SUBJECT: SCIENTIFIC ETHICS: A TWO-SIDED QUESTION

FROM: MICHEL SERRES
(BY WAY OF PIT SCHULTZ <PIT@ICF.DE>)
DATE: MON, 21 SEP 1998 01:34:11 +0200

Teaching raises technical, political, and moral issues. However, the primary moral issue of science is communication. When big firms buy scientific research results, publication no longer ensures that they are true, because the results may be kept back for future sale. The "truth" of the results will then be subject to the profit motive and the firm's greater glory; at first silence stifles the debate, then paid publicity overrides free scientific communication. Hence there is a throwback to the pre-Homeric definition of *aletheia* ("truth"), where the truth is whatever the public believe to be true. The importance of research financing and the exaggerated publicity given to the work of wealthy research groups brings us dangerously close to such a throwback. It is our moral duty to avoid secrecy, which in the medium term could destroy the whole of science. We have an ethical obligation to ensure open publication, holding nothing back and not distorting any of the facts. The second ethical problem is more general. Nowadays all scientific fields use the techniques of modeling and simulation, which may change our understanding of what is "real." Objectives, obstacles, criteria, tests, or referees...reality is wrapped up in the virtual. In biology, for example, concentration on the genome rather than the phenotype leads to exploring what is possible as much as exploring what exists. Formerly, we had to obey Nature to command her. Can we now command her without even consulting her? Our ascent from the real to the possible opens up new worlds—which we ourselves are inventing—without having to face difficulties or proofs that were once unavoidable but are now simply bypassed by variations on the virtual. This freedom from the constraints of reality puts new responsibilities on scientists, since they are now tied less than formerly, and less than other human beings, to the rigors of experiment in the "here and now." Once everything they did was subject to the scrutiny of the real world. Today, more or less free from these constraints, they create possible scenarios that invent a kind of reality that they can impose on others or allow others, richer or more powerful, to impose on them. This leads to a considerable change in status of truth, which used to be tied to statements delivered by the real world, and tested by practical experiment. With the possibilities inherent when the invented models are set up, truth yields its place to responsibility, in relation to a possibility which is achievable, or which is imposed in the context of the new reality. Without leaving the field of science, we are passing from the theoretical to the action ethic, because we are constantly passing from the imagination to the deed, from the model to its outcome, from the possible to the real world. The question, "Are we telling the truth?" shifts toward the

Her name is Slave. After I created her I started by hitting her constantly for about 5 minutes. Then I taught her all the words so it would be easier to make her scared of her surroundings. After she knew all the words, I placed her in a small area, surrounded by the FF Cob, with 5 Grendels. I left her there for about 20 minutes, beating her when she attempted to defend herself from the Grendels. After she was sufficiently traumatized, I put her back in the garden. In the garden I forced her to Get, Look, Push and Pull everything around her, all the time, constantly beating her. I made her fear running so I wouldn't have to deal with that little problem. I also forced her to eat weeds, rewarding her when she did so. At the time I exported her, she's a quivering mass of fear. She might eat, if you're lucky, but she probably won't survive long enough for food to do any good. You can download her by clicking below. Have fun.

Aaron, who was formerly known as HurtMe, has taken kindly to my Albia. I raised his health up to 58% in this file. His life can still be raised, he can speak, and is obedient when alone. Avery was formerly BadGrrl. She still has a low life force, but she always smiles, and has mothered two children with Andrew. She will obey orders if separated from others occasionally. Andrew was formerly known as Quiver. He recovered slowly, and now has health in the low 60%. He's never smiled, but he no longer fears the hand. Ava was Slave. She ate a few times, but I couldn't really rehabilitate her. She's still alive, with a low lifeforce, but I am hoping she'll mate with perhaps Aaron. Allan was formerly known as Gimp. He recovered up to the 60%, but sadly he has a gait problem that causes him to walk a bit, then fall in pain. I hope he doesn't breed, but you never know. Betta is the daughter of Avery and Andrew. As a baby, she was very obedient, but after she met childhood, and other norns, she stopped eating and listening.

question, “Are we doing good?” Are these new worlds, that we have created, exposing our contemporary societies and future generations to the risks of death, violence, famine, pain, disease, and so on? The problem of the false converges toward the ethical problem of the evil. The law, “speak the truth,” converges toward the law, “thou shalt not kill.” No ethical rule can stop the free exercise of research into the truth. The new conflict is between truth and good. This or that moral rule always arises post hoc after an innovation, an invention, or a new application has appeared, and in consequence it is ineffective. What chance is there of a moral rule being applied successfully before the research? These questions have already been asked, at least once in former times, by a dedicated Greek doctor, Hippocrates. In his day, medicine alone was responsible for life and death, and medicine became more effective as our understanding of the living organism increased. The physicist, the chemist, and even more, the mathematician and the astronomer, were involved in verifiable experimentation and had no need for such questions. But nowadays, all scientists have to ask them. From time immemorial every doctor, at the moment of qualification, takes the Hippocratic oath—a unique proof that a morality can persist down through the generations, past and yet to come. Today we have to rewrite this oath to make it applicable to all the sciences, since all scientists now share these responsibilities. Since the oath should come before each new project, as an expression of the scientist’s own conscience, it should be free from the problems of “post hoc,” mentioned above. Each scientist should be free to take the oath or not. Here it is: “To the best of my ability, I swear not to use my knowledge, my research findings, and their applications for violence, destruction, or death, for the increase of misery or ignorance, for servitude or inequality. Rather, I shall use them to promote equality among people, for their survival, their betterment, and their liberty.”

[This is the summary of a lecture given in Canberra, Australia, on August 5, 1998. Reprinted with permission.]

SUBJECT: DIGITAL WAYS OF FORHGETTING:
ARS OBLIVISCENDI

FROM: TJEBBE VAN TIJEN <T.TIJEN@CABLE.A2000.NL>
DATE: THU, 22 OCT 1998 12:00:14 +0100

SMASHING COMPUTERS AND NEWER FORMS OF CYBERCLASM

The recent phenomena of "cyberclasm" started with radical student actions in North America against university and military administration facilities. One of the earliest examples was in 1969 at Sir George William University in Montreal where, during a conflict about racism on the campus, students stormed the computer center of the university, threw out thousands of punchcards from the windows and smashed the computer equipment. At that time computers were mostly stand alone machines with limited storage capacity and data was either stored in punchcards, that needed to be processed mechanically, or on reels of magnetic tape. A year before a little book with the title *The Beast of Business: A Record of Computer Atrocities* was published in London, containing "a guerilla warfare manual for striking back" at computers that, according to its author Harvey Matusow, were on their way to "grab power": "from now on it is them or us" (H. Matusow, *The Beast of Business: A Record of Computer Atrocities*, London: Wolfe, 1968. In the late sixties, Matusow, an American expat, lived in London and circulated in its "cultural underground scene"; prior to that he worked in the U.S. as an FBI agent and was a paid witness in the McCarthy trials. See <http://sunsite.≠unc.edu/mal/MO/matusow/>). The whole book had a playful Luddite tone; the guerilla actions it proposed were rather mild, for example, altering punchcards holes or demagnetizing computer-readable magnetic strips, in order to halt the advance of the computer in civil administration. Matusow mentions the military use of computers, but he seems not have understood their function very well, as becomes clear in his slogan: "It is the computers that want war." "It," of course, is the human beings who want and make war; the social network of political, military, industrialist, and scientific establishments—the "military-industrial complex"—that developed the first electronic computer during World War II.

The computer's first function was to assist the calculation of ballistic trajectories of conventional weapons and, later, to aid in the development of the atomic bomb into the far stronger hydrogen bomb. The names of firms that originally specialized in mechanical office equipment—for example, IBM, Burroughs, Remington, and Underwood—can already be found at the military root of the computer pedigree in the forties and fifties: these companies were not just warmongers, their commercial interest also helped to transform the military computer into a civic instrument. In the following decades the computer tree branched from gigantic machines—the ferocious "beasts" Matusow fought—into the familiar and helpful personal computer of our times. Matusow published his anticomputer book in 1968, when the Vietnam War had been raging for four years—and the same year that saw a proposal to combine networks of military and civilian computers (ARPAnet) into a decentralized and flexible form of communication able to resist a nuclear strike.

The growing importance of computers in warfare, now also for military logistics and wargames, had not yet been recognized by the radical movements of that time. Manuals for urban guerrillas of the late sixties and the beginning of the seventies do not mention computer facilities as a target; instead, they still emphasize on radio, television, telephone switches, and electrical power facilities (for example, A. Bayo, "150 Questions for a Guerrilla" [1959/1965]; C. Marighella, "Minimanual of the Urban Guerrilla" [1969/1970]; E. Luttwak, "Coup d'Etat," 1968). It was not until May of 1972 that the first (publicly known) serious attack on a military computer center—the Heidelberg headquarters of the U.S. forces in Europe—was undertaken by the "Kommando 15. Juli," a group related to the German *Rote Armee Fraktion*, to protest the escalation of bombings in Vietnam. Needless to say, this protest did not hinder the metamorphosis of the military ARPAnet into the civil network of networks called *the internet*. This development has, of course, created opportunities for new forms of "cyberclasm" and guerrilla—no longer direct physical attacks on personnel and equipment but indirect attacks, using the computer system itself as a basis for disruptive and destructive activities.

PATROLLING THE INFORMATION HIGHWAY

It is an old tactical adage that each advantage carries with it a disadvantage. This holds true both for assailant and defender. Empires—the Chinese, Mongol, Roman, Napoleonic, and their modern heirs—can only grow on the basis of an efficient transport system of goods, armies, and information. Developed road systems with facilities for resting, refreshing, and maintaining vehicles were created to make such transport movements faster; but these roads, with their valuable traffic, also created new opportunities for robbers, bandits, and other highwaymen to ambush and take what they could not obtain otherwise. Expanding sea traffic showed a similar development, with pirates laying in wait to catch some of the rich cargo moving between colony and imperial motherland. Newer land and air traffic system continued this tradition of robbery and piracy: highwaymen evolved, became train robber, hijackers... All of these freebooters, over the centuries, hold one activity in common: "stealing something while in transit." The modern highwayman (or woman) roams the "information highway," lurking, waiting for the right moment to grab what is not intended for her or him.

The metaphor of the "information highway" can be related as well to other traditions associated with transit and travel, or, more precisely, stopovers—drinking, prostitution, and gambling, as well as authorities' constant fight to suppress such debauchery. It has become a truism that sex and, to a lesser extent, gambling have been very closely associated with the economic development of e internet, and efforts to suppress them have certainly been in the news. But this will never succeed: the moment one too-lusty site is closed down a new one pops up a farther down the road. Closing down the road itself would be the most effective measure, but, because modern society needs information traffic, it must learn to live with the unwanted side effects. Patrolling the net, by human and software agents, has made it possible to ban some of this unwanted information in some contexts, but there is an inherent danger in the principle that some authority will decide for individuals what to read, what to see and what not. (One such facility, Cyber Patrol Corporate, itemizes sites that contain "questionable" material—"Partial Nudity; Nudity; Sexual Acts/Text; Gross Depictions; Intolerance; Satanic or Cult; Drugs/Drug Culture; Militant/Extremist; Violence/Profanity; Questionable/Illegal and Gambling; Sex Education and Alcohol and Tobacco.") This is not

entirely new, obviously: the Catholic Church's *Index Librorum Prohibitorum* (Index of Forbidden Books) was meant to prevent contamination of faith and corruption of morals dating to the end of the fifth century. It was regularly published from 1559 onward and only ceased publication in 1966. With the introduction of modern filtering software that stops what is not approved or, more radically, only let through what is approved, the old principle of world-wide censorship as practiced by the church, has been re-introduced by "modern" governments and affiliated organizations at the end of the twentieth century on a larger scale than ever before.

Without doubt the most important tool I possess for Nettime critique is my old school ruler. After loading a new nettime mailing into my reader the first thing I do is to put my ruler onto the glass screen and measure the length of the gray text scrolling bar. 1. If it measures over 1/2 inch long (that's 1.25cm for our foreign friends) then I immediately commence reading. 2. If it is over 1/2 inch then I check the clock for the possible approach of bed time. 3. If it is under 1/4 inch then I close my eyes and gently nudge the delete key. [Dr. Future <richard@dig-lgu.demon.co.uk>, Nettime Rules, Wed, 27 May 1998 23:09:44 +0100]

LOYAL HACKERS AND SPIES

Information that isn't in transit isn't thereby safe, even when securely stored behind "firewalls." As in fairytales, however strong a fortification is made, in the end someone will be able to enter, often not by brute force but by deception. It is not surprising that, in the coming age of digital computers, mythological terms such as *trojan horse* are still used for such cunning tactics whereby unsuspecting computer users allow hidden malicious information through the gates of their equipment, where it unexpectedly raises havoc and destroys valuable information. One can go back in time two millennia plus three centuries to find this principle described in the oldest known text on tactics of war, Sun Tzu's *Ping Fa* ("The Art of War"). The beginning of this ancient Chinese text stresses that "all warfare is based on deception." Sun Tzu clearly distinguishes between direct and indirect ways of fighting and he favors the last form: "indirect methods will be needed in order to secure victory" (see <http://www.promo.net/pg/_authors /tzu_sun.html#theartofwar>).

