourth, fifth and higher degrees. (*The General Theory of Employment, Interest and Money*, London: Macmillan, 1936, 156)

Evidently, Keynes described that tendency long before the advent of computer networks. Because it was such a perfect match of the general dynamics of financial markets and the bias of networks the technology proved to be such an explosive catalyst when they were combined in the early seventies. The merger of content and context became expressed most clearly in the infrastructure. Reuters, which started in 1849 as a pigeon carrier for sending stock exchange data from Brussels to Aachen in order to bridge the gap between the Belgian and the German telegraph lines, is today's leading provider of news to the financial markets, a service that is delivered over a proprietary network. It brings news and prices directly to customer screens, providing datafeeds to financial markets, and the software tools to analyze the data. This data covers currencies, stocks, bonds, futures, options, and other instruments. Its main customers are the world's leading financial institutions, traders, brokers, dealers, analysts, investors, and corporate treasurers. However, Reuters not only provides the news for the market, it is also the environment of the markets themselves. It provides the tools for dealers to contact counterparts through a Reuters communications network in order to do the actual tradings. Through proprietary instruments Reuters enables traders to deal from their keyboards in such markets as foreign exchange, futures, options, and securities. Consumer of news and producer of news merge and the network displays instantly to everyone what everyone else does. Reuters, in other words, produces (parts of) the news itself that are then sold back, stimulating the production of further news.

RECONFIGURATION 2: COOPERATION AND COMPETITION

The self-referentiality of the network environment creates information which has to be taken at face value. Its reality is as flat as the screen on which the data is displayed, its only relation is to other information of the same flatness, other screens to which every screen is connected. This radical decontextualization permits the increased speeding up of its circulation, which again eliminates the possibility for checking the veracity of the information. In such an environment news and rumors become equally important. Sometimes rumors become even more important than news, since they hold the promise of predicting for the insider what might be news tomorrow for everyone. What will be, accurate speculation into the future, is the most valuable information and can actually become the cause of tomorrow's news. If some of the major dealers expect a currency to lose value, they will start to sell it, which will be seen by others as a sign that the value of this currency is falling. The result is that, if many start to sell, the value of the currency is actually sinking: George Soros's *reflexivity* ("The Capitalist Threat," *Atlantic Monthly* 279.2, February 1997, 45–58). This has been staged over and over in the recurrent currency crises, be it the European in 1992–93 or the Asian in 1997.

Jean Baudrillard has put this reversal of the relationship of expectation and event, of sign and object, at the core of his thinking. "We are in the logic of simulation" he declares, "which has nothing to do with the logic of facts and the order of reasons. Simulation is characterized by *a precession of the model*, of all models around the merest fact—the models come first, and their orbital (like the bomb) circulation constitutes the genuine magnetic field of events. Facts no longer have any trajectory of their own, they arise at the intersection of the models" (*Simulations*, NY: Semiotext[e], 1983, 31–32).

Not anticipated in the gloomy metaphors of Baudrillard is the effect of that reversal in the network environment: cooperation. Since networks are tools and environment at the same time, everyone who uses the tools is dependent on the maintenance of the environment. Since the environment is closed, there can be no outside position for anyone who wants to participate. It is not incidental that the game metaphor is dominant in the financial markets. Every market player cooperates to uphold the rules, the parameters of the game, but within these limited bounds, each tries to kill the other.

Financial markets can only function efficiently at high speed when information can actually be taken at face value. To guarantee this they have to be structurally separated from other environments. Crucial for this is the institution of the clearing house. A clearing house functions as a "middleman" that acts as a seller to all buyers and as a buyer to all sellers: it is the guarantor of the ultimate fulfillment of the contract. Thus contracts can be exchanged impersonally between numerous parties on both sides without any having to worry about the others' ability or willingness to carry out their obligations. The largest private sector payments network in the world is Clearing House Interbank Payments System (CHIPS) in New York City. About 182,000 interbank transfers valued at nearly $1.2 trillion are made daily through the network. This represent about 90 percent of all interbank transfers relating to international dollar payments. A clearing house can be understood as an outsourced and institutionalized system of trust designed to cope with an anonymous and chaotic environment. It is a communal insurance institution for guaranteeing that the constant flow within the networks is not interrupted by external events, such as the default of one of the participants. Without the clearing house, such a "real life" event would be translated directly into the network. The possibility of such a direct impact would destroy the face value of the information. The clearing house, then, can be read as a buffer that prevents the direct, uncushioned impact of the external environment from breaking open the closed circuits. Without this buffer, the exchange of information would slow down considerably because the value of the information would have to be verified outside the network itself.

In the network environment, then, the condition of staying a member of the network is to provide information that can be taken at face value. The position of a player is determined by the information he, she, or it delivers to the other players, the faster and the more accurate the information is, the more relevant the source becomes. Since everyone is connected with everyone, reliable information gets delivered to the environment as such. Even in the most competitive environments this connectiveness forces a certain form of collaboration. What seems paradoxical is a characteristic of the network

media: they configure communities defined by a distinction between inside and outside. The distinction is maintained by cooperation to build the communal environment, even if it is then used to stage fierce competition.

RECONFIGURATION 3: CONTROL AND UNPREDICTABILITY

A network's connectiveness is not only defined by its ability to connect people across time and space, a second characteristic is a tendency to integrate formerly independent elements on a higher level of abstraction. Abstraction allows the construction of larger areas of control, in the financial markets through instruments such as options. They are the right but not the obligation to buy or sell an underlying asset for a predetermined price in the future. This allows traders to speculate much more extensively on the movements of the markets independent from the direction of this movement. However, since options permit speculation on the movement of the asset rather than on the asset itself, these instruments become more volatile and, at the same time, the environment less predictable. There are simply too many factors to exercise real control. Increased abstraction and its possibilities to extend influence over ever greater area create a paradox of control. "When a multitude of different and competing actors" as Geoff Mulgan notes, "seek to improve their control capacities, then the result at the level of the system is a breakdown of control. What is rational at the micro level becomes highly irrational at the macro level" (*Communication and Control, Networks and the New Economies of Communication*, NY: Guilford, 1991, 29). The unpredictability is a result not of too little but too much control.

With the number of connections and the speed of communication rising, the predictability and controllability of the system as a whole is decreasing. The reconfiguration of control and unpredictability is similar to the reconfiguration of cooperation and competition: which aspect is foregrounded depends on the position of the observer. From the inside, the cooperative structure of the financial networks provides the invisible environment for deeply chaotic and intense competition. From the outside, this competition turns into a zero-sum game and the markets represent a single cooperative logic, the "commodified democracy of profit making" (Castells), executed in a tightly controlled framework dominated by a very small number of global financial giants. These fundamental differences based on an inside or outside position of the observer illustrate how closed the financial networks are and how self-referential their logic is.

In general, networks reconfigure not only aspects of control with unpredictability, cooperation with competition, and content with context, but they also connect action with reaction, event with news, into the continuity of flows. The dealers see instantly what others do, which creates the basis of their actions, which are fed back to the other dealers building their decisions upon them. This constant feedback eliminates the separation of events and news, action and reaction, before and after, and merges them into a constant presence. "The space of flows," as Manuel Castells observes, "dissolves time by disordering the sequence of events and making them simultaneous, thus installing society in an eternal ephemerality" (M. Castells, *The Rise of the Network Society*, vol. 1: *The Information Age*, Cambridge, Mass.: Blackwell, 1996, 467).

THE BIAS OF NETWORKS

Global financial markets are to computer networks what the Reformation was to the printing press: the first major social event enabled by the new technology. Financial markets have not been created by the new technology, they existed long before. However, new technologies have been the catalyst which connected heterogeneous trends into a self-enforcing dynamic. Because those trends fit the bias of the medium they could expand out of all proportion, creating new social conditions which reflect the impact of this bias in the specific historic context. Every single element of the financial markets existed independently for decades. The first clearing house, for example, was founded by the Chicago Board of Trade in 1874, but only the network conditions raised this institution to its current, central importance.

As the Reformation was not caused by the printing press, the financial markets are not the fate of the networks. The new technology has been a catalyst that has hugely augmented the impact of a series of economic and political decisions taken in the last thirty years. However, it did not simply augment the impact of these decisions, by reflecting them through their own bias the new technologies have deeply shaped outcome. The bias of networks lies in the creation of a new space–time condition of binary states of presence or absence. In the network environment everything that is the case is here and now (inside the network), and everything else in nowhere and never (outside the network). The translation from one state to the other is instantaneous and discontinuous. The experience of any sequence is introduced by the user, that is, from outside the network, and is arbitrary from the point of view of the possibilities of the network.

While this newly created space–time is the ingredient added by the technology, the result of its catalytic potential is deeply affected by the conditions under which it is brought to bear. The financial markets grew not only because the technology provided the ground for it, but also because regulatory restrictions have been removed under the increasing influence of neoliberalism. While the bias of the medium largely lies outside social influence, the quality of the culture incorporating this bias is—and has always been—shaped by society itself.

SUBJECT: PYRAMID SCHEMES: ALBANIA 1996–98

FROM: GENC GREVA <GEGREVA@NEW-EUROPE.COM>
DATE: WED, 30 SEP 1998 11:22:29 -0400

The events surrounding the Albanian pyramid schemes were more than just oddities in a poor country that had been isolated for decades. As a result of specific historical conditions, the connection between speculative capitalism, the criminal economy, and authoritarian political regimes suddenly appeared with unusual clarity. The dynamics that are normally hidden in the sophisticated and opaque language of financial markets became transparent in the simple and unglamorous Albanian context. While the specifics of the Albanian situation were unique, similar dynamics, albeit more behind closed doors, have led to collapse of the Russian financial system and fueled the ups and downs of the financial markets every day. As the most extreme case of speculative capitalism gone crazy, they are worth chronicling once again, at a time when lights are going off in the global casinos in New York, London, Tokyo, and Zurich.

Pyramid schemes all over.

THE ALBANIAN EXPERIENCE

Following the irregular elections of May 26, 1996, the situation in Albania deteriorated very quickly. Seeking political benefit, the government of the Democratic Party (DP), which illegitimately won about 90 percent of the seats in the Parliament, had allowed the rise of strange structures called "charity foundations." These structures were pyramid schemes, initially little more than money-laundering operations, offering interest rates ranging from ten to 25 percent per month. The first investors received the promised interest, paid with the money of the later investors. With the apparent success of the "foundations," the euphoria spread very quickly to all levels of Albanian society, and in a few months' time almost everybody was putting money into these get-rich-quick schemes. It is estimated that close to US$1.5 billion was invested in more than ten schemes. This in a country where the average monthly income was only some US$80. People sold their houses, property, and land to invest the proceeds in the pyramids, while economic emigrants working in neighboring countries—Greece and Italy—withdrew money from their bank accounts to transfer it to the schemes in Albania. A large number of Albanians invested their life savings and more.

The DP avoided any information about the functioning of such structures—in the beginning they simply ignored the dangers, and later they forced the governor of the Albanian National Bank to stop warning people about them. But, of course, the danger was unavoidable; the system of paying interest to early investors with the capital of later investors could only last as long as

Long before the Albanian scheme, there was a Romanian one. (Romanians had always the obsession to be the first and—accordingly—the frustration of not being acknowledged as such.) The difference was I guess in scale: Romania is less poor than Albania, with a bigger territory and therefore with less homogenous behavior at microeconomic levels. Therefore the style of the collapse was lighter, and didn't reach the traumatic dimensions of a civil war. Moreover, the pyramid had a face in the person of its charismatic promoter and director, a certain Mr. Stoica. After the collapse, he gave interviews with energetic statements about his innocence and went to jail as a martyr for the good cause of enriching the poor. I understand that he also published a volume of memoirs during his (otherwise brief) detention. Insistent rumors were circulating about the connection between the scheme and the financial empowerment of the Romanian nationalist party (PUNR) via the politically oriented bank system of the country. [Calin Dan <calin@euronet.nl>, Other Pyramid Schemes, Sun, 20 Sept 1998 11:19:13 +0100]

increasing numbers of people continued to invest. However, the schemes became so massively popular that anyone who said a word against them would appear to be opposed to the entire nation. In October 1996, when the International Monetary Fund (IMF) warned of the risks, even the opposition parties preferred to say nothing.

The connections between the leaders of the criminal economy and the leaders of the authoritarian party, the DP, were close. In some election posters in southern Albania, the names of powerful sponsors—pyramid bosses—appeared beside the names of Democratic Party candidates. Feeding back some of the money, the DP in effect bought the people's votes with the people's own money, extracted from them with the party's help through the pyramid schemes. As the opposition Social Democratic Party's leader, Skender Gjinushi, said, "The people's money was spent on buying votes."