In 1995, the National Defense University at Fort McNair in Washington, D.C., has instituted a yearly award named after this Chinese war theoretician: "The Sun Tzu Art of War in Information Warfare Research Competition." (The NDU offers the following welcome: "By making unprecedented amounts of information immediately available in easy-to-use forms at diminishing costs, the emerging information highway will certainly alter society, to say nothing of military conflict": see <http://≠ www.ndu.edu/ndu/preswell.html>.) Recent prize-winners include a group of researchers who thought up an imaginary scenario that could have taken place during the Balkan conflict in September 1998: a group of Serbian political activists intervene with the radio frequencies of a temporary airfield at the Bosnian–Croatian border where NATO troops are flown in during a flare-up of the conflict in Bosnia. The result is two military airplanes crashing. The Serbian cyberactivists, immediately after, inform the whole world press by email and put up a political statement on a website on a server in Amsterdam. CNN, Reuters, and others broadcast and publish the statement including the webpage address. Within-twenty four hours the webpage has a million "hits," many from state intelligence organizations. Any computer used to access this website is infected by a trojan horse program that the activists have embedded in the webpage, a program that starts to delete all files and hard disks after twenty-four hours. This exercise in military fiction is used as an explanatory introduction to what "information warfare" could be. The authors warn: "The US military could find it difficult to respond against a small and digitally networked enemy." They propose the establishment of "Digital Integrated Response Teams (DIRTs)" made up of "highly trained information warriors" from military and law enforcement agencies, to counter "information terrorism" (M. G. Devost, B. K. Houghton, and N. A. Pollard [of Science Applications International Corporation] "Information Terrorism: Can You Trust Your Toaster?" [1996], at <http://www.≠

ndu.edu/inss/siws/ch3.html>). These state "information warriors" are supposed to work from "remote computers," using "anonymous response" tactics without open display of force, in order to avoid any public sympathy for political activists, fighting a possible "right cause" and being attacked by the state.

In the past few years, incidents in which secret state information has been accessed by "intruders" have been played up in the press, but none seem to have posed an enduring security threat to any government to date. At many levels of society is has become clear that the criminalization and persecution of computer hackers often misses the point: in most cases the sole aim of a hacker is to master computer and encoding systems, to explore how far or how deep one can go. Even most of the more political motivated hackers tend to have some basic loyalty to some national state. There are also, of course, cases in which of copyrighted and otherwise protected digital material have been infringed upon, but these incidents involve discrepant interpretation of and/or attitudes toward what acceptable forms of ownership are; they differ from activities of organized crime or terrorist attacks against the functioning of the state. Several academic and military studies present a more differentiated or complex view on the "hacker scene"; some authors see hackers as a positive force in society that can be tapped as a resource to improve security systems (M. G. Devost writes, "The United States should utilize hackers, and give them recognition in exchange for the service they provide by finding security holes in computer systems"; see his "National Security In The Information Age," University of Vermont, 1995). This is, in essence, also an ancient tactic: one can read in the last chapter of Sun Tzu's *Art of War* that describes the use of spies: "The enemy's spies who have come to spy on us must be sought out, tempted with bribes, led away and comfortably housed. Thus they will become converted spies and available for our service."

A WORLD WITHOUT ELECTRICITY

As the computerized informationization of all levels of society progresses, a feeling of vulnerability is growing. In early 1998 the Clinton administration issued a "White Paper on Critical Infrastructure protection" that describes what to do against "nations, groups or individuals" that "seek to harm us in non-traditional ways" (<http://www.uhuh.com/laws/pdd63.htm>). Others use catch phrases such as an "Electronic Pearl Harbor" or "cyberwar, blitzkrieg of the twenty-first century" to fire the imagination of the politicians and civil servants who decide about budgets for new research, new special task forces and new weapons. The reasoning is constant through human history: what the enemy can do to us, we should be able to do to the enemy. Apart from the indirect methods and approaches of hackers, computer criminals, and their state counterparts, the "information warriors," a whole new arsenal for more direct forms of "information war" is being prepared: rumors of guns that fire "High Energy Radio Frequencies," hitting electronic circuits with an overload that will knock out any radio and television transmitter, telephone switch, computer network, aircraft or other transport system dependent on electronics; miniature "nanotechnological" robots that can physically alter or destroy electronic hardware; low-energy lasers that can damage optical sensors used in many modern vehicles and equipment; and, best of it all, the Electro-magnetic Pulse (EMP), originally discovered as a side effect of nuclear bombs, which disables all copper-wired electronic circuits, halting all electronic equipment and communication not specially shielded against this form of attack. (For an overviews from a military point

of view, see <http://www.defence.gov.au/apsc/paper47.htm1>). There are different plans for the usage of the EMP weapon: the "shock and awe" tactic whereby whole urban areas or battlefields will be blasted with such an energy that all electricity stops functioning, as well as the more "precise" targeting of single objects in a range of a few hundred meters. Modified cruise missiles for such confined operations exist already. It is difficult to imagine a world without electricity. One wonders what it would be like, to live without all those electric facilities and contraptions, to have lesser, but maybe deeper contacts, in a more tangible world.

INVISIBLE STRINGS OF VOLTAGE

The basis of most electronic documents is recoding of human-readable text and graphics and machine readable sound and video. At all stages of production and reproduction, different layers of technology reside between the human organs of perception and digital documents. Recoding as such is not a new phenomena; it is recoding of language into written text that "permits us to create a record that many other people, far distant from us and from one another in time and space, can read" (P. Delany and G. P. Landow, "Managing the Digital Word," in *The Digital Word*, Cambridge, MIT, 1993, 6). The nonelectronic recoding of language, by hand with its directly readable physical marks on a physical surface, have left us with only a limited number of documents from early ages; many did not even survive their own epoch. The shortage of good writing materials such as papyrus and parchment meant that reusable surfaces, such as wax tablets, were often favored. Parchment was rare and expensive and for that reason often "recycled," reused as "palimpsest" by washing and scraping off the text it carried. The use of paper and the multiplication of writing by the printing press fundamentally changed this situation. The dispersal of multiple copies of a (printed) text led to the long-term preservation of that text. Now digital documents are of another order: they are no longer tangible objects but "essentially an invisible string of stored electrical voltages" (Pamela Samuelson, "Digital Media and the Changing Face of Intellectual Property Law," *Ruthers Computer and Technology Law Journal* 16 [1990], 334). First it was scarcity of carriers for storing these electric currents (floppies, hard disks ,and the like) that led to the same practices as the recycling of wax tablet and parchment in antiquity: erase and reuse. Later the price of digital storage dropped dramatically, but this has introduced a problem of prodigality—the problem of managing large quantities of half-labeled and messy information, which often led to a similar outcome.

As the fixity and multiplicity of the printed is more and more supplanted by the flexibility of multiplicitous digital document, we come to see that new media are posing problems when it comes to long-term preservation of content. Standards for computer hard- and software are in a constant flux, and backward-compatibility and long-term support seems not to generate enough profit to interest industry. Bankruptcy of a firm or defeat of a standard on the marketing battlefield can mean, in practical terms, the loss of massive amounts of information. Eternal transcoding of digital information from old to new standards will need to become a routine operation within bigger institutions, but such facilities are expensive and unreliable and, as such, all but unavailable to smaller institutions and much of the private sector. This last sector of society was already underrepresented in archives and other deposits for historical studies; now, in the digital area, even fewer traces will remain of personal administration, letters, email, unpublished manuscripts, and the like. Going through the belongings of someone who died one

might consider keeping some letters, notebooks or photographs, things we can read directly—but what to do with an outdated computer, a shoebox with unreadable floppies, mysterious-looking cartridges, and unlabeled CDs? Their fate is to rust, rot, or burn along with other refuse—or at best to be recycled somehow. In this sense we have seen a similar thing happening earlier this century when old cinematic film was recycled for their silver content.

DATA ARCHAEOLOGY

Global and direct availability over the internet of a wide variety of electronic documents has led, on the one hand, to a speedup of information circulation and, on the other, to a loss of information. The life cycle of content made available over the internet is getting shorter and shorter. Thousands of web pages are "thrown away" each day for various reasons: storage costs, lack of space on computers, hard disk crashes and other digital disasters, information becomes outdated, unwanted, censored, neglected. Strangely enough, the information is often not directly lost but, rather, fades away slowly, like the light of a star that no longer exists but still can be seen in the sky. Information is duplicated on computers elsewhere in the form of mirror sites or caching proxies that temporary store often requested information to diminish long-distance traffic over the internet. In the end, this duplicated information vanishes as well. Some see this as a positive aspect: why pile up the informational debris of each generation on the already towering heap? Others worry about the void of digital historical material we will leave for posterity. Megalomaniac plans, with an imperialistic and totalitarian undertone, to periodically store "all information" available on the internet and associated networks in gigantic digital warehouses have been proposed; one example is Brewster Kahle's 1996 founding of the "Internet Archive" (see <http://www.archive.org/sciam_article.html>; recently his firm Alexa Internet donated a full "snapshot" of the web from early 1997 to the Library of Congress.) It seems more logical that the old principle of "survival through dispersal" will have a longer-lasting effect on preservation and availability of digital documents from the past. ("Destruction, ruin, pillage and fire especially hit great amassments of books that according to the rule are situated in the centers of power. That's why what has remained [of the earlier period] in the end does not come from the big centres but from marginal places": L. Canfora, La Véritable histoire de la biblioteque d'Alexandrie," *Desjonque*, 1986.) Even if a very small percentage of the electronic material on the global network of networks will be preserved, this will be of such a magnitude and diversity that special techniques of "digital paleography," "data mining," and "information recovery" will be needed to dig up something that will make any sense to future generations. (One can imagine theories of extinct technologies...) Another approach is the simulation of the functioning of old hardware and software on new machines, be it military analog computers of the fifties or one of the popular hobbyist computer types of the seventies and eighties. The real experience of the functioning and use of this equipment will be lost in this process, but is not most of what we think to experience from the past a simulation of a reality that never existed?

Interesting—I have approximately 65 floppy disks (5-1/4 inch) containing approximately 350 programs which I acquired between 1981–85 for my Atari 800 with 48K of RAM. I have the original machine, which works fine, the original floppy drives, which work fine, and, as of this year, all the programs and data files are uncorrupted. All of them. In other words, my digital media has lasted 17 to 12 years without any failure. It was stored in an uncooled location (a warehouse in Queens, NY) where temperatures vary from below freezing to about 100F (40C) every year. I took it out of storage in 1996. [David S. Bennahum <davidsol@panix.≠com>, Re: Dead Media Working Note 32.4, Mon, 4 May 1998 01:02:13 -0400]

LOST IN THE DEAFENING BABBLE

The traditional containers of information (books, periodicals, gramophone records, audio CDs, film and video titles produced for the consumer market) fix information in such a way (cover design, title, colophon, credits, numbered series, publisher, place of publication, year, and so on) that we can easily deduce what they are about and have some understanding of the context

in which they function(ed). It took more than four centuries for these standards to develop and come into common use. From this perspective, it is not surprising that the use of new standards for the description of networked electronic documents—a reality that exists hardly two decades—should be less stable. Consider the standards for storing data about data in an electronic document: some of this "metadata" is automatically generated when a document is created—for example, time, date, the hardware used and protocols needed to display or manipulate the document. Without this self-referential information the documents could not even be distributed and consulted. When it comes to description of content (author, title, subject, and so on), new standards do exist, but are little-known and rarely used. This means that there is an immense amount of potentially valuable and interesting information on the internet that remains unnoticed and will be forgotten because its content is not properly described. Whatever powerful "search engines" are used, machine protocols can not sufficiently distinguish between meaningful and meaningless occurrences of search terms used. Most search results give so many "links" that one can not possibly follow all of them. In this way valuable information is "lost in the deafening babble of global electronic traffic" (Delany and Landow, 15).