The schemes started wobbling in autumn 1996. The continued operation of the schemes was dependent largely on confidence; once this was shaken, new investments dried up. By mid-December two of the smaller schemes had collapsed, and questions were being asked about the major schemes, in which tens of millions had been invested. Having been assured of the legitimacy of the schemes in advance by the government and the president, people's anger toward the government and the DP started to rise. With the fall of one of the important schemes based in the south of Albania, the revolt burst out and sparked the political and social crisis. On the afternoon of January 15, 1997, a battle erupted in Tirana. The first stones were thrown by angry people who had put their money into failed investment schemes. Their target was the private residence of a promoter of one of the schemes.

The government's initial response, on January 14, was a decree limiting the amount any single investor could withdraw from the schemes to $300,000 per day. This was clearly intended to prevent a run on the schemes. But its effect was to hit confidence further and to focus anger onto the government. This anger was expressed at a major demonstration in Tirana on January 19, organized by the Socialist Party and other opposition groups. The government tried to suppress it with police brutality, thus heightening tension. As the protests spread across the country, the government blamed the opposition and cracked down hard, arresting protesters and imposing severe jail sentences and fines on them.

But it was also clear that the government had to be seen to be acting against the schemes. On January 21, it announced a commission to investigate them, and seized the assets of some. Two days later, it banned pyramid schemes altogether and arrested the leaders of some major ones. At the same time, it arrested the leaders of various opposition groups, whom it blamed for inciting the trouble.

The trouble worsened thereafter, with major demonstrations on the weekend of January 25–26. Fighting was reported between protesters and police in Tirana. The cities became a battleground for demonstrators and riot police, and dozens of government buildings were burned or destroyed. The most dramatic and violent scenes were in the towns of Lushnja, Berat, and Vlora, and in the capital, Tirana, where riot police attacked opposition leaders, journalists, and protesters. But the epicenter of protest became the square in

Vlora where, at the turn of the century, Albanians had proclaimed their independence. Today, Vlora is known as the capital of the pyramid schemes, because most of them originated there.

Albania was now facing its most serious crisis since the fall of communism in 1991. The military was deployed in order to guard public buildings and keep the peace, despite doubts as to whose side they might take. It was after these protests that the government was forced to promise investors that they would get their money back. The problem was that the assets the government has seized from schemes were thought to total an estimated $300,000, while losses were around one billion dollars, about four times the amount of the country's foreign currency reserves at the time. Meanwhile, the Albanian currency, the lek, lost some 35 percent of its value on the currency black market. It quickly became clear that, even then, most investors would receive only about thirty to fifty percent of the amount they had invested, and that most of that might be in government bonds rather than cash. Worse yet, the cash would be in the fast-fading lek rather than the U.S. dollars that many of the schemes had demanded from investors.

As the situation worsened the DP declared a state of emergency. With this, they completely isolated Albania from the rest of the world. They decided to ban radio stations, close newspapers, and take over all local TV stations. Fortunately, the closure of the satellite frequencies lasted only forty-eight hours. People started to look for radio stations on the shortwave frequencies, which couldn't be banned. But the newspapers remained closed for more than one month and the office of the biggest independent newspaper, *Koha Jone*—supported by the Soros Foundation—was burned down by the secret police. During this time, email remained one of the most important sources of information, unfortunately with very little access. There was only one server in the country, UNDP, which was part of an experimental program meant to give NGOs and universities access.

Few institutions could make use of an available AOL account, which was very expensive since it required making an international call to Switzerland. It was also believed that outgoing email from the UNDP server was being monitored.

In the meantime, the West was most concerned that the Albanian trouble would spread. Since the country was not connected to international capital flows, the threat was not seen as an economic one, but as the danger of mass exodus: people following their capital into the West. The Organization on Security and Cooperation in Europe (OSCE) sent an envoy, and early elections were arranged. Italy, target of a possible mass immigration, assembled a force for Operation Alba after receiving a U.N. mandate. Various other European countries—including France, Greece, Turkey, Spain, Romania, Austria, and Denmark—participated in the contingent, which arrived in Albania in mid-April.

The parliamentary elections in late June and early July 1997 proceeded without major incident. Despite fears to the contrary, the elections were a success and ultimately led to the restoration of at least a modicum of law and order. Now, in 1998, the slow recovery process is still underway and the last schemes are being dismantled. Earlier in the year, the French auditing com-

MUKA: First of all, we cannot talk in terms of a civil war. It never took place. I am an anarchist myself, and I would never call this anarchy. The mess in Albania was caused by the leading force, the Democratic Party and its government. It was a people's protest. The element of violence we faced was of a very specific nature. There was not any violence used during the time of the protests. All the protests were held without any arms—at least on the side of the people. Of course the police were armed and fired shots in the air and sometimes into the crowd. At a certain point the government surrounded the whole city of Vlora and was intending to send the army in, but exactly at that moment, the army disobeyed and abandoned their positions. That is why we had such a mess. [Geert Lovink <geert≠@xs4all.nl>, Interview with Edi Muka, August 1, 1997]

pany Deloitte and Touche found that the VEFA investment company had only seven million dollars in assets after having received more than three hundred million dollars from some 90,000 investors. If and how VEFA owner Vehbi Alimucaj laundered $40 million into his private bank accounts in Greece is still being investigated.
During all of this, most Albanians have waited in vain for the return of their savings. All they are left with are memories of the grand gestures paid for with their money: of how the pyramid company Gjallica blew a million dollars on a Miss Europa contest in Tirana; how VEFA paid $450,000 for an advertisement on Eurosport; how Xhaferi paid $400,000 for an Argentinian football star to run the local team in Lushnja.

SUBJECT: COOKING-POT MARKETS: AN ECONOMIC MODEL FOR THE TRADE IN FREE GOODS AND SERVICES ON THE INTERNET

FROM: RISHAB AIYER GHOSH <RISHAB@DMX.ORG>
DATE: MON, 3 AUG 1998 23:17:35 -0700

WHAT IS VALUE, OR: IS THE INTERNET REALLY AN ECONOMY?

Much of the economic activity on the net involves value but no money. Until a few years ago, there was almost no commercial activity on the internet. The free resources of the net still greatly outweigh all commercial resources. It is quite hard to put a price on the value of the internet's free resources, at least in part because they don't have prices attached. They exist in a market of implicit transactions.

THE ECONOMICS OF GOSSIP

Every snippet posted to a discussion group, every little webpage, every skim through a FAQ list and every snoop into an online chat session is an act of production or consumption, often both. There is no specific economic value inherent in a product. Value lies in the willingness of people to consume a good, and this potentially exists in anything that people can produce and pass on.
Even bad writing and even junk mail are parts, however reprehensible, of the internet's economy, but let's look at a more obvious case, Linux. After all, software, in particular large operating-system software occupying up to six CD-ROMs when distributed offline, is undeniably an economic good (for example, Red Hat Software <http://www.redhat.com/>). And Linux, with its loosely organized community of developer-users and its no-charge policy, undeniably has an economic logic that seems, at first, new.

SOMETHING FOR NOTHING?

Linus Torvalds did not release Linux source code free of charge to the world as a lark, or because he was naive, but because it was a "natural decision with-

in the community that [he] felt [he] wanted to be a part of" (quoted from personal correspondence with Torvalds). Any economic logic of this community—the internet—must be found somewhere in that "natural decision." It is found in whatever it was that motivated Torvalds, like so many others on the net, to act as he did and produce without direct monetary payment.

Of course, it is the motivation behind people's patterns of consumption and production that forms the marrow of economics. Figuring out what motivates, let alone measuring it, is always difficult but it is even tougher when price tags don't exist. It is simpler just to assume that motivations only exist when prices are attached, and not attempt to find economic reason in actions motivated by things other than money; simpler, therefore, just to assume as we often do that the internet has no economic logic at all.

This is wrong. The best portions of our lives usually do come without price tags on them; that they're the best parts imply that they have value to us, even if they don't cost money. The pricelessness here doesn't matter much, not unless you're trying to build an economic model for love, friendship, and fresh air. On the internet, through much of its past, the bulk of its present, and the best of its foreseeable future, prices often don't matter at all. People don't seem to want to pay—or charge—for the most popular goods and services that breed on the internet. Not only is information usually free on the net, it even wants to be free, so they say.

But *free* is a tricky word: like love, information—however free in terms of hard cash—is extremely valuable. So it makes sense to assume that the three million people on the internet who publish about matters of their interest on their home pages on the web, and the several million who contribute to communities in the form of newsgroups and mailing lists, and of course anyone who ever writes free software, believe they're getting something out of it for themselves. They are clearly not getting cash; their "payment" might be the contributions from others that balance their own work, or something as intangible as the satisfaction of having their words read by millions around the world.

While writing my weekly newspaper column on the information society (*Electric Dreams* [*ED*] <http://dxm.org/dreams/>), I was distributing an e-mail version free of charge on the internet. A subscription to the e-mail column was available to anyone who asked, and a number of rather well known people began to receive the column each week. My readers often responded with useful comments; I often wondered whether people would pay for a readership like this. Having many readers adds to your reputation; they make good contacts, helping you out in various ways. Simply by reading what you write, they add value to it—an endorsement, of sorts. So who should pay whom—the reader for the work written, or the writer for the work read ("Paying Your Readers," *ED* 67)?

The notion that attention has value is not new and has been formally analyzed in the advertising industry for decades. The "attention economy" has been described in recent papers in the context of information and the internet (M. Goldhaber, "The Attention Economy," *First Monday* 2.4 <http://www.firstmonday.dk/issues/issue2_4/goldhaber/index.html>; R. A. Lanham, "The Economics of Attention" <http://sunsite.berkeley.edu/

ARL/Proceedings/124/ps2econ.html>). It would be facile to suggest that attention necessarily has innate value of its own. However, more often than not, attention is a proxy for further value. This may appear in the form of useful comments (or bug reports from Linux users), assistance, and contacts, or simply as an enhanced reputation that translates into better access to things of value at a later point.

Even those who have never studied economics have an idea of its basic principles: that prices rise with scarcity and fall in a glut, that they are settled when what consumers will pay matches what producers can charge. These principles obviously work, as can be seen in day-to-day life. But that's the "real world" of things you can drop on your toe. Will they work in a knowledge economy? After all, this is where you frequently don't really know what the "thing" is that you're buying or selling, or clearly when it is that you're doing it, or, as in the case of my column, even whether you're buying—or selling. Contrary to what many doom-sayers and hype-mongers suggest, it always seemed to me that the basic principles of economics would work in an economy of knowledge, information, and expertise. They are, after all, not only logical on the surface but also practically proven over centuries—a powerful combination. Even if the internet appears to behave strangely in how it handles value, there is no reason to believe that if it had an economic model of its own, this would contradict the economic principles that have generally worked. However, if a textbook definition of economics as the "study of how societies use scarce resources to produce valuable commodities and distribute them among different people" remains as valid now as ever, almost all the terms in there need reexamination (P. A. Samuelson and W. D. Nordhaus, *Economics*, 15th ed., NY: McGraw-Hill, 1995). This is because the same peculiar economic behavior of the net suggests that it has developed its own model, the economic model of the information age.

The *Times of India* sells some three million copies every day across India. The whole operation, particularly the coordination of advertising and editorial, depends on RespNet. This internal network won the *Times* a listing in *ComputerWorld* magazine's selection of the world's best corporate users of information technology. RespNet runs on Linux and other similar free software off the net.

Raj Mathur, who set up Linux on RespNet, agrees with Torvalds when the latter says, "people who are entirely willing to pay for the product and support find that the Linux way of doing things is often superior to 'real' commercial support." This is thanks to the large community of other developers and users who share problems and solutions and provide constant (sometimes daily) improvements to the system. The developer-users naturally include operators of networks similar to RespNet. So many of them can separately provide assistance that might not be available if they were all working together in a software company—as Linux Inc.—where they would be producers of the software but not consumers. This shifting base of tens of thousands of developers-users worldwide working on Linux means that the *Times of India* would have a tough time figuring out whom to pay, if it wanted to.