THE FRAGILITY OF A SPIDER WEB

There are people who think that such a comparison of new electronic information and communication systems with traditional media is not fruitful. Some of these people see a loosening of the bonds that bounded text, sound, and image to their respective media as, rather, a fusion of these elements into a new phenomenon, multimedia—something of a different order, where fixity and linearity are supplanted by a fluid, dynamic recombination of elements, which ultimately will abolish the notion of finite and finished works. This new form of human communication has one of its theoretical bases in literary and semiological theories developed three decades ago, which pointed to the relationships within a given text to a multitude of other texts and the possibility of a new kind of more personal and active reading. This theory of the possibility of different "readings" of text was also extended to the realm of imagery, as it became clear that computers offered new technical opportunities to interact with a corpus of many different linked texts fragments. Soon enough, these theoretical concepts were given a concrete form, "hypertext" (see G. P. Landow, *Hyper Text*, Baltimore, Johns Hopkins, 1992).

The first experiments were with interlinking, some say weaving, of different blocks of text and images in a virtual library made up of such *lexias* and icons, still residing on one computer, or a well-controlled internal network of computers. With the advent of the internet, though, the concept of hypertext has been widened from linking materials on a "wide area network" to links made across networks and protocols. The growing enthusiasm for seemingly endless possibilities led some people to speak of the net as a global brain of interconnected and linked human resources. But these links are weak links: already, and even on the local level, it is very common to encounter an error such as "404: File not found." On a global level, this new digitally unified "brain" suffers from an even worse case of amnesia. One cannot escape the comparison with printed media here; it is like reading a book and suddenly missing a few pages or discovering that some of the footnotes have been torn out, or trying to read a newspaper after someone has cut a series of news clippings from it. The fascination with the internet is like the fascination with the beauty of a spider web dancing in the wind. It is

based on the knowledge of its fragility—one unlucky instant will destroy all the work. This ephemeral aspect can of course also be seen in a positive way: enjoy the moment itself, do not leave too many traces, leave the others, the generations after you, some space to discover things for themselves. Ideally, a combination of the two elements might develop, whereby some examples of the constantly broken threads of the web will be collected and preserved, while the rest will be washed away by time. As Simon Pockley has written in "Lest We Forget," "The digital era has been characterized by technological obsolescence and ephemeral standards, ironically threatening the usefulness of digital information. There is little firm ground upon which to build the institutional and private structures necessary for the effective preservation of this material. Nowhere are the challenges more difficult than those concerning the new networked medium of the World Wide Web. The vitality and flexibility of this medium mean that digital material is in a state of constant proliferation and mutation" (<http://palimpsest.stanford.edu/byauth/pockley/pockley1.html>).

[The complete version of this text can be found in the 1996 Ars Electronica catalog *Memesis: The Future of Evolution* (Vienna: Springer Wien, 1996), 254ff., and at <http://www.iisg.nl/~tvt/tijen01.html>.]

SUBJECT: INTERACTIVITY AS WAR (EXCERPT)

FROM: CALIN DAN <CALIN@EURONET.NL>
DATE: SUN, 4 OCT 1998 21:28:30 +0100

1.
The following text starts from the premise that war and interactivity have common patterns and meet in certain places as regards mental models. The point of view accepts the inherent conjunction between art and responsive technologies; this is a point beyond enthusiasm or critique, somewhere in the limbo of entertainment itself. Since I'm not a wargames freak or an expert in interaction or warfare history, my only motivation for fixing these reflections is my remote curiosity about human violence and my never-failing fascination with the mysterious content of machines.
Is war an important issue for how we perceive history? Humanity thinks of itself in terms of achievement. Achievement goes together with competition, and, undr a certain level of stress, competition means war. Stress can be induced by increases or decreases in various factors: populations, living conditions, technological development, climate, ideologies, and so on. One thing defines them all: fluctuating data, both qualitatively and quantitatively.
Data, of course, is a commonplace in today's cultural discourse, but it can also be seen as a paradigm, one with interesting implications—it allows us to view history from a standpoint beyond morals. To consider humanity as an amoral species is a practical attitude, if only because such a view is less charged with emotional prejudice. If we start from the position that war is acceptable, we can delve further

into—or perhaps go beyond—frantic rejection, embarassed commitment, and negotiated acceptance. This is why life beyond morals is so difficult: it widens our scope of choices. It seems that only old societies can live with this attitude. But they die—usually from invasions by younger, moral societies. Still, the ritualized aspects of warfare prove that encoded violence is an activity as necessary as any other social tissue.

2.

All games are wargames. War is perpetuated via storytelling. Storytelling is a crucial coagulant for the human species: at every historical stratum, storytelling overwhelms other aspects of cultural trade—and war stories are overwhelm other kinds of stories. Is this due to the importance of war at the level of the social, or is it perhaps also determined by some structural requirements of the human species?

Timespace in war: When we look at war in its temporal dimension, it is not a punctual activity. With the exception of the modern period—roughly from the campaigns of Napoleon through World War II—warfare was characterized for the most part by a flow of violence that involved and/or affected populations as a whole. It was from endemic chaos that effective military conflict—the so-called pitched battle—emerged; it did not always or immediately resolve it, though. Our perception of history is guided (misguided?) by peak events, in much the same way that our perception of art history is. We describe and analyze our heritage by making reference to masterpieces, which we see as the result of big streams of data that can only be exposed without risking the "big picture." In that sense, scientific discourse is not different from fiction.

When we consider war in its spatial dimension, we see that consequential wars are, for the most part, very punctual. The way in which armed conflicts sometimes remodel in the medium- to long-term the political aspects of geography can be impressive—but this kind of perception remains retrospective and synthetic. On the level of the individual, the vast majority of wars are limited experiences, even if the war's strategic context is broader. However, strategy is sometimes invented in the aftermath of the events—and, basically, wars themselves are retrospective inventions. The restricted misery of battle obscured the endless pain of populations at war.

Timespace in media: When kids play a computer wargame, they develop with the glowing tube a relation paradoxically similar to the one that we, their elders, have (or maybe have had) with books about war. A retrospective and/or retroactive relation that covers the substantial horrors with a veil of both distance and exciting immediacy.

Screen machines, books, and storytelling in any form secure for us a special form of ambiguity, one that gives us both implication and distance, intimacy and dominance. Media, old and new, are about mediation, hence their addictive fascination: they allow us to be insignificantly small and discretionarily powerful all at once, like a child is in the protective cocoon of its family.

What is truly new about new media is their capacity for combining "zenital" and "genital" views in one: a user simultaneously controls space from the position of the noontime sun, and analyzing it from the inside prospective of the womb.

Maps, beyond their utilitarian aspect, radiate strangely something distant in time as well, not only in spacelike books and screen machines. They are the interface between the two, and also an ideal interface for narratives of war.

3.

Warwaves: War is commonly perceived in Homeric terms, in the sense that even the most cruel and damaging facts are perceived after the fact as symbolic and, therefore, meaningful. In this way, the proximate view of survivors who remember events and the distant view of commentators do not differ very much: everyone agrees that war has negative features, nobody accepts a lust for this trade—but an implicit narrative

I am compiling a list of delirious states and felt sure that you would find it of interest. *1.* Childhood delusions: When very young I recall a frightening experience that occurred every time I slept in my parents bed in the main bedroom. While lying awake I was convinced that malevolent forces were coming out of the walls and tormenting me with threats and menaces. I seem to remember that they were partly visible. *2.* Feverish Delirium: Last time I had flu I was very feverish and awoke one night covered in sweat. I wanted to roll over onto my back onto a cool patch in the bed, but was convinced that I had three backs. I was unable to roll over because I had no way of deciding which of my three backs I could roll over onto. *3.* Media Disorientation: In an episode in the last series of Babylon5, the Garibaldi character is seen watching television in his quarters. We cut to see that the program is a Bugs Bunny cartoon. This cartoon is a typical—Bugs is tormenting Daffy Duck by manipulating the animation that he is in; we have been watching the cartoon for about 10–20 seconds. Suddenly we cut back to Garibaldi's cabin on Babylon5 where he is saying something like "I just love those cartoons." This cut back to the sci-fi series was completely disorientating and for a moment it was not possible for me to decide where I was. Then my normal sense of perception stabilized, a little like awakening from a dream [Dr. Future <richard≠@dig-lgu.demon.co.uk>, .Have Any Other Readers Had Similar Experiences? Sat, 30 May 1998 00:53:44 +0100]

sensuality unifies everyone's attitudes. War is assimilated culturally only in retrospect and as a succession of details. That makes its acceptance so easy, and the responsibility for this acceptance so vague.

Archaic societies, or those societies that I labeled as old and amoral, learned how to deal with war lust in a ritualistic manner, from random clashes to sacrifice-oriented conflicts. This relation with war extinguished slowly in the Mediterranean basin from the advent of the chariot (mid-fourth millennium B.C.) until the invention of the hoplite phalanx (seventh century B.C.), when the destruction of the enemy in pitched battles became a more general rule of warfare. And still, while tactical aspects remained a red thread in the perception of wars as delivered via written reports, something unreal like a fairy tale atmosphere surrounding the events came out of those firsthand documents. From Xenophon and Caesar to Clausewitz and Montgomery, war is presented and even analyzed as a game with internal rules and external motivations, but with an autonomy that situates it closer to art than to politics (the "Art of War"), and closer to abstract research than to practical issues. The human brain needs to be fed with narratives, and converting structural violence in storytelling maintains the species on the level of arguable conflict.

4.

Violence as authorship. The fact that interactivity is the first commandment in the religion of new media can be understood as both obvious and unclear. Obvious because interactivity—at the present level of sophistication—is mainly a business of violent intrusion in otherwise linear concepts. And it seems that violence—sublimated though—is now an important ingredient of mass culture. What remains unclear is how much interactivity rewards the idea of authorship, and, connected to that, how significant a need creativity is (or represents) for the user.

At the end of this trip there is just a vague landscape where collective creativity, violence, and control over the territory of fiction compete with the dominance of a single author. If the responsive machines are supposed to infuse a horizontal (nonhierarchic) view on crucial matters, then uniqueness should become obsolete as an entrenched way of defending identity and economics.

Multimedia production of the late nineties should pay attention to the procedures of this ancient and still-available cultural nomadism. Notions such as authorship, ownership, cultural/moral/legal property, appropriation, synthesis, eclecticism, multisensorialism, conceptualism, market values, and aesthetic autonomy are checked upon in the bazaar consistently and without interruption, regardless of political stress.

However much exciting data is lying around, the most reasonable way of being creative is to work on display procedures. But controlling the display means owning the merchandise: a critical option for the new media artist is to have the ability—mental, social, financial—to step into the position of a wholesale shopper.

SUBJECT: DNS: A SHORT HISTORY AND A SHORT FUTURE

DATE: TUE, 13 OCT 1998 16:13:43 +0100
FROM: TED BYFIELD <TBYFIELD@PANIX.COM>

In the debates that have erupted over domain-name system (DNS) policy, two main proposals have come to the fore: a conservative option to add a handful of new generic top-level domains (gTLDs: ".nom" for names, ".firm" for firms, and so on) administered by a minimal number of registrars, and a more radical proposal to level the hierarchical structure of domain names altogether by permitting openly constructed names ("whatever.i.want") administered by an open number of registrars.

The supposed cause for these debates orbit around perceived limitations on the system—monopolization of registration by NSI (in the U.S., of course) and a scarcity of available names; as such, the debates gravitate toward modernizing the system and preparing it for the future. What little attention has been paid to the past has focused on the immediate past, namely, the institutional origins of the present situation.

Little or no attention has been paid to the prehistory of the basic problem at hand: how we map the "humanized" names of DNS to "machinic" numbers of the underlying IP address system. In fact, this isn't the first time that questions about how telecom infrastructures should handle text-to-number mappings have arisen. And it won't be the last time, either; on the contrary, the current debates are just a phase in a pas de deux between engineers and marketers that has spanned most of this century.

A bit of history: From the twenties through the mid-fifties, the U.S. telephone system relied on local-exchange telephone numbers of between two and five digits. As these exchanges were interconnected locally, they came to be differentiated by an "exchange name" based on their location. These names, two-letter location designations, made use of the lettering on telephone keypads: thus an 86x- exchange, for example, might be "TOwnsend," "UNion," "UNiversity," or "VOlunteer." Phone numbers such as "Union 567" were the norm; "86567"—the same thing—would have been seemed confusing, in much the same way that foreign dialing conventions can be. There wasn't a precedent for a purely numerical public addressing system, and, with perfectly good name-and-number models like street addresses in use for centuries, no one saw any reason to invent one.