The fact that people go looking for other people on the internet, and that Linux developers look for others like them, is just one instance of the immediacy of much of the trade that takes place on the net. When you

post your message to rec.pets.cats, or create a home page—whether personal or full of your hobbies and work—you are continuously involved in trade. Other cat-lovers trade your message with theirs, visitors to your homepage trade your content with their responses, or perhaps you get the satisfaction of knowing that you're popular enough to get a few thousand people discovering you each week. Even when you don't charge for what you create, you're trading it, because you're using your work to get the work of others (or the satisfaction of popularity) in a discussion group through your website.
What is most important about this immediacy of the implicit trades that go on all the time on the net is its impact on notions of value. Unlike in the "real world," where things tend to have a value, as expressed in a pricetag, that is sluggish in response to change and relatively static across its individual consumers, on the net everything is undergoing constant revaluation. Without the intermediary of money, there are always two sides to every transaction, and every transaction is potentially unique, rather than being based on a value derived through numerous similar trades between others—that is, the pricetag.
As we continue to alternate between examples from the worlds of free software and usenet—to reiterate their equivalence in economic terms—we can see the two-sided nature of trade in this hypothetical example about cats. You may value the participants in rec.pets.cats enough to post a long note on the nomadic habits of your tom. In a different context—such as when the same participants are quarreling over the relative abilities of breeds to catch mice—you may not find it worthwhile contributing, because the topic bores you. And you may be far less generous in your contributions to rec.pets.dogs. You value the discussion on dogs, and catching mice, much less than a discussion on tomcats, so you're not willing to make a contribution. This would be "selling" your writing cheap; but when you get feedback on tomcats in exchange for your post, it's the right price.
Unlike noodles and bread, readers on internet newsgroups don't come with pricetags pinned on, so commonplace decisions involving your online acts of production require that you figure out the relative values of what you get and what you give, all the time. Others are figuring out the worth of your contribution all the time, too. Life on the internet is like a perpetual auction with ideas instead of money.
That note on your tomcat probably does not deserve the glorious title of idea; certainly the warm feeling that you got in exchange for posting it—when people responded positively and flocked to your homepage to see pictures of your cat—couldn't possibly be classed with "real ideas." Still, for the sake of convenience the subjects of trade on the net can be categorized as idea (goods and services) and reputation (which when enhanced brings all those warm, satisfied feelings, and more tangible benefits too).
Ideas are sold for other ideas or an enhanced reputation; reputations are enhanced among buyers of ideas, and reputations are themselves bought and sold all the time for other reputations, as we shall see later. The basic difference is that reputation (or attention) is, like money, a proxy. It is not produced or consumed in itself, but is a byproduct of the underlying production of actual goods ("ideas" in our binary terminology).

TWO SIDES TO A TRADE

Unlike the markets of the "real world," where trade is denominated in some form of money, on the net every trade of ideas and reputations is a direct, equal exchange, in forms derivative of barter. This means that not only are there two sides to every trade, as far as the transaction of exchanging one thing for another goes (which also applies to trades involving money), there are also two points of view in any exchange, two conceptions of where the value lies. (In a monetary transaction, by definition, both parties see the value as fixed by the price.)

As the poster of notes on tomcats, the value of your posting something is in throwing your note into the cooking pot of participatory discussion that is rec.pets.cats and seeing what comes out. As the author of a page on cats, what you value in exchange for your words and photographs is the visits and comments of others. On the other hand, as a participant on rec.pets.cats I value your post for its humor and what it tells me to expect when my kitten grows up; as a visitor to your webpage I learn about cats and enjoy pretty pictures.

When I buy your book about cats, it's clear that I am the consumer, you the producer. On the net, this clear black-and-white distinction disappears; any exchange can be seen as two simultaneous transactions, with interchanging roles for producer and consumer. In one transaction, you are buying feedback to your ideas about cats; in the other, I am buying those ideas. In the "real world" this would happen in a very roundabout manner, through at least two exchanges: in one, I pay for your book in cash; in the next, you send me a check for my response. This does not happen very often! (The exception is in the academic world, where neither of us would get money from the *Journal of Cat Studies* for our contributions; instead our employers would pay us to think about cats.)

As soon as you see that every message posted and every website visited is an act of trade—as is the reading or publishing of a paper in an academic journal—any pretense is lost that these acts have inherent value as economic goods with a pricetag.

In a barter exchange the value of nothing is absolute. Both parties to a barter have to provide something of value to the other; this something is not a universally or even widely accepted intermediary such as money. There can be no formal pricetags, as an evaluation must take place on the spot at the time of exchange. When you barter you are in general not likely to exchange your produce for another's in order to make a further exchange with that.

When the contribution of each side to a barter is used directly by the other, it further blurs the distinction between buyer and seller. In the "real world" barter did not, of course, take place between buyer and seller but between two producer-consumers in one transaction. When I trade my grain for your chicken, there's no buyer or seller, although one of us may be hungrier than or have different tastes from the other. On the internet, say in the Linux world, where it may seem at first that there's a clear buyer (the *Times of India*) and an equally clear, if aggregate seller (the Linux developer community), there is, in fact, little such distinction.

Just as the existence of the thousands of independent Linux developers are valuable to the newspaper because they are also users of the product—and may face similar problems—other Linux developers welcome the *Times of India* because the way it faces its problems could help them as Linux users.

CAN YOU EAT GOODWILL?

Perhaps you will agree that when you next post a note on cats, you're not giving away something for nothing. But what you get in return is often pretty intangible stuff—satisfaction, participation in discussion, and even answers to cat-related questions are all very well, and may be fair exchange for your own little notes, but don't seem substantial enough to make much of an economy. As for Linux—it's fine to talk about a large base of user-developers all helping one another, but what has all this brought Linus Torvalds? Although Linux did get vastly improved by the continuing efforts of others, none of this would have happened without Torvalds's original version, released free. Assuming that he's not interested in Linux as a hobby, he's got to make a living somehow. Doesn't he seem to have just thrown away a great product for nothing?

First, let's see what intangible "payment" Linux brought Torvalds. In the circles that might matter to Torvalds's career, he's a sort of god. As government and academic participation has declined as a proportion of the total internet developer community, most recent "free" technology has not been subsidized, either. The main thing people like Torvalds get in exchange for their work is an enhanced reputation. So there are, in fact, lots of net gods.

Net gods get hungry, though, and reputation doesn't buy pizzas. So what does Torvalds do? As it turns out, he was still in the University of Helsinki (in October 1996, when I first interviewed him; he's now with a U.S. company where "it's actually in [his] contract [to do] Linux part-time"). "Doing Linux hasn't officially been part of my job description, but that's what I've been doing," he says. His reputation helped: as Torvalds says, "in a sense I do get my pizzas paid for by Linux indirectly." Was this in an academic sense, perhaps? Is Linux, then, just another of those apparently free things that has actually been paid for by an academic institution, or by a government? Not quite. Torvalds remained in the university out of choice, not necessity. Linux has paid back, because the reputation it's earned him is a convertible commodity. "Yes, you can trade in your reputation for money," says Torvalds, "[so] I don't exactly expect to go hungry if I decide to leave the university. 'Resume: Linux' looks pretty good in many places."

IS REPUTATION A CONVERTIBLE CURRENCY?

Suppose you live in a world where people trade chicken and grain and cloth—a very basic economy indeed! Suddenly one day some strangers appear and offer to sell you a car; you want it, but "Sorry," says one of the strangers, "we don't take payment in chicken; gold, greenbacks, or plastic only." What do you do? It's not hard to figure out that you have to find some way to convert your chicken into the sort of commodities acceptable to car dealers. You have to find someone willing to give you gold for your chicken, or someone who'll give you something you can trade in yet again for gold,

and so on. As long as your chicken is, directly or indirectly, convertible into gold, you can buy that car.

What holds for chicken in a primitive barter economy holds also for intangibles such as ideas and reputation in the part of the economy that operates on the internet ("Implicit Transactions Need Money You Can Give away," *ED* 70). And some of these intangibles, in the right circumstances, can certainly be converted into the sort of money that buys cars, let alone pizzas to keep hunger away. This may not apply to your reputation as a cat enthusiast, though; it may not apply to all software developers all the time, either.

On the internet—indeed in any knowledge economy—it is not necessary for everything to be immediately traded into "real world" money. If a significant part of your needs are for information products themselves, you do not need to trade in your intangible earnings from the products you create for hard cash, because you can use those intangibles to "buy" the information you want. So you don't have to worry about converting the warm feelings you get from visits to your cat webpage into dollars, because for your information needs, and your activities on the net, the "reputation capital" you make will probably do. "The cyberspace 'earnings' I get from Linux," says Torvalds, "come in the format of having a network of people that know me and trust me, and that I can depend on in return. And that kind of network of trust comes in very handy not only in cyberspace." As for converting intangible earnings from the net, he notes that "the good thing about reputations...is that you still have them even though you traded them in. Have your cake and eat it too!"

There is, here, the first glimpse of a process of give and take by which people do lots of work on their creations—which are distributed not for nothing, but in exchange for things of value. People "put it" on the internet because they realize that they "take out" from it. Although the connection between giving and taking seems tenuous at best, it is in fact crucial. Because whatever resources are on the net for you to take out, without payment, were all put in by others without payment; the net's resources that you consume were produced by others for similar reasons—in exchange for what they consumed, and so on. So the economy of the net begins to look like a vast tribal cooking pot, surging with production to match consumption, simply because everyone understands (instinctively, perhaps) that trade need not occur in single transactions of barter, and that one product can be exchanged for millions at a time. The cooking pot keeps boiling because people keep putting in things as they themselves—and others—take things out.

Torvalds points out, "I get the other informational products for free regardless of whether I do Linux or not." True. But although nobody knows all the time whether your contribution is exceeded by your consumption, everyone knows that if all the contributions stopped together there'd be nothing for anyone: the fire would go out. And that wouldn't be fun at all.

COOKING-POT MARKETS

If it occurred in brickspace, my cooking-pot model would require fairly altruistic participants. A real tribal communal cooking pot works on a pretty different model, of barter and division of labor (I provide the chicken, you

the goat, she the berries, together we share the spiced stew). In our hypothetical tribe, however, people put what they have in the pot with no guarantee that they're getting a fair exchange, which smacks of altruism.

But on the net, a cooking-pot market is far from altruistic, or it wouldn't work. This happens thanks to the major cause for the erosion of value on the internet—the problem of infinity ("The Problem with Infinity," *ED* 63). Because it takes as much effort to distribute one copy of an original creation as a million, and because the costs are distributed across millions of people, you never lose from putting your product in the cooking pot for free, as long as you are compensated for its creation. You are not giving away something for nothing. You are giving away a million copies of something, for at least one copy of at least one other thing. Since those millions cost you nothing, you lose nothing. Nor need there be a notional loss of potential earnings, because those million copies are not inherently valuable—the very fact of there being a million of them, and theoretically a billion or more—makes them worthless. Your effort is limited to creating one—the original—copy of your product. You are happy to receive something of value in exchange for that one creation.

What a miracle, then, that you receive not one thing of value in exchange—indeed there is no explicit act of exchange at all—but millions of unique goods made by others! Of course, you only receive "worthless" copies; but since you only need to have one copy of each original product, every one of them can have value for you. It is this asymmetry unique to the infinitely reproducing internet that makes the cooking pot a viable economic model, which it would not be in the long run in any brickspace tribal commune.

With a cooking pot made of iron, what comes out is little more than what went in—albeit processed by fire—so a limited quantity can be shared by the entire community. This usually leads either to systems of private property and explicit barter exchanges, or to the much analyzed "Tragedy of the Commons" (G. Hardin, "The Tragedy of the Commons," *Science* 162, 1243–48 <http://dieoff.org/page95.htm>).

The internet cooking pots are quite different, naturally. They take in whatever is produced, and give out their entire contents to whoever wants to consume. The digital cooking pot is obviously a vast cloning machine, dishing out not single morsels but clones of the entire pot. But seen one at a time, every potful of clones is as valuable to the consumer as were the original products that went in.

The key here is the value placed on diversity, so that multiple copies of a single product add little value—marginal utility is near zero—but single copies of multiple products are, to a single user, of immense value ("Trade Reborn Through Diversity," *ED* 65). If a sufficient number of people put in free goods, the cooking pot clones them for everyone, so that everyone gets far more value than was put in.

An explicit monetary transaction—a sale of a software product—is based on what is increasingly an economic fallacy: that each single copy of a product has marginal value. In contrast, for each distinct product, the cooking-pot market rightly allocates resources on the basis of where consumers see value to be.

A CALCULUS OF REPUTATION

A crucial component of the cooking-pot market model is reputation, the counterpoint to ideas. Just as money does not make an economy without concrete goods and services, reputation or attention cannot make an economy without valuable goods and services, which I have called "ideas," being produced, consumed, and traded).

Like money, reputation is a currency—a proxy—that greases the wheels of the economy. Monetary currency allows producers to sell to any consumer, without waiting for the right one to offer a needed product in barter exchange. Reputation encourages producers to seed the cooking pot by providing immediate gratification to those who aren't prepared to pull things out of the pot just yet, or find nothing of great interest there, and thus keeps the fire lit.

Money also provides an index of value that aids in understanding not just individual goods (or their producers), but the entire economy. Reputation, similarly, is a measure of the value placed upon certain producer-consumers—and their products—by others. The flow and interaction of reputation is a measure of the health of the entire cooking-pot economy.

Unlike money, reputation is not fixed, nor does it come in the form of single numerical values. It may not even be cardinal. Moreover, while a monetary value in the form of price is the result of matching demand and supply over time, reputation is more hazy. In the common English sense, it is equivalent to price, having come about through the combination of multiple personal attestations (the equivalent of single money transactions).

Money wouldn't be the same without technology to determine prices. Insufficient flow of the information required for evaluation, and insufficient technology to cope with the information, have always been responsible for the fact that the same things often have the same price across all markets.

The management of reputation is far too inefficient today to be a useful aspect of a working economy. Its semantics are poorly understood; moreover, it has nothing remotely akin to the technology that determines prices based on individual transactions in the monetary economy.

CONCLUSION

The common assumption that the net feels at home with free goods and vague trade because its population is averse to money, altruistic, or slightly demented is wrong. It is becoming more obviously so as floods of "normal" people arrive from the world outside, and initiate themselves into the ways of the net.

An economic model based on rational self-interest and the maximization of utility requires the identification of what is useful—sources of value—as well as a method of expressing economic interaction. In the cooking-pot market model, while scarcity creates value, value is subjective, and may therefore be found in any information at all that is distributed on the net.

The cooking-pot model provides a rational explanation (where a monetary incentive is lacking) for people's motivations to produce and trade in goods and services. It suggests that people do not only—or even largely—produce in order to improve their reputation, but as a more-than-fair payment for

other goods—"ideas"—that they receive from the cooking pot. The cooking-pot market is not a barter system, as it does not require individual transactions. It is based on the assumption that on the net, you don't lose when you duplicate, so every contributor gets much more than a fair return in the form of combined contributions from others.

Reputations, unlike ideas, have no inherent value; like money, they represent things of value, as proxies. Reputations are crucial to seed the cooking pot and keep the fire lit, just as money is required to reduce the inefficiencies of pure barter markets. However, reputations require a calculus and technology for efficient working, just as money has its price-setting mechanisms today.

The cooking-pot model shows the possibility of generating immense value through the continuous interaction of people at numbing speed, with an unprecedented flexibility and aptitude toward intangible, ambiguously defined goods and services. The cooking-pot market already exists; it is an image of what the internet has already evolved into, calmly and almost surreptitiously, over the past couple of decades.

The cooking-pot model is perhaps one way to find a rationale for the workings of the internet—and on the net, it finds expression everywhere.

[Edited by Felix Stalder.]

SUBJECT: THE NEED TO GIVE: FREE SOFTWARE AND THE NETS

FROM: ED PHILLIPS <ARTLORE@SIRIUS.COM>
DATE: TUE, 29 SEP 1998 00:24:43 -0700

In late August, 1998, O'Reilly Publishing sponsored an Open Source Developer Day in downtown San Jose–emerald city as ghost town–in a hotel that conventions only partially fill. In a ballroom–conference room with a raised stage for speakers and a few hundred filled seats, the big figures in open source came together to discuss the "movement." Eric Raymond was the keynote speaker.

His talk focused on the "enterprise market" and Linux. Linux, the phenomenon, has made recent notice in the economic press, as have several other free software projects. Raymond delivered an entertaining tour through some of the more recent achievements of Linux. But it was limited to the entrance of Linux as a serious player in the corporate server and high-end markets. It's an interesting story, and one that can be measured somewhat. But the Linux phenomenon is much larger–a worldwide spread into PCs and even recycled 486s and 386s. This recycled market is of no financial significance in Silicon Valley at the moment but may prove to be of social and even economic significance globally.

There was little discussion by any of the participants of the larger social impact of free software; instead, discussions centered on business models and legal licensing issues. The calm was, however, punctuated by Richard Stallman's declaration that John Ousterhout was a "parasite" on the free software movement. Ousterhout was on the business models panel, describing his company, Scriptics's, planned support of the open source core of Tcl, the language he nursed to adolescence, and their simultaneous planned development of proprietary closed tools for Tcl as well as closed applications. During an open-mike period, Stallman said it was interesting to see IBM, a representative for which was on the panel, entering in to the free software community by supporting the Apache project while John was planning to make the fruits of the community into closed and in his view, harmful, proprietary products.

Some people clapped, others jeered. Without Stallman's provocation, the "conference" may have ended as a press conference rather than a town meeting for the free software community. Some of the more official attendees were said to be embarrassed by Stallman. Most seemed baffled by the dissension and controversy. Many of the old-timers just groaned, "Oh, there goes Stallman again." Some were worried that the hackers would be bear the brunt in the press.

A week later a vice president from a software company thinking about going open source talked to me after he got a full report about the conference. "Stallman is a Communist," he said. "He is not!" I laughed. "He's not even a Marxist." The closest Stallman ever came to talking about politics was to mention the U.S. Bill of Rights. Software developers aren't known for articulated or nuanced views of political economics; many aren't quite sure how to deal with subjects other than technical capacity or profits–let alone with the possibility that dissension and debate might be good.

Stallman's very presence makes some in the free software communities uncomfortable, like a cousin that shows up at the wrong time, is too loud, and says the things no one dares to say. Foremost amongst the traits that make the denizens of Silicon Valley uncomfortable is Stallman's contempt for the commercial. He is indeed contemptuous of it, of profit for its own sake–especially when it's at the expense of the free circulation of ideas and software. This is what many executives, hip though they may be, find so unsettling about him: expressing his views in Silicon Valley is like declaring contempt for gambling in Las Vegas. But his antics make perfect sense in the context and community of free software developers.

It strikes me as a mark of consistency and mental precision that he persists in his strict interpretation of free software. His legally technical discussions of the GNU General Public License are brilliant expositions of some call "viral" licenses–one that legally binds users to keep any modifications in the source code free and open to further modification. The GPL has been very good to Linux: the GNU project spent considerable time and money crafting a clear and legally binding document, and it has served as a haven for many a free software developer. Linus Torvalds among them was spared the need to craft a license and set a precedent for the open and distributed development of his project.

Stallman's GNU project has done incalculable good for free software. No one in the communities denies it; but his tenacity makes many of them nervous. And he doesn't make the "suits" comfortable either–nor does he want to. He doesn't carry a business card; he carries a "pleasure card," with his name and what appears to be a truncated personals ad, or a joke, "sharing good books, good food...tender embraces...unusual sense of humor." He clearly isn't looking for a job or a deal. Friends perhaps or "community," but not a deal. He's not against others making a profit from free software, though; in fact, he encourages people to make profitable businesses and make substantive contributions to free software and free documentation. Like every other "hacker" at that conference I talked to, he is a pragmatic thinker. He knows that no business would come near free software if it did not offer a successful business model for them. He's just not willing to compromise with those who try to combine open source with closed and proprietary software: if an open source project is cannibalized or "parasitized" by the development of closed products, he argues, it will hinder the free flow of ideas and computing.

John Ousterhout's plans for Tcl are just plans at the moment. He's playing with the possibility of supporting the open source development of Tcl while developing proprietary tools on top of it. He acknowledges that there will be some tension between Scriptics's investors' demand for profits and the community's need for substantive free development of Tcl. Veering too far in either direction will preclude contributions from the other: investment and connections or contributions and support.

The tension between Ousterhout and Stallman is representative of the conflicting economies and social realities the free software communities face. While investors and capitalists struggle to understand just how free software has become so successful and how they can somehow profit from it, hackers and developers are trying to maintain the integrity of free and open source computing in the face of new attention and interest.

Mainstream media interest in open source was piqued by the success of companies that serve and support the free software communities. The growing user base is spending a lot of money on support, commercially supported versions of free software products, and documentation. Commercial Linux vendors are making significant revenues; C2net's commercial, strong encryption version of Apache will earn the small company some US$15 million dollars in revenue this year; O'Reilly Publishing will earn over US$30 million dollars on documentation of free software this year. These figures are, of course, dwarfed by the figures that proprietary software companies earn. Bill Gates, the emblematic persona of commercial software, has a personal fortune that exceeds the combined wealth of the entire bottom forty percent of the United States population; and Microsoft, the synecdoche of success in the software business, is the second wealthiest company in the world behind the mammoth General Electric.

As large as Microsoft looms, it would be a mistake to credit them with spurring the development of free software. Free software has it's own trajectory and its own history; both predate Microsoft. Free software isn't a

creature of necessity, it's a child of abundance–that is, of the free flow of ideas the academy and in hacker communities, amongst an elite of developers and a fringe of hobbyists and enthusiasts. These communities lie outside the bonds of business as usual and official policy. The fact that this abundance has reached a significant enough mass to support business models has much less to do with presence of clay-footed proprietary monsters than with the superior and more engaging model that free software offers users and developers. Microsoft is, as Eric Raymond says, merely the most successful example of the closed, proprietary model of software development. But it is the model in general, not Microsoft in particular, that open source and free software offer an alternative to. This alternative isn't nearly as profitable; it makes better software. Enough people have begun to recognize this to present a threat to proprietary software wherever the two models compete. For now, it's hard to imagine anything that might threaten Microsoft, except for something outside of its model.

Recently, a number of companies have embraced open source software in various ways and to varying degrees. Does this stem from a sense of abundance or is it an act of desperation? To those within the free software communities, the answer is obvious, the move to free software comes from an abundance. But, for many others, when a large commercial company decides to go open source (for example, Netscape) it's often seen as a desperate act to shore up marketshare or mindshare while frosting the competition's widgets. The rising stars of the free software communities–Cygnus, Red Hat Software, and so on–had the community before they developed a business model. It's much harder for a company to start with a business model and try to create a community–in no small part because the sense of abundance that marks free software communities is alien to company logic. Free software as both a specter and a possibility has forced companies to consider alternative business models. For example, IBM's bundling of the Apache webserver allows them to earn revenue from supporting the free product on their systems, not from creating a closed product. IBM, of course, did not open the source code for any of its own proprietary products. It sought to leverage the community and the brand name of Apache, but it will, true to the model, contribute substantively to the open source. Some of the most visible internet companies rely entirely on free software; a good example is Yahoo, which runs on FreeBSD.

Often, these companies use and sometimes even develop open source technologies; but, they stop positioning themselves as technology enterprises per se. Richard Stallman pointed out quite a few years ago that the effects of free and open source computing are more social and educational than merely technological. I believe he meant that free and open source computing shifts emphasis from technology and focuses it on what the possibilities that computing and networking open up, the development of community and the education of people. Free software projects develop devoted communities that are explicitly extra-monetary and extra-institutional. Once-obscure theories about a gift economy, first set forth in *Essai sur le Don* (1920) by the French anthropologist Marcel Mauss, have become more than merely popular metaphors: they now form some of the basic tenets of the

free software movement. The extra-market and extra-institutional communities of free software are novel social forms whose nearest analogy are the "phratries" that Mauss describes: phratries are deep bonds developed with those outside of one's own family or clan; strangers become brothers through gift exchange.. A process that was fundamental to the theory of the gift economy and that is especially apt as an analogy for free software and the nets today is the potlatch, a term that describes the gift-giving ceremonies of the Northwest Coast Tribes of North America. The potlatch is a "system for the exchange of gifts," a "festival," and a very conspicuous form of public consumption. The potlatch is also the place of "being satiated": one feels rich enough to give up hoarding, to give away. A potlatch cannot take place without the sense that one is overrich. It does not emerge from an economics of scarcity.

Marshall Sahlins's *Stone Age Economics* of 1972 is, more than a study of gift economics, a critique of the economics of scarcity. Scarcity is the "judgement decreed by our economy" and the "axiom of our economics." Sahlins's and others' research has revealed that "subsistence" became a problem for humanity only with the rise of underprivileged classes within the developed markets of industrial and "postindustrial" cultures. Poverty, is as Sahlins says, an invention of civilization, of urban development. The sentence to a "life of hard labor" is an artifact of industrialism. The mere "subsistence scrabblers" of the past had—hour for hour, calorie for calorie—more "leisure" time that we can imagine: time for ceremony, time for play, time to communicate freely.

Sahlins's presentation of "the original affluent society" should not be confused with the "long boom" recently popularized by *Wired* and other organizations, the specious celebration of some kind of information or network economy that will miraculously save us from scarcity and failure. His ethnographic descriptions of communal and environmental surplus and public consumption of surplus through gift-giving are a rebuke of the failures of "progress" to deliver the goods, not a description of some information-age marvel. The gift-giving amongst an elite of programmers is an example of how collaborative and distributed projects can create wonderful results and forge strong ties within a networked economy; it certainly isn't an adequate representation of the successes of the information age as a whole. It is an ideal; given its recent achievements, however, it seems reasonable to ask what further developments free software communities might achieve. And, in asking that, we might ask where the limits of open source logic presently lie.