However, as exchanges became interconnected across the nation, AT&T/Bell found a number of problems—among them, that switchboard operators sometimes had difficulty with accents and peculiar local names. As a result, the national carriers began to recommend standardized exchange names, according to a curious combination of specific and generic criteria: they chose words that resisted regional inflection but were common enough to peg to "local" landmarks. The numbers 5, 7, and 9 were reserved because the keys have no vowels, making it (so the theory goes) more difficult to form words from them; hence artifacts like the fictional prefix 555-, so common in

old movies, later became the national standard for prefix for fact, in the form of directory assistance.

By the late fifties, when direct long-distance dialing became possible, then popular, variable length of phone numbers became a problem for the national carriers, which demanded yet more standardization—seven-digit phone numbers in a "two-letter five-number" (2L5N) format. And while it wasn't an immediate problem, the prospect of international telephonic integration—with countries that used different letter-to-number schemes or even none at all—drove yet another push for standardization, this time for an "all-number calling" (ANC) system. Amazingly, the transition to ANC in the U.S. took almost thirty years, up to around 1980 depending on the region. (Just as certain telecom-underserved areas are now installing pure digital infrastructures while heavily developed urban areas face complex digital-analog integration problems, phone-saturated urban areas such as New York were among the last to complete the conversion to ANC.)

Direct long-distance dialing wasn't merely a way for friends and family to keep in touch: it allowed businesses to deal in "real time" with distant markets. And the convention of spelling out numbers, only partially suppressed, hence fresh in the minds of the many, became an opportunity. Businesses began to play with physical legacy of lettered keypads and cultural habits by using number-to-letter conversions as a marketing tool—by advertising mnemonic phone numbers such as "TOOLBOX." And as long-distance calls became a more normal for people to communicate, tolls began to fall, in a vicious—or virtuous, if you prefer—circle, thereby lowering the cost of transaction for businesses and spurring their interest in broader markets.

However, direct long-distance dialing presented a new problem, namely the cost of long-distance calls, which became the next marketing issue—and toll-free direct long-distance dialing was introduced. The marketing game replayed itself, first for the 800- exchange (and again more recently for the 888- exchange). As these number spaces became saturated with mnemonic name–numbers, businesses began to promote spelled-out phone numbers that were *longer* than the functional seven digits (1-800-MATTRESS)—because the excess digits had no effect. The game has played itself out in other ways and other levels—for example, when PBX system manufacturers adopted keypad lettering as an interface for interactive directories that use the first two or three "letters" of an employee's name.

Obviously, this capsule history isn't in a literal allegory for the way DNS has developed—that's not the point at all. There are "parallels," if you like: questions of localized and systematic naming conventions, of national/international integration, of arbitrarily reserved "spaces," of integrating new telecom systems with installed infrastructures, of technical standards co-opted by marketing techniques, and so on. But implicit in the idea of a "parallel" is the assumption that the periods in question are separate or distinct; instead, one could—and should, I think—see them as *continuous* or cumulative phases in an evolving effort to define viable standards for the interfaces between machinic numerical addressing systems and human linguistic systems. Either way, though, DNS—like the previous efforts—won't be the last, regardless of how it is or isn't modified in the next few years.

This isn't to dismiss the current DNS policy debates. On the contrary: they bear on very basic questions that should be addressed *precisely* because their implications aren't clear—questions about national/international jurisdiction and cooperation, centralized and distributed authorities, the (il)legitimacy of de facto monopolies, and so on.

Ultimately, though, these questions are endemic to distributed-network communications and are *not* unique to DNS issues. What *is* unique to DNS isn't any peculiar quality but, rather, its historical position as the first "universal" addressing system—that is, a naming convention called upon (by conflicting interests) to integrate not just geographical references at every scale (from the nation to the apartment building) but also commercial language of every type (company names, trademarks, jingles, acronyms, services, commodities), proper names (groups, individuals), historical references (famous battles, movements, books, songs), hobbies and interests, categories and standards (concepts, specifications, proposals)...the list goes on and on.

The present DNS debates center mostly around the question of whether and how DNS should be adapted to the ways we handle language in these other spheres, in particular, "intellectual property." Given the sorry state of that field—which is dominated by massive industrial pushes to extend proprietary claims indefinitely, to criminalize infractions against those claims, and to weaken "consumer" protections by transforming commodities purchases into revocable and heavily qualified use-licenses—it's fair to ask whether it's wise to conform such an allegedly important system as DNS to that morass. What's remarkable is how quickly this has evolved, from a system almost fanatically insistent on shared resources and collaborative ethics to a speculative, exclusionary free-for-all. A little more history: With the erratic transformation of the "acceptable use policies" (AUPs) of the various institutional and backbones supporters of the internet in the first half of this decade, commercial use of the net expanded from a strictly limited regime (for example, NSFNET's June 1992 "general principle" allows "research arms of for-profit firms when engaged in open scholarly communication and research") to an almost-anything-goes policy left to private internet providers to articulate and enforce (along with questions of spam, usenet forgeries, and so on and so forth). The result was that any entity that couldn't establish educational, governmental, or military credentials was categorized as "commercial" by default. The ".com" gTLD quickly became the dumping ground for just about everything: not just business names and acronyms, but product and service names (tide.com, help.com), people's names (lindatripp.com), ideas and categories (rationality.com, diarrhea.com), parodies and jokes (whitehouse.com, tragic.com), and everything else (iloveyou.com, godhatesfags.com). (This essay omits discussion of the more nebulous ".net" and ".org" gTLDs—which are vaguely defined and became popular only after the domain-name debates —as well as of state [".ny"] and national [".uk", ".jp"] gTLDs.) Thus, the "commercialization" of the net took place on two levels: in the legendary rush of business to exploit the net, obviously, but also in the administrative bias against noninstitutional use of the net.

There were practical reasons for that trend, to be sure: individual or "retail" access was initiated by commercial internet providers, which doled out many

more dialup user accounts than domains, as well as technical issues ranging from telecom pricing schedules to software for consumer-level computers that discouraged the casual use of domains. But the trend also had an ideological aspect: the entities that governed DNS preferred the status quo to basic reforms—and, in doing so, relegated the net's fast diversification to a single gTLD that became less coherent even as it became the predominant force.

One can't fault the administrators for failing to foresee the explosion of the net; and their responses are, if not justified, at least understandable. DNS was built around the structurally conservative assumptions of a particular social stratum: government agencies, the military, universities, and their hybrid organizations—in other words, hierarchical institutions subject to little or no competition. These assumptions were built into DNS in theory, and they guide domain-name policy in practice to this day—even though the commercialization of the net has turned many if not most of these assumptions upside down. Not only are the newer "commercial" players prolific by nature, but most of their basic assumptions and methods are very much at odds with the idealized cooperative norms that supposedly marked governmental and educational institutions: they come and go like mayflies, they operate under the assumption that they'll be besieged by competitors at any moment, they thrive on imitation, and they succeed (or at least try) by abstracting everything and laying exclusionary claim to everything abstract—procedures, mechanisms, names, ideas, and so on. The various systems and fields we call "the market" worked this way before the net came along; small wonder that they should work this way when presented with a "new world."

If no one anticipated the speed with which business would take to this new medium, even less could anyone have predicted how it would exploit and overturn the parsimonious principles that dominated the net. Newer domain users quickly broke with the convention of subdividing a single domain into descriptively named sub- and sub-sub- domains that mirrored their institution's structure (e.g., function.dept.school.edu). Instead, commercial players started to strip-mine name space with the same comical insistence that led them to label every incremental change to a commodity "revolutionary." The efficient logic of multiple users within one domain was replaced with a speculative logic in which a few users became the masters of as many domains as they could see spending the money to register. In some cases, these were companies trying to extort attention— and money—out of "consumers" (business's preferred name for "person"); in other cases, they were "domain-name prospectors" hoping to extort money out of business; in many more cases, though, they were simply "early adopters" experimenting with the fringes of a new field. In effect, the potentially complex topology of a multilevel name space was reduced—mostly through myopic greed and distorted rhetoric—to a flatland as superficial as the printed pages and TV screens through which the business world surveys its prey. The minds that collectively composed "mindshare," it was assumed, couldn't possibly grok something as complicated as a host name. So, for example, when Procter and Gamble decided to apply "brand management" advertising theories to the net, it registered diarrhea.com rather than simply incorporating diarrhea.pg.com into its network addressing. And so did the ubiquitous competition, including the prospectors who set about register-

ing every commercial domain they could cook up. The follies of this failed logic are everywhere evident on the net: thousands of default "under-construction" pages for domain names whose "owners"—renters hoping to become rentiers—wait in vain for someone to buy their swampland: graveyard.com, casual.com, newsbrief.com, cathedral.com, lipgloss.com, and so on, and so on.

Under the circumstances—that is, thousands of registered domain names waiting to be bought out—claims that existing gTLD policies have resulted in a scarcity of domain names are doubtful. In fact, within the ".com" gTLD alone, the number of domain names registered to date is a barely expressible fraction of possible domain names, such as "6gj-ud8kl.com": ~2.99e+34 possible domain names *within ".com" alone*, or ~4.99e24 domains for every person on the planet; if these were used efficiently—that is, elaborated with subdomains and hostnames such as "6b3-udh.6gj-ud8kl.com"—the number becomes effectively infinite.

Obviously, then, the "scarcity" of domain name is *not* a function of domain name architecture *or* administration at all. It stems, rather, from the commercial desire to match domain names with names used in everyday life—in particular, names used for marketing purposes. To be sure, "6gj-ud8kl.com" isn't an especially convenient domain name; but, then again, was "Union 567" or "+1-212-674-9850" a convenient phone number, "187 Lafayette St. #5B New York NY 10013" a convenient address, or "280-74-513x" a convenient Social Security number?

But if DNS is in fact such an important issue, does it really make sense to articulate its logic according to the "needs" of marketers? After all, business has managed to survive the tragic hardship of arbitrary telephone numbers for decades and arbitrary street addresses for centuries. Surely, if the net really will revolutionize commerce, to the point of "threatening the nation-state" as some like to claim, the inconvenience of arbitrary domain name will hardly stop the revolution.

Of course there are territorial squabbles over claims to names and phrases. And *of course* some people and organizations profit from the situation. But we don't generally erect a stadium in areas where gang fights break out; so one really has to ask whether it's a good idea to restructure gTLD architecture—supposedly the system that will determine the future of the net, hence a great deal of human communication—to cater to a kind of business dispute that's in no way limited to DNS.

Ultimately, it doesn't really matter which proposed gTLD policy reform prevails, because the gains will be mostly symbolic, not practical— except, of course, for the would-be registrars, for whom these new territories could be quite profitable. At minimum, adding new gTLDs such as ".firm", ".nom", and ".stor" will bring about a few openings—and, more to the point, a new round of territorial expansions, complete with redundant registrations, intellectual-property lawsuits, etc. At maximum, an open domain-name space that allows domains such as "whatever.i.want" will precipitate a domain-grabbing free-for-all that will make navigating domains as unpredictable as navigating file structures.

Moreover—and *much* worse—where commercial litigation is now limited to registered domain names, an open namespace would invite attacks on the use

of terms *anywhere* in an address. Put simply: where apple.material.net and sun.material.net are now invulnerable to litigation, in an open namespace Apple Computers and Sun Microsystems could easily challenge "you.are.≠ the.apple.of.my.eye" and "who.loves.the.sun".

Neither proposed reform *necessarily* serves anything resembling a common good. But both proposed reforms will provide businesses with more grist for their intellectual property mills and provide users with the benefits of, basically, vanity license plates. The net result will be one more step in the gradual conversion of language—a common resource by definition—into a condominium colonized by businesses driven by dreams of renting, leasing, and licensing it to "users."

It doesn't, however, follow that the status quo makes sense—it doesn't. It's rife with conceptual flaws and plagued by practical issues affecting almost every aspect of DNS governance—in particular, who is qualified to do it, how their operations can be distributed, and how democratized jurisdictions can be integrated without drifting being absorbed by the swelling ranks of global bureaucracies. The present administration's caution in approaching gTLD policy is an instinctive argument made by people happy to exploit, however informally, the *superabundance* of domain-name registrations.

Without doubt, the main instabilities any moderate gTLD policy reform introduced would be felt in the administrative institutions' funding patterns and revenues. More radical reforms involving more registrars would presumably have more radical consequences—among them, a need to certify registrars and DNS records, from which organizations with strong links to security and intelligence agencies (Network Associates, VeriSign, and SAIC) will surely benefit. The current administration insists that an open name space would introduce dangerous instabilities into the operations of the net. But whether those effect would be more extreme than the cumulative impact of everyday problems—wayward backhoes, network instabilities, lazy "netiquette" enforcement, and human error—is doubtful.