At the developers' conference I opened with, Stallman pointed out an important limitation: we lack good open source documentation projects for free software. This is crucial, because free software develops rapidly: it needs timely and well crafted documentation. Tim O'Reilly already copylefted a book on Linux, but didn't sell well. Perhaps it is time he tried again. The market is much bigger than it was even a few years ago. But, as O'Reilly points out, writers don't want to copyleft their books as much developers want to participate in free software projects. The authors of these books and of traditional books, for the most part, are individuals and

do not work collaboratively with networked groups of writers to produce a text. Perhaps some may be inspired, as many indeed are, to experiment, as O'Reilly said he may be willing to. "Let him experiment!," Stallman intoned after the conference.

The phenomenon of free software is probably bigger than anyone of us realizes. We can't really measure it because all the ways of tracking these kind of phenomena are economic, and the "small footprint" operating systems, Linux and FreeBSD, are flowing through much more numerous and difficult to track lines, lines through which move people just like the ones the who built them. There are a few hints. In August, cdrom.com broke the record for the largest FTP download of software for a single day, surpassing the previous record which had been set by Microsoft for one of its Windows releases. All of cdrom.com's software is free and open source. Cdrom.com reports that much of the download is to points outside of the United States and the E.U.—to areas where, industry wisdom tells us, intellectual property laws aren't respected. What happens when software pirates become users who avidly, even desperately, want to learn, to receive, and even to give?

What will be the social and economic effects of free and open source computing? Do the successful collaborative free software projects prefigure other kinds of collaborative projects? Will the *hau*, the gift spirit of free software spread into other areas of social and intellectual life? I hope so. There is a connection between the explosion in the use of networked computing and the recent rise to prominence of free software. And this connection may foretell new forms of community and free collaboration on scales previously unimagined, but it certainly won't happen by itself. It will take the concerted efforts of many individual wills and the questioning of many assumptions about the success and quality of the collaborative, the open, and the freely given.

[Edited by Ted Byfield.]

SUBJECT: INTERVIEW WITH JAMES STEVENS: STRATEGIES OF INDEPENDENCE AND SURVIVAL

FROM: MATTHEW FULLER <MATT@AXIA.DEMON.CO.UK>
DATE: WED, 2 SEP 1998 21:16:51 +0100

Backspace (<http://www.backspace.org >) is a center for a wide range of digital cultures in London. It has been central to developing net radio- and network-based art in the U.K. In fact, the amount of such work available through the Backspace domain far exceeds that available through the top-heavy institutions supposedly charged with developing this work. Why this might be, and how Backspace sits in relationship to different forms of circulation of material, mutual aid and cash is the focus of this interview with one of the founders, James Stevens.

MF> People who are new to the space never seem quite sure if Backspace is a squat, lounge area for multimedia industry casualties, gallery, cybercafe or private club. It's probably all of these except the first. How was it imagined when the place first opened—and how does it run now?
JS> To start with there was a loose group who met in London between summer '94 and '95, made up of those interested in the rise of the internet, networking and tech art. During this time Heath Bunting and I met on several occasions and talked about access/workshop spaces, "cybercafe.org," and so on, and how to do it. Over this time I met Jon Bains and later via IUMA Kim Bull. Obsolete was an attempt at working with the web which began in summer of '95, to develop new platforms for creative work, establish a server onto which we could present our efforts and those of our mates and earn enough money to live on (for a change). This worked very well except the gush of cash from our more corporate clients became a major distraction and point of distortion.
Our open studio became temporary family home to the growing group of artists coders and writers working on Obsolete projects, many of whom slept, ate, lived and worked in the space. In addition, our widening circle of friends and interested groups visited us more and more. This expanding use began to collide with the growing client requirements to deliver work and present ourselves.
A new space was found in the wharf to accommodate somehow some of these needs and to instate our wish share an access point of presence. It was left to me to follow this through so in March '96 we opened very quietly to engage first users. We adopted a quarterly subscription system. Anyone could join, use our equipment and make noncommercial stuff to present on our servers. Each member got several hours free with the subscription (£10) then paid £4 an hour therapeutic. This failed to raise enough supporting cash but did present an alternative to the mainstream cybercafe commerce. This loose arrangement continued until March of '97 when it was clear Obsolete should cease and Backspace would have to fend for itself.

In the first year over four hundred people took email addresses and used the space, we held website launches, group meetings, film screenings, events, and miniconferences. Some users held their own training sessions and, of course, there were many boozy late nights.

From April '97 Backspace has moved most of the way over into self sufficiency and the 80 or so subscribers each month cover the very basic costs. We have made adjustments to the fee to bring it closer to the line and it has settled at £20 per month. We now have six or seven people hosting two four-hour sessions a month each in exchange for reasonable expenses (£10). For this they must look after the space and support subscription and help maintain, contribute and develop at whatever level they can. We are closed on Monday to allow for repair, relaxation and reflection, though it is very often as busy as the week.

MF> Describe Backspace. It maintains quite an unusual presence in the area of London that it is in, a smallish tech-cluttered room hugging close to the river in an area that has been increasingly dominated by business, and also internally—it certainly doesn't fit the archetypal layout of a cybercafe. Inside the building, how do all the elements (computers, kettle, music, seats, people) work together? Does it fit into any real or imaginary network of related spaces?

JS> Being on the river here has an effect on everyone in the building not just in backspace, and that euphoria permeates all the interaction that occurs. Certainly, part of any great environment is the sense of space that is extruded in its presentation and use. We have always tried to make the best of the qualities of the room, acknowledging its inadequacies and building on a relationship with the location, history, future, and so on.

The question of business encroachment has become part of the mantra for me of late. I just have to keep reinstating my commitment to resistance of commercial or cultural co-option and out of the fug at Obsolete it seems more and more appropriate I do this. We are sidestepping the interruption of corporate concerns—I will not now work on anything other than sufficiency enriching projects (that is, no Levis or National Gallery, no British Nuclear Fuels or whatever their name is now...). We are not participating in the Lottery scrummage for contrivance and ineffective capitalization, rather edging into the areas around us and finding the energy we need to prevail. That is not to say we will not take support cash when it is appropriate; we have received two modest payments from the Arts Council for specifically short project periods.

Individuals who subscribe have found to their delight that an application for funding to any of the public funding bodies receives serious attention and is considered a reasonable prospect for award when associated with the space. When possible we will support these projects as equally as we support any other initiated from within the membership. There is little pretension to celebrity from within the group and this is refreshed/refocused by the flow of enthusiasm, contribution and contact we have with those who come and use the space. These characteristics are reflected in the platform for presentation at bak.spc.org and associated sites, it is a churning wash of ideas experiments and effluent, a nonhierarchical representation of the collective state of mind.

The use of the space is a meandering and confounding collision of the inarticulate, lucid and languid to the strains of rap and riverwash and no sooner have we settled the arrangement of the facilities and utilities around the room then we are upturned and overdriven. I love it.

MF> In terms of funding, Backspace itself occupies an interesting position. Can you describe your attitude to state funding and corporate sponsorship?

JS> All these models hug a formula for creativity and work practice that reinforces dependency. Whilst any genuine declaration and provision of cash in support of noncommercial product (that is, not a commercial) can be applauded, however it at this point the inevitable distortion occurs, the mediation, whatever...

I am now more adamant than ever that backspace exist free of any dependencies on public or corporate funding and that it flowers or fails on its own abilities. We are not employers, teachers or fundamentalists nor are we a web design agency or recording studio, we are not experts, we are chaotic and persistent, slacktivist.

There have been many opportunities over the last year for me to get very involved with Arts Council funding in particular. I have spent time talking with funding administrators to see if there is an economic way of dealing with them. Again and again I run into fundamental problems of perception and projection. On the face of it I think we satisfy most criteria and are in an attractive proposition for them to associate with, yet I cannot bring myself to sort it all out with them. Maybe I need help...or to just look outward and pass them.

So far the absence of a fund has not prevented project work from proceeding. If you build and present with components of an appropriate scale then bankrolling and other control issues recede to the background where they belong. I am always looking to ways of consolidating the flow of supporting cash and to this end have recently extended subscription to include ISP for an extra £5. I still get confronted by those who insist all this should be free and are offended by our model of openness and despair at our noncompliance.

There is no map or set of instructions that can be extracted and replicated. Each situation responds best to a custom set of attunements.

There is still the option of disappearance and the art of regrouping and reappearance. If things get boring, lose their magic, get stuck, it is simply time to move on, close certain operations and perhaps transform them, turn them into something new, something yet unknown. This is an old trick, an old wisdom if you wish. It has little to do with a weak will—remember that infrastructures are not that easy to rebuild. Years of work may be demolished within weeks. Social and human structures can be dissolved that are hard to replace, or to repair. Organizations are collective memories and one must have a very good reason to destroy one. Most of all, one must possess the energy to create something new, otherwise one will stand there with empty hands, facing a long path of melancholy ahead. [Geert Lovink <geert@xs4all.nl>, Strategies for Sustainable Autonomous Cyberspaces, September 1998]

SUBJECT: THE HIGH-TECH GIFT ECONOMY

FROM: RICHARD BARBROOK <RICHARD@HRC.WMIN.AC.UK>
DATE: TUE, 20 OCT 1998 00:35:01 +0100

THE LEGACY OF THE NEW LEFT

The net is haunted by the disappointed hopes of the sixties. Because this new technology symbolizes another period of rapid change, many contemporary commentators look back to the stalled revolution of thirty years ago to explain what is happening now. Most famously, the editors of *Wired* continually pay homage to the New Left values of individual freedom and cultural dissent in their coverage of the net. However, in their Californian ideology, these ideals of their youth are now going to be realized through technological determinism and free markets. The politics of ecstasy have been replaced by the economics of greed.

Ironically, the New Left emerged in response to the "sellout" of an earlier generation. By the end of the fifties, the heroes of the antifascist struggle had become the guardians of Cold War orthodoxies. Even within the arts, avant-garde experimentation had been transformed into fashionable styles of consumer society. The adoption of innovative styles and new techniques was no longer subversive. Frustrated with the recuperation of their parents' generation, young people started looking for new methods of cultural and social activism. Above all, the Situationists proclaimed that the epoch of the political vanguard and the artistic avant-garde had passed. Instead of following the intellectual elite, everyone should instead determine their own destinies.

"The situation is...made to be lived by its constructors. The role played by a passive...'public' must constantly diminish, while that played by those who cannot be called actors but rather... 'livers' must steadily increase." —G. Debord, "Report on the Construction of Situations and on the International Situationist Tendency's Conditions of Organisation and Action"

These New Left activists wanted to create opportunities for everyone to express their own hopes, dreams, and desires. The Hegelian "grand narrative" would culminate in the supersession of all mediations separating people from each other. Yet, despite their Hegelian modernism, the Situationists believed that the utopian future had been prefigured in the tribal past. For example, tribes in Polynesia organized themselves around the potlatch: the circulation of gifts. Within these societies, this gift economy bound people together into tribes and encouraged cooperation between different tribes. In contrast with the atomization and alienation of bourgeois society, potlatches required intimate contacts and emotional authenticity. According to the Situationists, the tribal gift economy demonstrated that individuals could successfully live together without needing either the state or the market. After the New Left revolution, people would recreate this idyllic condition: *anarcho-communism*. However, the Situationists could not escape from the elitist tradition of the

avant-garde. Despite their invocation of Hegel and Marx, the Situationists remained haunted by Nietzsche and Lenin. As in earlier generations, the rhetoric of mass participation simultaneously justified the leadership of the intellectual elite. Anarcho-communism was therefore transformed into the "mark of distinction" for the New Left vanguard. As a consequence, the giving of gifts was seen as the absolute antithesis of market competition. There could be no compromise between tribal authenticity and bourgeois alienation. After the social revolution, the potlatch would completely supplant the commodity. In the two decades following the May '68 revolution, this purist vision of anarcho-communism inspired community media activists. For instance, the radical "free radio" stations created by New Left militants in France and Italy refused all funding from state and commercial sources. Instead, these projects tried to survive on donations of time and money from their supporters. Emancipatory media supposedly could only be produced within the gift economy. During the late seventies, pro-situ attitudes were further popularized by the punk movement. Although rapidly commercialized, this subculture did encourage its members to form their own bands, make their own fashions, and publish their own fanzines. This participatory ethic still shapes innovatory music and radical politics today. From raves to environmental protests, the spirit of May '68 lives on within the DIY—do it yourself—culture of the nineties. The gift is supposedly about to replace the commodity.