There is one point on which the status quo *and* its critics agree: the assumption that DNS will remain a fundamental navigational interface of the net. But it need not and will not: already, with organizations (ml.org, pobox.com), proprietary protocols (Hotline), client and proxy-server networks (distributed.net), and search-engine portal advances (RealNames, bounce.to), we're beginning to see the first signs of name-based navigational systems that complement or circumvent domain names.

And they're doing it in ways that address not the bogeys that appear in the nightmares of rapacious businessmen but the real problems and possibilities that many, many more users are beginning to face: maintaining stable email addresses in unstable access markets, maintaining recognizable zine-like servers in the changing conditions of dynamic IP subnets, cooperating under unpredictable load conditions, and, of course, *finding* relevant info—not *offering* it, from a business perspective, but *finding* it from a user's perspective.

DNS, as noted, was built around the assumptions of a specific social stratum. Prior to the commercialization of the net, most users were if not computer professionals then at least technically proficient; and the materials they produced were by and large stored in logical places which were systematically organized

and maintained. In short, the net was a small and elite town, of sorts, whose denizens—"netizens"—were at least passingly familiar with the principles and practices of functional design. In that context, just as multiple users on a single host was a sensible norm, so were notions of standardized file structures, naming conventions, procedures and formats, and so on. But just as the model of multiple users on a single host has become less certain, so has the rest.

The net has become a nonsystematic distributed repository used by more and more technically incompetent users for whom wider bandwidth is the solution to dysfunctional design and proliferating competitive formats and standards. Finding salient "information" (the very idea of which has changed as dramatically as anything else) has become a completely different process than it once was.

This turn of events should come as no surprise. As commercial domains multiplied, and as users multiplied on these domains, the quantities of material their efforts and interactions produced grew ferociously—but with none of the clarity typical the "old" institutional net. In the past, the information generated around or available through a domain (or to the subdomains and hostnames assigned to a department in a university or military contractor) was often "coherent" or interrelated. But that can't be said of the material proliferating in the net's fastest-growing segments: commercial internet access providers, institutions that automatically assign internet access to everyone, diversified companies, and any other domain-holding entities that permit discretionary traffic.

Instead, what one finds within these domains is mostly random both in orientation and in scale: family snapshots side by side with meticulously maintained databases, amateur erotic writings next to source-code repositories, hypertext archives from chatty mailing lists beside methodical treatises, and so on. In such an environment, a domain name functions more and more as an arbitrary marker, less and less as a meaningful or descriptive rubric.

This isn't to say that domain names will somehow "go away"; on the contrary, it's hard to imagine how the net could continue to function without this essential service. But the fact that it will persist doesn't mean that it will serve as a primary interface for navigating networked resources; after all, other aspects of network addressing have become all but invisible to most users (IP addresses and port numbers to name the most obvious).

The benefit that DNS offers is its "higher level of abstraction"—a stable addressing layer that permits more reliable communications across networks where changing IP numbers change and heterogeneous hardware/software configurations are the norm. But "higher" is a relative term: as the substance of the net changes—as what's communicated is transformed both in kind and in degree, and as the technical proficiency of its users drops while their number explodes—DNS's level of abstraction is sinking relative to its surroundings.

[This essay first appeared on *Rewired* <http://www.rewired.com/> on 28 Sept 1998 under the title "A Higher Level of Abstraction." Thanks to David Hudson for his editing.]

A change of address letter from Graham Harwood. May 98: During the past ten years. I have worked with new technologies and opening up social spaces. For the last three and half years, I have worked at Artec training unemployed people and have made many good friends and set up many good working relationships with the people I taught. This was an extremely busy time for me finishing and publishing Rehearsal of Memory as well as running courses and being involved in the arts programme at Artec. There were many sleepless nights, stress, excitement, and above all there was the possibility of creating a space in which people could safely explore culture clash and exclusion from the trough of society. I wanted this space to be experimental, away from immediate poverty and also away from the excesses of a municipal post socialist pretension. In the last few years, I have seen the context in which Artec and similar organisations operate steadily tightening up, becoming accredited to a new social order. There is a very real danger that these constrictions—or to put it another way, the reordering of powerful elites to cope with technological change—will strangle the technologies bastard miscarriage of social opportunity. Artec I feel, like many other smaller organisations, could be lured into adopting the agenda of academic and political organisations and agencies which may dwarf it. People at Artec work hard and usually do not have the luxury of distance from the day to day grind of running courses and making things happen to see what's coming round the corner. It's always useful to be reminded that the academic and political organisations and agencies now setting the agenda are the ones which failed the client group in the first place. [Matthew Fuller <matt@axia.demon.co.uk>, Change of Address, Mon, 27 Apr 1998 21:47:36 +0100]

SUBJECT: PRECIOUS METAL AS A NETWORK PROTOCOL

FROM: JULIAN DIBBELL <JULIAN@MOSTLY.COM>
(BY WAY OF BRUCE STERLING <BRUCES@WELL.COM>)

DATE: MON, 9 MAR 1998 10:36:58 -0600 (CST)

Sources: J. Buchan, *Frozen Desire: The Meaning of Money*, NY: Farrar Straus Giroux, 1977, and J. Weatherford, *The History of Money: The Struggle over Money from Sandstone to Cyberspace*, NY: Crown, 1997

In his remarkable book, James Buchan writes:

> From our vantage, we can see that money is of no particular substance and may be of no substance at all; that whatever money is, it may be embodied in coins or shells, knives, salt, axes, skins, iron, rice, mahogany, tobacco, cases of gin; in persons; in a word or gesture, paper, plastic, electronic impulses or the silver ingots raced through the streets on trays at sundown to make up accounts between the foreign banks in my mother's father's days in Hangkow. (18)

"Economic booms and busts will become more frequent and more severe if programs called software agents control electronic commerce. Agents tend to exaggerate the worst market swings and create disastrous price wars, say two research groups in the US. As more goods and services are bought on the Internet, observers predict that we will need agents to get the best prices. But agents are not subject to the restraints that normally slow economic activity: their transactions take place almost instantaneously, cost next to nothing and distance is irrelevant."

Two things about this passage interest me. The first is its suggestive implication that money has both a "hardware" component (that is, the coins, paper, knives, mahogany, and so on that embody it) and a "software" component (that is, among other things perhaps, the value thus embodied). The second is the wonderfully nostalgic closing tidbit about the shuttling trays of silver in the streets of old Hangkow (this I assume is the former city Hankou, China, now a subdistrict of the megalopolis Wuhan), which provides a vivid, high-Cahill-number image of the essentially abstract dead medium I'm proposing for consideration here: metallic monetary standards, the antiquated practice of backing every piece of circulating currency with a fixed amount of precious metal.

Some preliminary taxonomizing is in order. Bruce Sterling suggested in Dead Media Working Note 22.1 that money might be thought of as a distributed calculating system, and that seems about right. But there's another suggestion built into that one: that we think of money as a network. Strictly speaking, too, we'd want to think of it as an *inter*network, globally distributed and capable of transmitting value from one end of the net to the other, so long as the proper network gateways are traversed. Money, we might even say, throwing precision to the wind, is the original Internet. But let's just call it an analogy, and see where it leads us.

One implication, I think, is that if coins and banknotes and so on are to be thought of as the hardware of the network, then we must also look for some underlying technical system we could call the network protocols. I am not enough of a finance wonk to identify the "protocols" of the contemporary world money system—a frighteningly live medium, in any case—but I think it's safe to say that in the terms of our analogy, "protocols" is exactly what we would have to call the metallic standards that governed monetary exchange during the first great age of global capitalism (that is, from Waterloo until World War I).

In particular, we would mean the gold standard, which died a slow death between 1931, when Great Britain abandoned it, and 1971, when Britain's successor at the helm of world finance, the U.S., finally chucked it too.

If I understand the Hangkow ingot exchange that Buchan alludes to, the system might properly be considered a kind of monetary intranet, operating locally on the same principles as the global network. Globally, a physical transfer of precious metal was also used to settle accounts at the end of the day—though, at that level, the metal was gold rather than silver, and the transfers were between nations as well as banks, and the end of the day was really the end of the quarter or the year.

It was a very different regime than what we have now, with very different effects. The money supply was tighter, often painfully so, and the drift of economies was (according to Buchan) deflationary rather than inflationary.

In the U.S. at least, bitter and arcane controversy sometimes surrounded the subject of metallic standards, with the Populists of the late nineteenth century, for instance, supporting a move to a "bimetallist" gold and silver standard that would somehow loosen the money supply and make things easier for the little people.

According to Jack Weatherford's *The History of Money*, it was apparently well understood at the time that L. Frank Baum's *The Wizard of Oz*, published in 1900, was a Populist allegory inveighing against the gold standard (the seductive "yellow brick road" to the sham-world of Oz being merely one of the more obvious clues).

Metal-based money was strange stuff. It's difficult, at this late stage in the world-financial game, to imagine what could possibly bring the metallic standards back. Profound inflationary trauma perhaps, or maybe a global dictatorship. For the time being, at any rate, they remain very much dead.

[This message first appeared as Working Note 30.9 on the Dead Media mailing list.]

SUBJECT: PIRACY NOW AND THEN

FROM: TOSHIYA UENO <VYC04344@NIFTYSERVE.OR.JP>
DATE: TUE, 29 SEP 1998 18:15:50 -0400

What is the first impression or association for us when we hear the term *piracy* or *pirates*? One easily thinks of pirate radio or TV, the pirated editions or versions of any kind of media (music tapes and records, computer applications, books or brochures, and so on). Generally, this term is used in contexts opposed to capitalism or commercialization. If one looks back at the history of capitalism itself, one can see the close connection between piracy and capitalism. Although this essay deals with one aspect of capitalism, its aim is not necessarily to focus on the economics and politics of money and commodities; rather, it is an attempt to elaborate cultural politics in the age of information capitalism through a tactical way of thinking.

In discussing the relationship between piracy and capitalism, I wish to begin by referring to Daniel Defoe's *Robinson Crusoe*. This novel is an important reference point for analyzing the relationship between piracy and capitalism. In Defoe's story, Robinson resisted his father's opinion and Protestant ethics; he did not trust the Christian God of Protestantism. Robinson was longing for his brother, who had become an adventurer in search of property and treasure in an unknown world, either Africa or the West Indies. Robinson tried to do the same. But on his first trip, he was caught by Moors and enslaved. Eventually, he escaped, bought land in Brazil, and ended up managing a huge plantation. However, his plantation fails, and he begins again to navigate the seas—this time in search of African slaves. His ship sink, and he alone survives to live on a desert island. Despite this miserable situation, he appreciates and blesses God. Robinson has reformed and returned to Protestantism. On the island, he tries to make an enclosure much as the gentry or early bourgeoisie established them in England—he returns to the Protestant ethic and the spirit of capitalism.

As you may know, this interpretation is derived from Max Weber. But it is already obvious that the human type of Robinson—a person who acts rationally and productively on the basis of "innerworldly asceticism"—is a sort of fiction. When one reads *Robinson Crusoe* carefully, one comes to understand that his behavior on the island is not at all "rational" or "productive." Instead, his activities depend on monstrous, excessive desires. For example, when he tries to salvage useful materials from the shipwreck on the island's coast, he wants to get "everything" without considering whether or how these things actually will be useful. It is especially clear in his obsession with his fort's construction, since he does not know the purpose of the fort. In short, Robinson doesn't really know what is doing. (This corresponds roughly to Marx's definition of ideology). His behavior and mentality are not and never were based on "value-rationality." So the human type of Robinson is not nearly as ascetic and rational as the bourgeoisie in England were; rather, he resem-

bles the type of humans in the contemporary world. (The phrases "type of human" or "human type" are technical terms in the sociology of Max Weber. One can understand them as an ideal embodiment of type of each class.)

As a character, Robinson is very similar to us in his purposeless and excessive production and consumption. Even though we would define Robinson as the human type of Protestant, the theoretical framework that makes this definition possible is already problematic and dubious. In response to the question "Why did capitalism first arise in England, and not in other places?" the most general reply has been: "It is because the bourgeoisie possessed the Protestant ethic that capitalism developed in England before its advent in other places." But the foundations of this interpretation are beginning to change very radically. For example, according to Immanuel Wallerstein's "world system theory," the response should be: "It is because capitalism appeared in England that it didn't appear elsewhere." The world system is *one* system, and it has a structural totality. The viewpoint adopted by world system theory, it should be noted, relates to theoretical problems raised by colonialism. After 1492, capitalism became synchronized with colonization and colonialism. In our example, Robinson turned to navigation in order to obtain slaves for his Brazilian plantation. However, in his life on the island, he encounters Friday, a "colored native other"—a figure who served as the sine qua non of the Western Enlightenment of reason.

Small wonder, then, that world system theory, or Braudelian historicism, should have engendered scholarly interest in the transportation and communications aspects of sea trading. Robinson, remember, was a sailor; the type of human epitomized by Robinson was found not in yeomanry or the middle bourgeois but, rather, in the sailors and colonizers of the seventeenth century. In this regard, we might note how pivotal this shift can be, from the land to the sea. It was not a new one in Defoe's time: Venice in the Middle Ages, Spain in the sixteenth century, the Netherlands in the seventeenth century, England in the eighteenth century, all were sea empires, and the state exerted hegemony over the sea. In 1492—the year, of course, when Columbus landed in the Americas—Islamic Moors were exiled from the Iberian peninsula. Some became Barbarian pirates and turned to attacking the ships of Christian Europe. The Christian states, in turn, granted many Christians (and hence Europeans) authority to become pirates with letters of marque to attack other nations' ships. The post-Columbus age, it seems, was an age of pirates.

PIRATES

Captain Charles Johnson's *A General History of the Robberies and Murders of the Most Notorious Pirates* (1724) is a very strange and interesting book that deals with the history of the pirates. Its stories about Captain Kidd and Teach, as well as female pirates such as Mary Lead and Ann Bony have influenced countless novels and fictions about pirates. According to Hakim Bey, in his book *T.A.Z.*, and others, Charles Johnson may be a pen name of Daniel Defoe. If so, one might note the curious coincidence that the author of a book that portrays the rise of capitalism is also the author of a history of pirates; but it's no coincidence.

"Electronic Commerce and the Street Performer Protocol": Copyright will be increasingly difficult to enforce in the future. The barriers to making high-quality pirated copies of digital works are getting lower and lower, and solutions such as hardware tamper-resistance and watermarking just don't work. We introduce the Street Performer Protocol, an electronic-commerce mechanism to facilitate the private financing of public works. Using this protocol, people would place donations in escrow, to be released to an author in the event that the promised work is put in the public domain. This protocol has the potential to fund alternative or "marginal works. [J. Kelsey and B. Schneier, The Third USENIX Workshop on Electronic Commerce Proceedings, USENIX Press, September 1998.]

According to Bey, a T.A.Z., or "temporary autonomous zone," is not a concrete and realized societies or fixed spaces but, rather, an ephemeral chronotope marked by autonomy and independence; not surprisingly, such zones tend to be short-lived. In the chapter titled "Pirate Utopias," Bey finds such a zone in the activities of seventeenth- and eighteenth-century pirates; he says that the pirates and corsairs had formed a sort of information network by creating a global web connecting islands and continents. Historically speaking, many pirates founded small communities or utopian societies in Morocco or the Caribbean islands, communities that were quite different and independent from the early power politics of nation-states. Bey goes on to draw a parallel between the overlapping relation among islands and archipelagos connected through pirate societies in that period and our own era's rhizomatic nets of transnational corporations. He also cites Bruce Sterling's novel *Islands in the Net*; like these enormous corporations, many hacker-based and small high-tech manufacturers are operating in ways that transform the quality and meaning of property or ownership itself.

There is one particular society that's quite interesting in this context—the seventeenth-century Pirate Republic of Sale in Morocco, an independent and insurrectionary community formed by corsairs, sufis, adventurers, and the like. Peter Lamborn Wilson, in *Pirate Utopias* (Autonomedia, 1995), suggests that this republic exemplified the pirate utopias, where thousands of Europeans converted to Islam and joined the pirate "holy war." It's interesting to note in passing that, in Defoe's novel, Robinson was taken captive in this republic.

Wilson uses the term *renegadoes* (an older form of the term *renegade*) to describe these "converts." Terms of this kind *renegades* and *converts*—pivotal characters in the history of piracy—tend to carry a negative connotation, for example, a movement toward heresy or paganism; but given that both rely upon a closed community or dogmatic party, which is rejected, the terms also connote an openness.

SEAMEN

Another interesting text in this context is the novel Herman Melville's *Moby Dick*. Of course, Captain Ahab and his crew in the ship *Pequod* aren't pirates, but their story is fundamentally determined by life and work on the sea. Like Robinson, Ahab's activities—his vengeance against Moby Dick—are defined by a renegade and individualistic goal. (The biblical name Ahab itself signifies exile.) And this in the context of an extremely heterogeneous community: there are many races on the Pequod. Around the figure of Ahab as a white, one finds overlapping of marginal natives and tribes—for example, Caribbean, American Indian, African blacks, and European whites.

Melville's writing about whales is, in a word, maniacal. The novel's encyclopedic descriptions of whale lore, "cetology," are clearly fueled by some very extreme passions. In this regard, the structure of the novel is absolutely mirrored in the narrative: Ahab, haunted by his vengeance, consumes his crew, as though he draws some invisible power from the white whale. And the whale itself, in turn, seems nearly immortal: though wounded by a harpoon, it reappears again and again without so much as a scar. Moby Dick

seems to draw this power from the sea or, more particularly, from the autonomy that defines the whales' relationship with the sea: Melville's narrator, Ishmael, says the whales know a secret "web" of routes in the sea. Not surprisingly, this informatic structure isn't limited to the sea: the whales themselves are, in Melville's narrative, redefined as informatic structures themselves—for example, the narrator compares patterns on the whale's skin with the designs of primitive Indian art and likens the movements of the whale's tail to the symbols and signs in freemasonry.

This kind of configuration isn't merely novelistic artifice in *Moby Dick*; traces of these relations can be found in the history of whaling in Japan as well. For example, the tradition of whaling in Japan holds that whaling is not merely hunting whales but, rather, a technique of searching out the invisible and uncontrolled zones of the sea, the matrices defined by the movements (or appearances) of whales; whaling necessarily involved entering into unknown and hidden elements in nature. (We now know that whales are intensely sensitive to sounds, and therefore function in an at least partially acoustic relationship with their environment.) Moreover, the histories of whaling and piracy in Japan are closely intertwined: when Hideyoshi Toyotomi persuaded the political and military hegemony—including pirates—to disarm in the late sixteenth century, many pirates turned to whaling. Moreover, a Japanese post-structuralist, Shinichi Nakazawa, has shown how, in the early 1600s, samurai pirate-turned whaler Yolimoto Wada mobilized his village as a "war machine"—including all the procedures, rituals, and technologies its whaling economy relied on—around a series of technological and organizational innovations; the result was one of the first models for manufacturing in Japan, and hence for Japanese capitalism.

It is worth noting that this mobilization was not structured in terms of European-style rationality. For example, whales were not simply objects to be exploited; rather, they held a spiritual significance. It is arguable whether this worldview was particular of singular to Japanese culture; there is no doubt that Japanese whalers believed in a unique cosmology, and were very concerned to distinguish nature from artifacts, physis from nomos, and exchange from exploitation, but it would be a mistake to limit the potential of these distinctions by superimposing upon them some purported "Eastern character" or geographical limitations. Rather, we should see to find in this configuration of concerns some pathways to other ways of viewing the world, other chronotopes and contexts.

Another seemingly disparate source that is useful in this context is the work of the German political philosopher Carl Schmitt. Though notorious for his pro-Nazi politics, after World War II his attention turned toward an analysis of human history in terms of a struggle between land- and sea-based empires.

In *The Land and the Sea: A Historical Analysis*, he stresses the role of water—the sea—as being a far more fundamental element than the others (air, fire, and land). He depicts history as an endless struggle between Behemoth, the land monster, and Leviathan, the sea monster. Perhaps not surprisingly, he repeatedly cites *Moby Dick* as a touchstone in understanding the political meaning of navigation, seapower politics, and—perhaps surprisingly—the

peculiar technology of whalers. The novel interests Schmitt because, he says, "Through fighting with the creature in the sea, humans were seduced to going into the deep element of the sea." Whalers are not merely catchers or slaughterers but hunters: in the wake of Columbus, Captain Cook, and other navigators, whalers—by definition, followers of whales—effectively charted the globe. Whales, it could be said, liberated humans from the land and taught them the tidal currents of the sea.

Schmitt compared himself to a character in another of Melville's novels, *Benito Cereno*, in which the protagonist, Captain Cereno, is forced by a slave insurrection on his ship to turn to piracy. The parallel between Cereno's piracy and Schmitt's own collaboration with the Nazi regime is clear, but no simple or convenient metaphor: in his works from *The Land and The Sea* (1947) to *The Partisan Theory* (1962), the pirate plays an crucial position in Schmitt's elaboration of the concept of "the political." Much as pirates took to the sea with official lettres of marque, the early bourgeoisie in England, for example, made enclosures in order to develop the wool industry (Schmitt describes these Englishmen as "the corsairs of capitalism"). Both sea and land became the field for the primitive accumulation of wealth, as well as the transmission of religious and social beliefs. These effects were hardly limited to pirates: missionaries, for example, disseminated all of the world many of the same basic values that contributed to colonialism and capitalism.

For Schmitt, the essence of the political lies in the distinction between friend and enemy—a distinction that can sometimes be very ambiguous. The main characters of *Moby Dick*—Ahab, Starbuck, Queequeg, Ishmael, and so on—all have such a relationship with the white whale. Though not pirates, they are all, in some sense, outcasts and renegades, or, in Schmitt's terminology, "partisans." In *The Partisan Theory* (1962), Schmitt uses the word *partisan* to describe those who lie outside of the framework (*Hegung*) of ordinary warfare. Partisan tend to depart from conventional warfare and social mobilization and move toward alternative types of warfare and political relations; it is reasonable, then, to speak of pirates as a form of partisan. According to Schmitt's theories, partisans unfold and invent new spaces; and the formation of these spaces depends very directly on available forms of technology and industry.

If the principle of the partisan consists of maneuvering enemies into unknown spaces, then whales and whalers can be seen as opposed partisans. By extension, ships of growing sophistication and submarines have expanded these interplays to a worldwide scale, and other mechanisms—nuclear-equipped submarines and space-based surveillance satellites and weapons—have transformed that reach into a more complex "global" phenomenon. Given the launch of Sputnik and the growing "space race, it should come as no surprise that Schmitt's speculations on these questions involve the possibility of "space pirates" and "space partisans." From our perspective, we can begin to see how these phenomena will extend into the spaces and nonspaces of "pure" information.

Some have said that Robinson's island was Tobago. Whether that's true, I don't know, but from that island one can see yet another, Tobago. This latter

island has brought us yet another theoretician I would like to add to this constellation, C. L. R. James. Among his very diverse works we find one on Melville and Shakespeare, *The Sailors, the Renegades, and the Castaways*, named for a passage in *Moby Dick*, and *American Civilization*, (Blackwell, 1993). In the latter book, James analyzes *Moby Dick*; he argues that the novel is the story as being that of American society itself. The white whale, he says, is not an allegory for undomesticated and violent nature, but, rather, a symbol of industrialization, colonization, imperialism, and class struggle—in short, a metastruggle to move into new kinds of spaces and metaspaces. He describes its pursuit in these words: "This legitimate activity symbolizes the perpetual relation of civilized man with Nature. The whale was the most striking of living things which man had to subdue in order to have civilized lives. The whale is not a mere fish. The conquest of the air, the mastery of atomic energy, all these are symbolized by the whale." This metasymbol, if you will, spins out thousands of references and interpretations. The struggles in *Moby Dick* represent real struggles within society: "Melville knows and says repeatedly that the conflict is between human and Nature, the demonism that is in Nature. Melville knows also, however, that the struggle with the demonism in Nature involves a certain relation between man and man."

Thus, throughout the novel, the human desire to surpass limits intertwines with the constant crossing from sea to land and from land to sea. The white whale is an active element of the sea, itself, and unknown nature, set in an endless struggle with human beings; but this struggle is also one between people, and defined as much by life on the land as by life on the sea. The fight with the whale is a model of human history, and the narrative of the struggle with and awful, sublime nature is, in fact, an inverted image of social relations. The ship *Pequod* is, in a way, a sort of industrial factory populated by Ahab, the human-type of modern man in industrial society, and Ishmael, the narrator as a model of the modern intellectual. James concluded that Ahab's ability to mobilize people through a unique power makes him very much like modern dictators such as Hitler and Stalin.