THE NET AS REALLY EXISTING ANARCHO-COMMUNISM

Despite originally being invented for the U.S. military, the net was constructed around the gift economy. The Pentagon initially did try to restrict the unofficial uses of its computer network. However, it soon became obvious that the net could only be successfully developed by letting its users build the system for themselves. Within the scientific community, the gift economy has long been the primary method of socializing labor. Funded by the state or by donations, scientists don't have to turn their intellectual work directly into marketable commodities. Instead, research results are publicized by "giving a paper" at specialist conferences and by "contributing an article" to professional journals. The collaboration of many different academics is made possible through the free distribution of information.

Within small tribal societies, the circulation of gifts established close personal bonds between people. In contrast, the academic gift economy is used by intellectuals who are spread across the world. Despite the anonymity of the modern version of the gift economy, academics acquire intellectual respect from each other through citations in articles and other forms of public acknowledgment. Scientists therefore can only obtain personal recognition for their individual efforts by openly collaborating with each other through the academic gift economy. Although research is being increasingly commercialized, the giving away of findings remains the most efficient method of solving common problems within a particular scientific discipline.

From its earliest days, the free exchange of information has therefore been firmly embedded within the technologies and social mores of cyberspace. When New Left militants proclaimed that "information wants to be free" back in the sixties, they were preaching to computer scientists who were

already living within the academic gift economy. Above all, the founders of the net never bothered to protect intellectual property within computer-mediated communications. On the contrary, they were developing these new technologies to advance their careers inside the academic gift economy. Far from wanting to enforce copyright, the pioneers of the net tried to eliminate all barriers to the distribution of scientific research. Technically, every act within cyberspace involves copying material from one computer to another. Once the first copy of a piece of information is placed on the net, the cost of making each extra copy is almost zero. The architecture of the system presupposes that multiple copies of documents can easily be cached around the network. As Tim Berners-Lee—the inventor of the web—points out: "Concepts of intellectual property, central to our culture, are not expressed in a way which maps onto the abstract information space. In an information space, we can consider the authorship of materials, and their perception; but...there is a need for the underlying infrastructure to be able to make copies simply for reasons of [technical] efficiency and reliability. The concept of 'copyright' as expressed in terms of copies made makes little sense" ("The World Wide Web: Past, Present and Future").

Within the commercial creative industries, advances in digital reproduction are feared for making the "piracy" of copyright material ever easier. For the owners of intellectual property, the net can only make the situation worse. In contrast, the academic gift economy welcomes technologies that improve the availability of data. Users should always be able to obtain and manipulate information with the minimum of impediments. The design of the net therefore assumes that intellectual property is technically and socially obsolete.

In France, the nationalized telephone monopoly has accustomed people to paying for the online services provided by Minitel. In contrast, the net remains predominantly a gift economy even though the system has expanded far beyond the university. From scientists through hobbyists to the general public, the charmed circle of users was slowly built up through the adhesion of many localized networks to an agreed set of protocols. Crucially, the common standards of the net include social conventions as well as technical rules. The giving and receiving of information without payment is almost never questioned. Although the circulation of gifts doesn't necessarily create emotional obligations between individuals, people are still willing to donate their information to everyone else on the net. Even selfish reasons encourage people to become anarcho-communists within cyberspace. By adding their own presence, every user contributes to the collective knowledge accessible to those already online. In return, each individual has potential access to all the information made available by others within the net. Everyone takes far more out of the net than they can ever give away as an individual.

[T]he net is far from altruistic, or it wouldn't work... Because it takes as much effort to distribute one copy of an original creation as a million...you never lose from letting your product free...as long as you are compensated in return... What a miracle, then, that you receive not one thing in value in exchange—indeed there is no explicit act of exchange at all—but millions of unique goods made by others!" —Rishab Aiyer Ghosh, "Cooking-pot Markets"

Despite the commercialization of cyberspace, the self-interest of net users ensures that the high-tech gift economy continues to flourish. For instance, musicians are using the net for the digital distribution of their recordings to each other. By giving away their own work to this network community, individuals get free access to a far larger amount of music in return. Not surprisingly, the music business is worried about the increased opportunities for the "piracy" of copyrighted recordings over the net. Sampling, DJing, and mixing are already blurring property rights within dance music. However, the greatest threat to the commercial music corporations comes from the flexibility and spontaneity of the high-tech gift economy. After it is completed, a new track can quickly be made freely available to a global audience. If someone likes the tune, they can download it for personal listening, use it as a sample, or make their own remix. Out of the free circulation of information, musicians can form friendships, work together, and inspire each other.

"It's all about doing it for yourself. Better than punk." —Steve Elliot

Within the developed world, most politicians and corporate leaders believe that the future of capitalism lies in the commodification of information. Over the last few decades, intellectual property rights have been steadily tightened through new national laws and international agreements. Even human genetic material can now be patented. Yet, at the "cutting edge" of the emerging information society, money-commodity relations play a secondary role to those created by a really existing form of anarcho-communism. For most of its users, the net is somewhere to work, play, love, learn, and discuss with other people. Unrestricted by physical distance, they collaborate with each other without the direct mediation of money or politics. Unconcerned about copyright, they give and receive information without thought of payment. In the absence of states or markets to mediate social bonds, network communities are instead formed through the mutual obligations created by gifts of time and ideas.

"This informal, unwritten social contract is supported by a blend of strong-tie and weak-tie relationships among people who have a mixture of motives and ephemeral affiliations. It requires one to give something, and enables one to receive something. ...I find that the help I receive far outweighs the energy I expend helping others; a marriage of altruism and self-interest." —Howard Rheingold, *The Virtual Community*

On the net, enforcing copyright payments represents the imposition of scarcity on a technical system designed to maximize the dissemination of information. The protection of intellectual property stops all users from having access to every source of knowledge. Commercial secrecy prevents people from helping each other to solve common problems. The inflexibility of information commodities inhibits the efficient manipulation of digital data. In contrast, the technical and social structure of the net has been developed to encourage open cooperation among its participants. As an everyday activity, users are building the system together. Engaged in "interactive creativi-

ty," they send emails, take part in listservers, contribute to newsgroups, participate in online conferences, and produce websites (T. Berners-Lee, "Realising the Full Potential of the Web" <http://www.w3.org//1998/02/Potential.html>). Lacking copyright protection, information can be freely adapted to suit the users' needs. Within the high-tech gift economy, people successfully work together through "an open social process involving evaluation, comparison, and collaboration" (B. Lang, "Free Software For All," *Le Monde Diplomatique*, January 1998 <http://www.monde-diplomatique.fr/md/en/1998/01/12freesoft.html>).

The high-tech gift economy is even at the forefront of software development. For instance, Bill Gates admits that Microsoft's biggest competitor in the provision of webservers comes from the Apache program (K. W. Porterfield, "Information Wants to be Valuable" <http://www.netaction.org/articles/freesoft.html>). Instead of being marketed by a commercial company, this program is distributed for free. Like similar projects, this virtual machine is continually being developed by its techie users. Because its source code is protected though not frozen by copyright (under the GNU Public License), the program can be modified, amended, and improved by anyone with the appropriate programming skills. When someone does make a contribution to a free or "open source" project, the gift of their labor is rewarded by recognition within the community of user-developers.

The inflexibility of commodified software programs is compounded by their greater unreliability. Even Microsoft can't mobilize the amount of labor given to some successful shareware programs by their devotees. Without enough techies looking at a program, all its bugs can never be found (A. Leonard, "Let My Software Go!" <http://www.salonmagazine.com/21st/feature/1998/04/cov_14feature.html>). The greater social and technical efficiency of anarcho-communism is therefore inhibiting the commercial takeover of the net. Shareware programs are now beginning to threaten the core product of the Microsoft empire: the Windows operating system. Starting from the original software program by Linus Torvalds, a community of user-developers is together building their own nonproprietary operating system: Linux. For the first time, Windows has a serious competitor. Anarcho-communism is now the only alternative to the dominance of monopoly capitalism.

Linux is subversive. Who could have thought even five years ago that a world-class operating system could coalesce as if by magic out of part-time hacking by several thousand developers scattered all over the planet, connected only by the tenuous strands of the Internet? —Eric S. Raymond, "The Cathedral and the Bazaar"

THE "NEW ECONOMY" IS A MIXED ECONOMY

Following the implosion of the Soviet Union, almost nobody still believes in the inevitable victory of communism. On the contrary, large numbers of people accept that the Hegelian "end of history" has culminated in American neoliberal capitalism. Yet, at exactly this moment in time, a really existing form of anarcho-communism is being constructed within the net,

especially by people living in the U.S. When they go online, almost everyone spends most of their time participating within the gift economy rather than engaging in market competition. Because users receive much more information than they can ever give away, there is no popular clamor for imposing the equal exchange of the marketplace on the net. Once again, the "end of history" for capitalism appears to be communism.

For the high-tech gift economy was not an immanent possibility in every age. On the contrary, the market and the state could only be surpassed in this specific sector at this particular historical moment. Crucially, people need sophisticated media, computing, and telecommunications technologies to participate within the high-tech gift economy. A manually operated press produced copies that were relatively expensive, limited in numbers and impossible to alter without recopying. After generations of technological improvements, the same quantity of text on the net costs almost nothing to circulate, can be copied as needed, and can be remixed at will. In addition, individuals need both time and money to participate within the high-tech gift economy. While a large number of the world's population still lives in poverty, people within the industrialized countries have steadily reduced their hours of employment and increased their wealth over a long period of social struggles and economic reorganizations. By working for money during some of the week, people can now enjoy the delights of giving gifts at other times. Only at this particular historical moment have the technical and social conditions of the metropolitan countries developed sufficiently for the emergence of digital anarcho-communism.

"Capital thus works towards its own dissolution as the form dominating production." —Karl Marx, *Grundrisse*

The New Left anticipated the emergence of the high-tech gift economy. People could collaborate with each other without needing either markets or states. However, the New Left had a purist vision of DIY culture: the gift was the absolute antithesis of the commodity. Yet, anarcho-communism only exists in a compromised form on the net. Contrary to the ethical-aesthetic vision of the New Left, money-commodity and gift relations are not just in conflict with each other, but also coexist in symbiosis. On the one hand, each method of working does threaten to supplant the other. The high-tech gift economy heralds the end of private property in "cutting edge" areas of the economy. The digital capitalists want to privatize the shareware programs and enclose the social spaces built through voluntary effort. The potlatch and the commodity remain irreconcilable.

Yet, on the other hand, the gift economy and the commercial sector can only expand through mutual collaboration within cyberspace. The free circulation of information between users relies upon the capitalist production of computers, software, and telecommunications. The profits of commercial net companies depend upon increasing numbers of people participating within the high-tech gift economy. For instance, from its foundation Netscape has tried to realize the opportunities opened up by such interdependence. Under threat from the Microsoft monopoly, the company had to ally itself

with the hacker community to avoid being overwhelmed. It started by distributing its web browser as a gift. Today the source code of this program is freely available and the development of products for Linux has become a top priority. The commercial survival of Netscape depends upon successfully collaborating with hackers from the high-tech gift economy. Anarcho-communism is now sponsored by corporate capital—for example, as when Netscape released the source code to its browser.

"'Hi there Mr CEO [Chief Executive Officer]—tell me, do you have any strategic problem right now that is bigger than whether Microsoft is going to either crush you or own your soul in a few years? No? You don't? OK, well, listen carefully then. You cannot survive against Bill Gates [by] playing Bill Gates' game. To thrive, or even survive, you're going to have to change the rules...'" —Eric S. Raymond

The purity of the digital DIY culture is also compromised by the political system. The state isn't just the potential censor and regulator of the net. At the same time, the public sector provides essential support for the high-tech gift economy. In the past, the founders of the net never bothered to incorporate intellectual property within the system because their wages were funded from taxation. In the future, governments will have to impose universal service provisions on commercial telecommunications companies if all sections of society are to have the opportunity to circulate free information. Furthermore, when access is available, many people use the net for political purposes, including lobbying their political representatives. Within the digital mixed economy, anarcho-communism is also symbiotic with the state.

This miscegenation occurs almost everywhere within cyberspace. For instance, an online conference site can be constructed as a labor of love, but still be partially funded by advertising and public money. Crucially, this hybridization of working methods is not confined within particular projects. When they're online, people constantly pass from one form of social activity to another. For instance, in one session, a net user could first purchase some clothes from an e-commerce catalogue, then look for information about education services from the local council's site, and then contribute some thoughts to an ongoing discussion on a listserver for fiction writers. Without even consciously having to think about it, this person would have successively been a consumer in a market, a citizen of a state, and an anarcho-communist within a gift economy. Far from realizing theory in its full purity, working methods on the net are inevitably compromised. The "New Economy" is, in the lexicon of *Wired* and its ilk, an advanced form of social democracy (see K. Kelly, "New Rules for the New Economy," *Wired*, September 1997).

At the end of the twentieth century, anarcho-communism is no longer confined to avant-garde intellectuals. What was once revolutionary has now become banal. As net access grows, more and more ordinary people are circulating free information across the net. Crucially, their potlatches are not attempts to regain a lost emotional authenticity. Far from having any belief in the revolutionary ideals of May '68, the overwhelming majority of people

participate within the high-tech gift economy for entirely pragmatic reasons. Sometimes they buy commodities online and access state-funded services. However, they usually prefer to circulate gifts amongst each other. Net users will always obtain much more than will ever be contributed in return. By giving away something which is well made, they will gain recognition from those who download their work. For most people, the gift economy is simply the best method of collaborating together in cyberspace. Within the mixed economy of the net, anarcho-communism has become an everyday reality.

"We must rediscover the pleasure of giving: giving because you have so much. What beautiful and priceless potlatches the affluent society will see—whether it likes it or not!—when the exuberance of the younger generation discovers the pure gift." —Raoul Vaneigem, *The Revolution of Everyday Life*

[This article is a remixed extract from *The Holy Fools: A Critique of the Avant-garde in the Age of the Net* (London: Verso, forthcoming).]

SUBJECT: ADA'WEB

FROM: FELIX STALDER <STALDER@FIS.UTORONTO.CA>
DATE: TUE, 20 OCT 1998 22:30:51 + 0100

From: "Armin Medosch" <armin@mail.easynet.co.uk>
Date: Tue, 3 Mar 1998 10:47:04 +0000
Subject: Leading Art Site Suspended

From www.nytimes.com:
Leading Art Site Suspended
By Matthew Mirapaul

The Ada'web Web site, one of the most dynamic destinations for original Web-based art, is being suspended.
Benjamin Weil, the co-founder of Ada'web, announced on Monday in an e-mail message that Digital City Inc., the site's publisher, had canceled its financing and that Ada'web would cease producing new artistic content. Weil is now seeking a permanent home for its archives so that its material can remain accessible.
Since it was conceived in late 1994, Ada'web has become one of the premier destinations for online creativity. Ultimately, it presented about 15 web-specific projects by such high-profile contributors as the conceptual artist Lawrence Weiner. The site's first offering, launched officially in May 1995, was Jenny Holzer's "Please Change Beliefs."

Date: Tue, 3 Mar 1998 16:08:54 -0500
From: mf@mediafilter.org (MediaFilter)
Subject: Re: Leading Art Site Suspended

Guess it takes a cruel dose of reality before people get a clue that autonomy is necessity, corporate sponsorship is ultimately censorship, and subsidies from the government are short lived at best.

Don't be surprised! There is no free lunch. Everything has its price.

Paul Garrin

Date: Wed, 4 Mar 1998 11:45:56 -0500
From: beweil@adaweb.com (Benjamin Weil)
Subject: Re: Leading Art Site Suspended

This kind of commentary astounds me in that it demonstrates a remarkably simplistic approach to the economy of the arts and culture in general. It reminds me of those people who keep on saying that artists have to starve in order to produce good work. It is at best romantic, at worst idiotic.

Art has *always* been supported by wealth, may it be individual patrons, corporations or the state (in modern times). There is no doubt that there is a price to pay, that there is no "free lunch." Nobody—except maybe romantics or idiots—ever assumed that receiving funding from any corpus was "free of charge." Old masters, as we refer to them, had to service the greed and power of individuals or families, and it did not prevent them from being "free." Their freedom was defined by the constraints they had to accept in order to make their work. The notion of the artist having "no obligation" to anyone except to her/his art is something that only pushes this area of culture in a very marginal position. Any transaction implies the agreement between both parties that there is something in it for each. The fact Digital City, Inc. has decided to stop supporting Ada'web only proves that this corporate entity does not see its interest in supporting such venture any longer. But being able to state that "corporate sponsorship is ultimately censorship" basically ignores the nature of *any* transaction.

Public space on the net will only disappear if we decide so. Just like the notion of public space in the city disappears if it is not occupied. It is a decision, not an occurrence.

More constructive and interesting as a departure point is the nature of the relationship between art and its potential sponsors, so as to eventually come up with means to convince the holders of wealth that they have an interest in supporting activities that are not "profitable" in a purely capitalistic understanding of the term. So far, most of that support was informed by a

valuation of culture that relied upon the notion of prestige, or status. There must be other ways, more creative ones, to approach the possibility of establishing satisfactory relationships with corporate patrons. However, this kind of thinking can only be discussed with the postulate that the corporate world is no worse than the state, who in turn is no worse than the private individual. Again, the nature of such a relationship *cannot* be envisioned outside of the notion of mutual interest.

On a final note, I also have to say that the whole notion of a disinterested state that is so much better than the corporate world, in that it supposedly does not have any agenda is again one of the most worn out and preposterous statements that can be made at this point. Wake up and smell the coffee: it's the nineties, not the sixties!

Date: Wed, 4 Mar 1998 19:36:57 -0400
From: murph the surf <murph@interport.net>
Subject: Re: Leading Art Site Suspended

In the long run I don't know if Ada'web would have found a place within Digital City because it would have taken time to figure out how to do it with concessions made on both sides. Meaning and value in art accrue over time and I think the kind of continuity required for art can benefit a business that is constantly responding to the market flux. It takes insightful leadership to understand and implement this effectively, something AOL doesn't seem to have much of, or need to be successful.

Since we started in 1993 as a BBS, Artnetweb has evolved into a network of people, projects and things without anything resembling a business plan and it would be ridiculous for us to think we would fit into a corporate structure without a corporate sensibility. Our network exists as it is used and when the network stops being used it will no longer exist.

As an organization we receive no grants or other institutional support. We keep ourselves alive by teaching classes, by doing freelance web design and upkeep plus whatever else comes along with a paycheck. We also work on VRML projects for various exhibitions and exhibition sites.

This situation isn't what we planned in the beginning because we had no idea what the future would be, and it certainly isn't perfect. We've changed and adapted; obviously no great patron is waiting to take us under their protective wing, yet we have discovered some possibilities for working with corporations and others that may prove beneficial for everyone involved. Sounds a lot like real life.

Robbin Murphy

Date: Sat, 07 Mar 1998 14:30:52 -0500
From: Stephen Pusey <scp@plexus.org>
Subject: Funding Digital Culture

I'm both intrigued and irritated by this Ada'web saga. Intrigued because it highlights a need for discussion about funding online arts entities and the pros and cons of their formulas for survival. Irritated, because of the fuss concerning Ada'web's decision simply to stop just because their one source of monetary nourishment terminated—to quote Benjamin Weil "...they said 'We don't have any more money to fund this,' and then it was our decision, more or less, to stop. You know, how could we do it without money?" Obviously sucking on that one corporate teat for the last three years produced a mindset that cannot tolerate an existence without its regular *dolce latte*.

At the end of '94 and beginning of '95 a number of arts websites appeared among them The Thing, PLEXUS, artnetweb, Ada'web, and others. The principals of these organizations had prior acquaintance from dialogue on pre-web dial-up BBSes like The Thing. There was, however, a fundamental difference between Ada'web and the rest. They were a wholly owned part of a parent corporation—one of the cherries on the cake of John Borthwick's start-up, WPStudios, an ambitious conglomerate of online publications. The rest of us were "independents" that had little or no corporate or state funding, and therefore had to constantly devise new ways of paying the bills and keeping the marshals from closing our offices, while at the same time building online environments to promote discourse and digital culture. I am not declaring financial poverty to be a virtue here, just that hardship has been a factor that has necessitated a diverse approach to survival, albeit a slower and perhaps erratic development.

Ada'web enjoyed three good years supplied with office, equipment, and wages, which has enabled them to concentrate single-mindedly on producing and promoting a beautiful and extraordinary arts environment. Weil and his crew surely must have suspected from the outset that this would be a short-term venture. Borthwick is a pragmatist who knows that pigs get slaughtered in the market. He put together an attractive hip package and sold it before he lost his investment. Inevitably, AOL's Digital City got out their calculators and realized that some pieces of what they bought were not going to spin a penny and so ditched Total New York, Spanker and Ada'web: a predictable outcome.

My purpose here is not to put the boot in when the man is down; Ada'web has made an important contribution and I sincerely hope that Benjamin Weil finds a new way of continuing its mission. There are, however, lessons we can draw from their dilemma. Obviously, the first is to avoid corporate ownership, unless you control the corporation. In seeking corporate sponsorship, success lies in identifying to the donor the ways in which your purpose and their strategy are mutually aligned. This may cause you, especially if the potential financial rewards are really high, to reform your philosophy

to match theirs. The same is also true of state sponsors, who may be tempered by political pressures that prohibit them from sponsoring certain kinds of expression, like sexually explicit material. Finding the right sponsorship, indeed any sponsorship, can be a full-time activity. If an organization wants to avoid compromising its charter it has to draw from a broad portfolio of funders. The other solution is to evolve a business model that supports the organization's agenda without outside interference. I assume The Thing does this with some modicum of success, by using the profits from its ISP. Another option that could prove effective in the long term is collective action. Perhaps an organization like the Foundation for Digital Culture (<http://digicult.org/>), reformed with an international constituency, could be an organ through which we collectively lobby and inform government and corporate funders to support progressive digital culture?

Date: Sun, 8 Mar 1998 14:52:19 -0500
From: t byfield <tbyfield@panix.com>
Subject: Re: Funding Digital Culture

At the bottom of these questions and condemnations is the presumption—rather arrogant, I would say—that folding shop is somehow a failure to fulfill some solemn obligation. This seems strange: as though the nominal institution had somehow subsumed the potential of the people it was made of. That this kind of creeping institutionalism would appear in Nettime, of all places, seems especially curious. Just "where" is Nettime? At Desk? At the Thing? In Ljubljana? In Berlin? In London? In Budapest? This distribution—as much between *people* as between sites—is both Nettime's strength and its weakness. In the wake of Ljubljana, I heard some grumbling about disorganization, about how there were no solid resolutions, no definitive programs or advances. And I thought that this was great: it's very easy to cement social organization around programs, but harder to preserve looser bonds—loyalties, trust, a certain faith. So here we are, presented with the (to my mind rather forced) "spectacle" of Ada'web's demise, attended by great finger-wagging and I-told-you-soing and lesson-learning and whatnot. All of it privileging the institution over the individual. Now, Mr. Weil may be (or may have been) an Executive Curator, but that doesn't mean Ada'web was a MVSEVM carved in stone. To demand that of electrical signals built on a small group of people, at this stage of the game, is excessive, IMO.

Date: Sun, 08 Mar 1998 22:57:06 -0500
From: Stephen Pusey <scp@plexus.org>
Subject: Re: Funding Digital Culture

What constitutes a networked entity and where is it located? At the points of broadcast or reception? And of course, all of these names artnetweb, PLEXUS, The Thing, and so on, are but temporary and formative identities that propose indeterminate perspectives at various times in the shifting

milieu of digital culture. The types of individuals that instigate these projects, are themselves a guarantee against institutionalization, of that you can be assured. Furthermore, my proposal to use an association like digicult (FDC) as a focal point for lobbying of governments on behalf of digital culture, should not be interpreted as a move towards institutionalizing the process. Such an entity would have its form and policy shaped by an internetworked community of cultural practitioners and would exist only as long as they wished it to. Again, the location for such an association would be its networked community. Part of its charter could be the subversion and persuasion of funding agencies worldwide towards an awareness and support of a critical digital culture.

Date: Tue, 10 Mar 1998 17:22:12 -0500
From: beweil@adaweb.com (Benjamin Weil)
Subject: funding for the arts, etc.

Mr. Byfield's postings have encouraged me to step in for a last time, and clarify a number of points here.

(1) Part of Ada'web's founding mission was to explore possible alternatives as far as funding for art online was concerned. John Borthwick and I believed it was important to consider the landscape, and figure out a way we could derive an economic model for a type of art production which was no longer unique (no commodification possible here!) and whose only existence—so to speak—was virtual. The idea was to be able to commission works, and compensate the artists we invited to work on those projects.