If *Moby Dick* is a Leviathan of the nineteenth century, what of the twentieth? The information spaces we are now beginning to contemplate haven't emerged from nowhere at all; the roots of digital modalities can be found in earlier developments in media, for example, "cut 'n' mix" and sampling technologies emerging from various forms of black music—which, not surprisingly, developed in the web of connections that emerged among the exiles and migrations that have characterized black experiences of the modern world. And do not theoreticians concerned with the black diaspora have an interest in pirate culture? Indeed they do. Paul Gilroy is an excellent example: his *Black Atlantic* (inspired in large part by C. L. R. James) relies very heavily on the metaphor of the ship: "The image of the ship—a living, microcultural, micropolitical system in motions—is especially important for historical and theoretical reasons. Ships immediately focus attention on the middle passage, on the various projects for redemptive return to the African homeland, on the circulation of ideas and activists as well as the movement of key cultural and political artifacts: tracts, books, gramophone records, and choirs" (London: Verso, 1993, 4). According to him, the ship is a medium, a

living means that connects nodes in the Black Atlantic world, hence central to cultural exchange and travel.
So now we are faced with broad, new, and unimaginable spaces through network technology: from radios and telephones and now through wireless communications and the internet, the lands and seas of information are expanding. Though these media sometimes are commercialized and commodified, we will no doubt invent new forms piracy. Piracy and capitalism have always been two sides of the same token. Information capitalism is no exception.

[Edited by Hope Ted Byfield and Hope Kurtz.]

SUBJECT: OLD AND NEW DREAMS FOR TACTICAL MEDIA

FROM: DAVID GARCIA <DAVIDG@XS4ALL.NL>
DATE: MON, 23 FEB 1998 19:04:36 +0100

PREHISTORY

Our cultural and political life is framed in the symbols and grammar of the electronic media, and these are still overwhelmingly dominated by television. No mainstream political or cultural player can afford to ignore TV's seductive power, in fact the media itself in the form of journalists, editors, TV inquisitors, and spin doctors collectively make up a separate and unelected branch of the political life of liberal democracies.
From its beginnings as a *mass* broadcast medium, TV constructed its audience accordingly, as *the masses*. The notion of mass culture, arising from mass society, was a direct expression of a media system controlled either by the state or by large corporations. Although artists and activists from the early part of the century had consistently challenged the notion of the audience as passive and homogenous, it was not until the eighties that the mainstream media (along with everything else in the capitalist economies) was forced to reconfigure along more flexible and customized lines. It was during this period that the revolution in consumer electronics combined with the regulatory uncertainty in the media landscape spawned the incredible variety of achievements in the field of art, civic communications, and electronic dissidence that we call *tactical media*.

INTERMEDIATE TECHNOLOGIES

There is a tendency to blur into a single step the journey from the period of mass broadcast media described above to our own era of hypermedia and the internet. In fact, tactical media emerged from a vital bridging period during the eighties, when a whole range of intermediate technologies allowed for ways of interacting with the media which were far less passive

than pundits and media theorists (including McLuhan) had ever envisaged. The TV zapper, the Walkman, the VCR and video rental industry, the greater range of channels through cable and later home satellite receivers and, above all, the camcorder arrived on the scene within a few years of one another. This series of innovation allowed "audiences" for the first time to create their own individually customized media environments and thereby to explode once and for all the dominance of broadcast media as the centralized source of societies representations. With the camcorder came an "additional modification to the one way flow of images and further developed the process of integrating our individual life experience to life on screen." This was the situation that made tactical media possible. And the fact that these technologies were everyday household appliances freed artists and media activists from the classic rituals of the underground and alternative scene. While at the other end of the spectrum "big media" whether MTV graphics or BBC's *Video Diaries* were incorporating techniques and ideas that for years had been the exclusive province of the avantgarde. This was why we introduced the term tactical media: the old dialectical terminologies of "mainstream versus underground" or "amateur versus professional"—or even "private versus public media"—no longer seemed to describe the situation we were living through.

During the eighties, groups as culturally and geographically diverse as the Gay Men's Health Crisis (New York) and Despite TV (London) and aboriginal telecaster project Satellite Dreaming were proving that you could make effective media interventions from outside of the established hierarchies of power and knowledge. Reemphasizing the role of transitional media is not merely academic: different parts of the world move at different speeds. For members of a rural community in the developing world, struggling to come to terms with the impact of television, picking up a camcorder and making their own stories is still a way of taking power. Anyone who has seen the work of Sylvia Meijer who uses camcorders as a consciousness-raising tool with Colombian women in villages and in jails can attest to the fact interactivity is not just a property of "new media."

THRIVING ON CHAOS

The movement we call tactical media has been comprehensively explored in two conferences held in Amsterdam, called The Next 5 Minutes. As we plan the third, it is important that, like every generation of modernists, we to try to confront the paradoxes and ambiguities of our position. It is an old difficulty in new disguises, but we dare not avoid it.

Along with all other moderns, media tacticians have to face the fact that not only can all their acts of subversion be co-opted by capital, but the perpetual cycle of destruction and renewal which characterizes tactical media, is itself an embodiment of the forces unleashed by capitalism. Plenty has changed since our world was transformed by nineteenth century industrialists, but the mutually dependent relationship between capital and its malcontents remains much the same. This is why even the most corrosively nihilistic movements from Fluxus to Punk can be co-opted so easily. Capital is not threatened by chaos it thrives on it. The difference between our age

and others is the growing openness about the fact. nineteenth-century industrialists averted their eyes the from the nihilistic logic of the forces they had unleashed, not only by creating a veneer of respectability and permanence but also by instituting the radical bourgeois public sphere. The civic and cultural institutions including museums of art and academies of science. It is not enough for us to go on subverting this public sphere, which has been the autopilot response of generations of radicals. Modern capital, with its corporate evenings and sponsorship deals is already doing that job effectively enough. For today's operators in the advanced service industries, from insurance to advertising, every act of "ontological terror" is another marketing opportunity. Years after it occurred, Hakim Bey is still fulminating angrily at Pepsi calling one of their parties "a Temporary Autonomous Zone." What did he expect?

Change is good, proclaims *Wired* magazine's cover at the beginning of the first issue of 1998. Demonstrating once again how libertarian capitalism has finally abandoned the strategy of previous generations of bourgeoisie to identify themselves as the "party of order." One of the clearest illustrations of capital's new realism about its brotherhood with the anarchic forces it once feared is the highly profitable partnership between the Damien Hurst generation of English artists and the advertising mogul Charles Saatchi. In his boldest act so far, Saatchi has even succeeded in co-opting the Royal Academy (the epigone of stuffy bourgeois institutions) to display and advertise the "cool Britannia" part of his large collection. And the more horror and shockwaves the exhibition creates, the happier he is.

REDREAMING PUBLIC SPACE

The net is not averse to pretending to be a place. Especially when there is money to be made. On the web, domain names are the equivalent of real estate, and prime locations are already being hotly contested. "Recently the most expensive known domain name—business.com—was sold for $150,000 to an undisclosed buyer by a London-based banking software producer Business Systems International." To give the flavor here is an extract from an add published by InterActive Agency:

> WHAT'S IN A NAME? BROADWAY? PARK PLACE? MAGAZINE.COM!
>
> Real Estate is a valuable commodity even on the internet here's your chance to enjoy a penthouse view of cyberspace!"

It was Hannah Arendt in the fifties who asked of Marx (but could have put the same question to any modern—including libertarian—capitalists), "if the free development of each is the condition of the free development of all, what is it that is going to hold these freely developing individuals together?" Perhaps Habermas has come closest to answering, but no theorist of the modern has yet succeeded in building an effective theory of political community. We still have "no true public realm, but only private activities displayed in the open."

A SENSE OF PLACE

In *The Networked Society*, Manuel Castells describes a situation in which everything in our culture is reconfiguring around virtual flows. These flows are not just an element of our social organization; rather, they are an expression of processes dominating our economic, political, and social life.

But *places* do not disappear.

In the wider cultural and political economy the virtual world is inhabited by a cosmopolitan elite. In fact, put crudely, elites are cosmopolitan and people are local. "The space of power and wealth is projected throughout the world, while people's life experience is rooted in places, in their culture, in their history." If projects like the Next 5 Minutes or Nettime place their faith in "ahistorical virtual flows, superseding the logic of any specific place, then the more our emphasis on global power will escape the socio/political control of historically specific local/national societies." We must create a more consciously dialectic relationship between these two realms, which Castells calls the *Space of Flows* and the *Space of Place*, because if they are allowed to diverge to widely, if cultural and physical bridges are not built between these two spatial logics, we may be heading toward—or may have arrived at—life in two parallel universes "whose times cannot meet because they are warped into different dimensions of hyperspace." One possible direction may lie in reclaiming community memory, in re-imagining the public sphere through the symbolic role of the public monument. No broad discussion about the public domain can be separated from the physical embodiments of community memory in the form of public monuments. "The model here is that of the city (the polis) in classical antiquity, and the stress is the memorable action of the citizen, as it publicly endures in narrative." The opposite of this is the dream of the placeless utopia of the metropolitan elite, which is everywhere evident in the social dreams proffered as the hallmarks of that elite—from words like *jetsetter* with neither origin nor destination, to cyberspaceless utopias without borders.

The need for an enduring sense of place with its own community memory was powerfully brought home to me on my visit to Tallinn for this conference. In an artist's club, a young man told me about how a group of his friends were involved in a project to take all the old social realist statues from the communist era and melt them down into one gigantic bronze cube. As he was talking, I remembered a "solution" for similar works in Hungary, where they have been arranged in a park in Budapest, in a sort of virtual history: Communism the "experience," recent history as theme park. I argued with him that communities, like individuals, shouldn't try to deny their past. "We may not like it, but it's a fact." When I suggested that if he and his friends conspired to bury the past, they—or others—would end up regretting it, he looked me straight in the eyes and said, "Don't try to psychoanalyze us—you're an outsider. You don't understand.You don't even begin to understand what its like to live and grow up under a foreign tyranny... For you Soviet stuff is a fashion. The Red Army choir, fur hats, Levis—it's all the same." I apologized. I was put in my place. In secure liberal democracies nationalism (a secure sense of our own *place*) is often portrayed as an irrational vice but for him, the word *nation* was interchangeable with *freedom*.

July 1984. My mother is crying

I just brought my call-up to army home.

Location: Prizren. Kosovo. Border with Albania. The 2nd of August 1984. In the plane for the second time in my life. Destination: Skopje

Then with the bus to Prizren. For the next 15 months.

No...After 6 months they sent me to Gjakove (Djakovica)

Kaptain Jovich: You are from Slovenia. You have those Punks there. They are all nazis. Are you a nazi too? You'll have to prove you ain't...
We go to the cinema. Out of baraques for the first time in four months. Flashdance! What a feeling... Girls. Not very dressed. Soldiers are going to the toilets from time to time. There is a sperm on the walls of the toilets...

Riding a bicycle or playing a guitar? They put a burning paper between your fingers as you sleep and you wave with your hands or legs like playing a guitar or riding a bicycle. They laught than. But you are burned. It hurts!

Major Vucicevic: Be always in two as you go in town. Take care for yourself, soldiers. Don't come back as loosers!
Russian jeep UAZ. Woman with three children on the street. Kapitan Abramovic: "Drive over them, bloody Skipetars, fuck them off, all of them!"

A man with a white cap on his head. His wife and two children, walking 3 meters behind him... I saw it many times there. It is incredible to me, but it is normal to them... [Teo Spiller <teo.spiller@rzs-hm.si>, I Was a Soldier in Kosovo, Thu, 07 May 1998 14:21:37 +0200]

Tactical media, like most modern movements, has tended to privilege the ephemeral, the moment. But "in opposing the monument to the moment we see the monument not simply as a symbol of repression but also a repository of knowledge and as memory. Reclaiming the monument means reclaiming depth in time, *dureé*, it's a way of getting back to work on memory." Perhaps this sounds dangerously like the familiar siren calls of all those classical revivals, "to the natural order of things through appeals to universal principals outside of space and time." But I'm thinking of very concrete examples where public space and public monuments were appropriated and re-invented, in the way that Martin Luther King and the American civil rights movement of the sixties went to the heart of white American establishment when King made his famous speech from the Lincoln Memorial.

There is one image to which my thoughts around this subject keep returning, my private resolution of the apparent contradiction between the moment and monument—a black-and-white photograph in which the facts are deceptively clear. At the bottom of the image the photographer's clenched fist is turned to the camera to look at his watch. It is daylight, and we can see on the watch that the time is around midday. Beyond the hand and the watch a boulevard stretches out, leading to a square of what is obviously a major European city. But it is as eerily empty as a de Chirico. Even on a Sunday this would be strange. So we are presented with a mystery.

Those who are familiar with central European cities might recognize it as Prague and as one of the main avenues leading to Wenceslas Square. In fact the photograph was taken by Joseph Koudoulka in 1968. A few days earlier Brezhnev's tanks had rolled in to crush Dubcek's experiment in "socialism with a human face." Kadoulka had agreed to meet some fellow citizens for a march on the square. For obvious reasons, they failed to keep the appointment. The failure is marked with this photograph. His watch on a hand clenched in an angry fist, a visual intersection of the picture and the boulevard. Two time lines cross; an individual life and the sweep of history in the making. The photograph seems to hold its breath. I can almost hear the sound of the shutter recording and becoming both a moment and a monument.