(2) Looking for alternate means of support was partly informed by the difficulty experienced by colleagues who sought to get public funding for their activities, and the fact that we wanted to fully concentrate on producing those works, rather than having to find work for hire contracts. (For the prompt to fire insults, I will here state very clearly: this is *not* by any means a value judgment, but just reflecting a choice to try and do things differently). Furthermore, it was my belief that the development of the web would be an extraordinary opportunity for art to desegregate itself, and (re)gain a central position in the ambient cultural discourse and practice. Both John Borthwick, the Ada'web team and I believed that exploring the dynamics and pushing the limits of the medium with the artists we produced work with, as well as the ones we hosted the projects of, was an important thing to contribute to the net. It was one model among the many that were—and still are—being developed.

(3) Working with corporate money was assumed to be one way of dealing with the absence of public funding. However, rather than knocking at the corporate door asking for "charity" money, we thought we could convince them that art could be a valuable asset, as artists have always been cultural forerunners, and that in that sense, it could be understood as a form of cre-

ative research which could make them understand better the medium they were investing in, and draw attention to their corporation as being innovative.

To conclude, I must admit that the extreme violence of certain protagonists in this discussion surprised me: I guess that anyone who is not perpetuating a certain position of hatred vis-à-vis corporations, anyone who tries to find different ways to do things, tries to posit the problems differently, is just a criminal who needs to be immediately punished. And BTW, those of you who feel that artists should remain "pure" and "independent" (like there is of course such a thing as independence, we all know that, right?) you will be happy to learn that yet another website was just closed, another "corporate teat sucker"! Word.com, another site that was trying to do things differently, was nixed.

Date: Wed, 11 Mar 1998 10:12:56 -0500 (EST)
From: Keith Sanborn <mrzero@panix.com>
Subject: Re: funding for the arts etc.

(1) A sponsored site enters the market as advertising. While it's not a physical commodity that is sold to its recipients, the recipients, as Richard Serra quoting someone else once said "are the commodity." Television delivers people to advertisers; corporate sponsors buy attention for themselves by using art to attract potential users of their services.

(2) It seems the only thing you've "done differently" is failed to pay in money terms the artists whose work you use for advertising. I think we already covered this with reference to Manfreddo Tafuri: "The fate of formal innovation in the arts is to be co-opted by advertising." It's a bit more complicated in the case of less visible sponsorship, but not a lot different than those Absolut Vodka ads. The difference being that Absolut Vodka had to pay the artists for the more radical product placement.

(3) The notion that "artists" need support on the web, at least in North America or Western Europe, is far from self-evident. For a relatively low cost and low investment of learning time it is relatively easy to create one's own webpages and place them. If artists wish to use the services of a site supporting artists in order to increase their visibility, then they are simply using the site to advertise their work. They are allowing their work to be used in exchange for the privilege of having it seen, which could conceivably lead to some other long term benefit. Corporate or government or individual patronage is never disinterested. No matter how much of a potlatch mentality is involved, the potlatch aspect is used to enhance one's prestige as it is with its originators, the indigenous inhabitants of Northwestern North America. One affirms one's right to one's potlatch seat by giving away things on deliberately public occasions; one catches hold of a grooviness quotient in the corporate hierarchy by sponsoring artists. Duh!

Date: Sat, 14 Mar 1998 17:15:12 -0500
From: Stephen Pusey <scp@plexus.org>
Subject: Re: Funding Digital Culture

Here is an opportunity to examine the viability of models for funding arts organizations. Judging from the examples of both Ada'web and Word, the model of ownership by a parent corporation is not conducive to a long-term development, though it may very well serve the interests of a short-term research project. Scott Baxter, Icon's (the owners of Word) president and chief executive, succinctly expresses the cold pragmatism of the corporation, "Real business, real profit, I don't derive that from Word like I did historically," ...said claiming ownership of the zine in earlier days helped put "Icon on the map" and all but "closed deals" for its salespeople.

Weil seems unclear as to what is meant by independence. To be sure, we can argue 'till the cows come home about the varying degrees of dependence that bond individuals and social groups. Let me clarify what I mean by the term in respect to arts organizations, in particular the online arts community. An independent organization is an entity, in my view, that may draw funding from many sources, private, corporate, government, etc., but allows none of these to control, dictate, or otherwise affect its development or lifespan. The importance of this cannot be underestimated.

To emphasize, my argument is not against corporate, government or private sponsorship per se, but that having to justify the agenda and existence of an arts organization to shareholders or a parent corporation is both unhealthy and intolerable as it inevitably entails a compromising alignment of interests. To quote Benjamin Weil, "the relationship with our corporate "parent"—Digital City, Inc.—has to be nurtured so as to develop a common ground where both parties understand what's in it for them" (<http://www.atnew≠york.com/view323.htm>).

Clearly there is a need to debate and formulate a strategy for sponsorship which encourages long-term growth of digital culture. Environments like PLEXUS, artnetweb, The Thing, Stadium, and so on, though fueled perhaps by utopian ideals, are built largely on the unfinanced labor of their founders and collaborators. Their progress, however, is not aided, but hampered by a lack of funding.

[Edited by Felix Stalder and Ted Byfield.]

SUBJECT: MY EXPERIENCE WITH ELECTRIC MINDS

FROM: HOWARD RHEINGOLD <HLR@WELL.COM>
DATE: SUN, 1 FEB 1998 12:22:35 -0700

In the summer and fall of 1994 I helped create HotWired, and served as its first executive editor. I quit a couple of weeks after it was launched, in late 1994. What I had in mind had elements of a magazine (editorial filtering, creative design, regular, high-quality, "content"), but was much more like a community (many-to-many, unfiltered, audience-created content). I spent most of 1995 having great fun updating my webpage every day. I did all the writing, editing, design, illustrations, HTML. I talked friends of mine in America, Europe, and Japan into writing for free. In late 1995 I got it into my head that I should expand what I was having such fun doing. When I sat down to figure out how to pay my writers and editors, hire a "real" designer, and license a webconferencing system, it looked like it would cost tens of thousands per month and take us three or four months to launch.

Lesson number one was that everything in a startup that depends on cutting-edge technology takes longer and costs more than originally estimated, even when you take lesson number one into account.

Deciding to pay people reasonably well (but by no means extravagantly) for editorial content, art and design, and technical services led me to need more money than I had. That's when I made what I now clearly see to be my most fundamental error: I got caught up in the intoxication of venture-capital financing, which was in a particular state of mania in late 1995. I connected with a business partner I didn't know, but who knew how to go about securing financing and putting together a company—my second fundamental error. I failed to listen to my own nagging doubts and made a bad choice in partners.

I take responsibility for making the decisions that led to both the success and the failure of Electric Minds. We made a lot of bad decisions (though probably not many more than average for startups), but the decision to go for venture capital made all the other decisions moot. My new partner introduced me to a fellow from Softbank Ventures, for whom a million dollars was a relatively small investment. Softbank was an early investor in Yahoo!, and had bought Comdex and Ziff-Davis outright. I told the guy from Softbank that if we could figure out how to combine community and publishing, then the other companies in the Softbank investment portfolio could leverage that knowledge profitably. I believed, and still do, that it is possible to grow healthy, sustained online discussions around Yahoo!, Comdex, and Ziff-Davis. Electric Minds was supposed to be an experiment. And the million dollars I was asking for was just a down payment on a several-year relationship. At that point, any business plan for an internet business was a conjec-

ture; thinking about how virtual communities could make business was in the realm of science fiction. We agreed that the first step was to build an exemplary product that would demonstrate the cultural viability of combining editorial content and virtual community. We agreed that it would take at least three years to become profitable.

Both Softbank and I realized that we were gambling when we projected that within three years Electric Minds could attract enough traffic to make significant advertising revenues.

We were funded in March 1996 and launched in November. In December, *Time* magazine named us one of the ten best websites of the year. By July we were out of business. Softbank, which had been expanding its investment funds to billions of dollars in size, mostly through Asian-based investors, stopped expanding. And when something that big stops expanding, it's a big loss. They were making millions of dollars a day just moving their electronic liquidity around world markets. Moving electronic liquidity around world markets is really the only game in town; all other industries and enterprises are tickets to that game. When Softbank's bubble stopped growing, they started thinking like venture capitalists again. It is my belief that the person who sponsored us for Softbank was thinking properly about the way to research the future of the medium, but wasn't thinking properly as a venture capitalist.

Venture capitalists want ten times their investment, and they would prefer to get it in three to five years. Good venture capitalists bring their connections and experience to the table, and actively help the founders build a business. In many business plans, including ours, a specific schedule of financial milestones is established. In many VC investment contracts, there are "clawback" provisions (what an evocative term!) that empower the investor to take more control of the company every time a milestone is missed. When Softbank took a cold look at their investments and started weeding out the ones that were less likely to achieve a ten-times return, they withdrew their verbal promises—which had not yet gone to written contract—of bridge financing. We did have revenues—IBM had contracted Electric Minds as the exclusive provider of virtual-community services when they conducted the Kasparov versus Deep Blue II chess match. Although we had not started out with the intention of providing virtual community–building services for other commercial enterprises, the need to ramp up revenues made it an attractive idea, and one that was not outside our original mission to encourage virtual communities on the web.

When someone has two million dollars invested, in hopes of expanding it to twenty million, they tend to push hard in the direction of attractive revenue sources. I knew clearly what I wanted to accomplish when I started—to launch a sustainable and high-cultural enterprise on the web, to show how content and community could work together to create a new hybrid medium, and to encourage the growth of many-to-many communication on the web. But the gravitational attraction of a twenty-million-dollar goal can draw the enterprise away from the course the founder originally envisioned. In order to continue paying for what many reviewers had acknowledged was high-quality content and conversations, Electric Minds was on its way to

growing from fourteen employees to thirty, with most of our revenues derived from contract work building virtual communities for others. Jerry Yang at Yahoo! was enthused about us and gave us permission to create an experiment in web form–based community building. We were in discussions with Ziff-Davis, IBM, and Softbank Expos.

When we ran out of operating capital and dissolved the business, I found myself not only relieved, but happy that I wouldn't be spending my time doing what I had promised to do for Ziff, IBM, and Softbank Expos. The Yahoo! project still seemed like it could have been fun. But I had never set out to create a virtual community–building agency, and didn't want to spend my time running one. I had never set out to make tens of millions of dollars, which probably contributed to our failure to thrive.

When I had the time to think about where I had gone wrong, it seemed clear to me, and still does, that if I had simply added inexpensive conferencing software and continued doing my amateur editing and design, I could have grown something less fancy but more sustainable, even if not in financial terms. Venture capital, I concluded, might be a good way to ramp up a Netscape or a Yahoo!, or create a market for a kind of technology product that never existed before. But it isn't a healthy way to grow a social enterprise. It doesn't take too many people to sustain a small online community. Of course, many great conversations take place via mailing lists, but conferencing (BBS, message-board, newsgroup) media have their own unique capabilities, though they are also a little more expensive to run than a list. When we created The River (<www.river.org>), the idea was to create a cooperative corporation that would enable the people who made the conversation to also own and control the business that made the conversation possible. A couple of hundred people each contributed a couple of hundred dollars and agreed to pay fifteen dollars a month, and that turned out to be sufficient to buy a Pentium box and software licenses and make a co-location deal with an internet service provider. Technical and accounting services are voluntary. It works pretty well.

I have returned to spending my time the way I most enjoyed before my two years as an entrepreneur. I update my website (<www.rheingold.com>) a couple of times a week and communicate directly with my audience. I'm adding inexpensive webconferencing software in a week or two, and I'm creating a small community to discuss the things that interest me—technology, the future, media, social change. It's a hobby—I carry the costs. It makes me much happier to run it.

Setting up The River as a coop had its problems. Running a coop, particularly among Americans, can result in perpetual and not-altogether-pleasant shareholder meetings. There's a lot of blah-blah-blah in making decisions democratically. People get angry and leave. But a sufficient number have remained so that The River has survived for three years. (The legal structure that enabled them to organize was the California cooperative corporation. The legal restrictions on cooperative corporations vary from country to country, state to state.)

Webconferencing software is becoming more and more capable, and as several excellent products compete with each other the prices are dropping. It's

not very expensive to add many-to-many communications with a web-based interface to any website.

Now, just so I don't forget to look at the bigger picture, I definitely acknowledge that there are legitimate questions to pursue about whether spending time typing messages to strangers via computers is a healthy way for people and civilizations to spend their time. There is the perpetual and also legitimate debate about whether it debases the word *community* (and what is the word supposed to mean these days, anyway?) to use it to describe online conversations. All I can say is that many people might end up much happier by starting out to grow a small, unprofitable, sustainable web-based cultural enterprise, than to invite the pressure-toward-hypergrowth that accompanies venture capital financing.