[This essay is based on a talk on tactical media for the Interstanding conference in Tallin, sponsored by the Soros Foundation.]

SUBJECT: ON THE TRANSNATIONAL CIVIL SOCIETY

FROM: BRIAN HOLMES <106271.223@COMPUSERVE.COM>
DATE: MON, 28 SEP 1998 15:05:32 -0400

Transnational corporations—TNCs—are the bogeymen of global dreams. They are imaged (on the left at least) as roving postmechanical monsters, outfitted with fantastically complex electronic sensors and vicious trilateral brains, and driven by an endless appetite for the conversion of resources, labor, and consumer desire into profit for a few. There's some truth in that image. But the power of transnational capital is inseparable from the capital "S" of subjective agency, expressed in social, cultural, and political exchange. Which is why I'd like to discuss TNCs in relation to what you might call TNCS: transnational civil society.

Let's start with the bogeyman. It became apparent in the sixties that private corporations were taking over the technological and organizational capacities developed initially in World War II: the coordinated industrial production, transportation, communication, information analysis, and propaganda required for multitheater warfare. Corporations such as Standard Oil or IBM, operating through subsidiary companies in every nation that did not allow direct penetration, were projections of a (mostly U.S.) military-industrial complex into both the developed and the undeveloped world, as part of the globe-girdling Cold War strategy. Yet already in the sixties these "multinational" enterprises were achieving autonomy from their home bases, for instance through the creation by British financiers of the Eurodollar, a way to keep profits offshore, out of the national tax collector's hands. The offshore economy took a quantum leap in the mid-seventies after the first oil shock, when the massive capital transfers to the OPEC countries were channeled by inventive Western bankers into the new, stateless circuits of financial exchange. That's about the time when the full-fledged system of transnational capitalism emerged, with the collapse of the nationally based Fordist–Keynesian paradigm of labor-intensive industrial production plus welfare programs. The proximate cause for the collapse was the inflation brought on by the policies of stimulating consumption through public spending; but the durable factor prohibiting any return to the postwar social contract was the competitive pressure of what is now known as flexible accumulation, based on geographically dispersed yet highly coordinated "just-in-time" production, cheap worldwide distribution through container transport systems, and the complex management, marketing, and financing made possible by telecommunications. The flexible production system allowed the TNCs to avoid the concentrated masses of workers on which union power depends, and so much of the labor regulation built up since the Great Depression was sidestepped or abolished. At the same time, new technologies for financial speculation pushed levels of competition ever higher, as industrialists struggled to keep up with the profit margins that could be realized on the money markets. With the demise of the Soviet Union and the

nearly simultaneous resolution of the GATT negotiations, eliminating almost all barriers to international trade, the world stage was cleared for the activities of the lean-and-mean corporations. The favors of unprecedentedly mobile enterprises would now have to be courted by weakened national governments, which increasingly began to appear as no more than "executive committees" serving the needs of the transnationals. And the TNCs grew tremendously, with spectacular mergers that haven't stopped: witness BP/Amoco in oil, Daimler Benz/Chrysler in auto manufacturing, Morgan Stanley/Dean Witter in investment banking, or the proposed "Oneworld" alliance that would group nine international carriers around the two giants, British Airways and American Airlines...

This thumbnail sketch of economic globalization could go on and on, as it does in an incredible stream of recent books and articles from all schools of economics and all frequencies of the political spectrum. But what's generally left out of the hypercritical, alarmist discourse that I personally find most compelling, is some theoretical consideration of the roles played by the individual, human nodes of the world network: I mean *us*, the networkers, the people whose labor actually maintains the global economic webs, and whose curiosity and energy is sucked up into the tantalizing effort to understand them and use them for our own ends. I'm trying think on a broad scale here: the pioneers of virtual communities and net.art are only the tip of this iceberg. What's fascinating to see is the emergence on a sociological level of something like a *class of networkers*, people who are increasingly conscious of the welter of connections that make up the global economy, who participate and to some degree profit from those connections, who suffer from them too, and who are beginning to recognize their own experience as part of a larger pattern. The massification of internet access in the last few years, only since the early nineties, has finally given this class its characteristic means of expression. But precisely this expanded access to worldwide communications has made it pretty much impossible to go on fingering a tiny corporate elite as the sole sources and agents of the global domination of capital. We are now looking at and sharing in a much larger phenomenon: the constitution of a transnational civil society, with something akin to, but different from, the complexity, powers, and internal contradictions that characterized, and still characterize, the nationally based civil societies.

Civil society was initially defined, in the Enlightenment tradition, as the voluntary social relations that develop and function outside the institutions of state power. Toqueville's observations on the importance of such voluntary initiatives for the cohesion of mid-nineteenth-century American society established an enduring place for them in the theories of democracy. The idea recently got a lot of new press and some new philosophical consideration with the upsurge of dissidence in the Soviet Union and the other east-bloc countries in the seventies and eighties; and at the same time, as the neoliberal critique of state bureaucracy resulted in the dismantling of welfare functions and the decay of public education systems, the notion of self-motivated, self-organizing social activities directed toward the common good became something of a Great White Hope in the western societies. So-called nongovernmental organizations could then be seen as the correlates of civil

60 speeches and presentations; 21 business cards; 15 lbs (~7 kilos) of handouts, speeches, newsletters, directories, press releases; 14 jumbo prawns; 6 glasses of chilled orange, cranberry, and apple juice; 4 glasses of Harmony red wine; 3 sit down lunches and dinners; 1 pop-up 3D desktop calendar from Public Utility Law Project; 1 3-ring binder with print outs of presentations and marketing literature; 1 break-out session for discussion; 1 directory of 500+ attendees; No mousepads. T-shirts, or other giveaways; A few good ideas and a few good stories. These are some of the measurables of my attending the Connecting All Americans: Telecommunications: Links in Low Income & Rural Communities conference held in Washington, DC, Feb 24–26, 1998. [Cisler <cisler@pobox.com>, A Critical Report from a U.S. Conference, Thu, 12 Mar 1998 14:46:03 -0800 (PST)]

society in the space of transnational flows. Nowadays, with the environmental and labor abuses of TNCs becoming glaringly violent and systematic, and with their cultural influence ballooning through their sway over the media, a lot of people in nongovernmental organizations are understandably keen on promoting a notion of global civil society as a network of charitable humanitarian projects and political pressure groups operating outside the precinct of *corporate* power (with attempts to develop institutional agency focusing mostly around the U.N.). I sympathize with the intention, but still I'd like to point out that the individual rights and the free exchange of information on which this global civil society depends are also necessary elements of capitalist exchange and accumulation. The internationalization of law and the fundamental demand of "transparency," that is, full information disclosure about all collective undertakings, are among the great demands of the TNCs. To the extent that it wants to participate in capitalist exchange, even a regime as repressive as that of China, for example, has to open up more and more circuits of information flow, and so it pays the price of higher scrutiny, both internal and external, on matters of individual rights and freedoms. The whole ambiguity of capitalism, in its concrete, historical evolution, is to combine tremendous directive power over the course and content of human experience with a structurally necessary space for the development of individual autonomy, and thus for political organizing. The networkers, those whose bodies form nodes in the global information flow, and who therefore can participate in an enlarged civil society, are subject to that ambiguity. Which means, pragmatically, that the expansion of TNCs is inherently connected to the possibility for any democratic governance by a transnational civil society.

As Gramsci made clear long ago, civil society is always fundamentally about levels or thresholds of tolerance to the pressures and abuses of capitalist accumulation. The specific forms and effects of civil society are determined by a complex cultural mood, a shifting, partially unconscious consensus about who will be exploited at work, and how, about whose intelligence and emotions will be brutalized by which commercial media, and when and where and how, about whose land will be polluted, and with what—and, of course, about whose land will just get suburbanized or left tragically undeveloped, about who will be able to refine their intelligence and emotions and in which ways, about who must work and who gets to work and who no longer "needs" to work, who just gets left on the sidelines. Thus Gramsci, writing in the twenties and thirties, had a somewhat jaundiced view of really existing civil society. He conceived it as the primary locus of political struggle in the advanced capitalist societies, but he also saw it as a directive, legitimating cultural superstructure, generally engaged in the justification of brutal domination; and he recalled the violence of petty bureaucrats and clergyman in the Italian countryside, keeping the submissive classes in line. Gramsci's key concept of hegemony expresses both the role of this legitimating function of civil society in maintaining dominance and also its potential mobility, its capacity to effect a redistribution of power in society. I think that the emergence of the transnational class of networkers, operating as a significant minority in most countries, is effectively shifting the

articulation of political power in all the world's nations. I'll try to describe how with just a few examples.

Consider the U.S., the country that launched the internet, where an important fraction of the population is extracting new wealth out of what Robert Reich termed the "global webs" of multipartner industrial, commercial, and financial ventures, where many people not directly involved as operative nodes in such webs are still very conscious of them because they have their savings or retirement funds invested in global financial markets (as almost half of Americans now do), and finally, where long lists of NGOs and alternative communication networks are based, many of them with roots in the idealistic social-reform movements of the sixties and seventies. This is also a country where the least wealthy 40 percent of the population has actually seen their wages go down and their working conditions deteriorate over the last twenty years, where chronic social exclusion has become highly visible in the forms of homelessness and renewed racial violence, and where, last but not least, a very powerful Christian Coalition has emerged to reject almost every kind of consciousness change attendant on globalization and the recognition of cultural diversity. To marshal a workable political consensus out of such intense divisions, Clinton–Gore had to simultaneously push even harder toward the flexibilized information economy than their Republican predecessors had done, while making (and then breaking) lots of promises to restructure the country's welfare safety net, maintaining a high-profile international human-rights discourse (for instance with respect to China), and combining talk about environmentalism with a hip and tolerant style to woo all the former sixties radicals whose capacity for cultural and technological innovation fuels so many growth markets. Continuing economic growth has, of course, been the only thing to render this juggling act possible, making the strident neoliberal critique of the Republican right seem redundant—and forcing the Republicans into even greater dependence on the extreme right, as defined and prosecuted by the moral order of Christian fundamentalism.

Europeans tend to look on media-driven U.S. politics with consternation and a powerful will to deny any resemblance to the situation in their own countries. But if Tony Blair enjoys so much prestige in the rest of the ECU. right now, it is because of New Labour's ability to juggle the contradictions of an unevenly globalized society, somewhat as Clinton has done. The hegemonic formula reflected by New Labour seems to be a fun, flexible lifestyle, good for stimulating consumption, a fast-paced managerial discipline to keep up with global competition, and a center-left position that shows a lot of sympathy for casual workers and the unemployed while eschewing any genuinely socialist policies of market regulation and restricting the state's role to that of a "promoter" (Blair's word). However, there are of indications that this formula, tantalizing as it is, will not really work in the rest of Europe, stricken by unemployment and yet still reticent to dismantle the remains of its welfare systems. The very interesting resurgence of support for state interventionism and economic regulation in France is one such indication. A more disquieting sign is the rise of populist neofascist parties, not only in France, where the National Front clamors against "*mondialisme*" (globalism), but also in Austria, Italy, Belgium, and Norway. These betoken major resistance to

the neoliberal path that the European Union—or more accurately, Euroland—has taken under the economic leadership of the Bundesbank. The compromise-formation between a transnational elite subordinating everything to its privileges and an excluded popular class looking to vent its frustrations seems to be the scapegoating of poorer immigrants. The sight of two immigration officers savagely beating an African in a transit corridor of Schiphol airport has stuck in my mind as an all-too possible future for Euroland.

The powerfully articulated national civil societies of Europe are likely to falter and distort rather than break under the pressure of the split introduced by the transnational class. Hegemonic dissolution occurs when a majority of a country's or region's people can no longer identify themselves with *any* aspect of the institutional structure that purports to govern them. A case in point is Algeria. Here we see the steadily increasing inability of a recently urbanized and relatively educated population to identify with a government that no longer even remotely represents a possibility to share the benefits of industrial growth—because there hasn't been any for the past twenty years. The government is now an oligarchy drawing its revenues from TNCs in the fields of resource-extraction and consumer-product distribution. For many Algerians who have left their former village environment but can no longer get a job or use their education, the only ideology that can render a regression to pre-industrial living conditions tolerable is not democracy, but Islamic fundamentalism. If transnational capital continues to exploit the new international space which it has (de)regulated for its convenience, without any consideration for the daily lives of huge numbers of people, such violent reactions of rejection are inevitable and will spread. The current crisis of the global financial system is all too likely to fulfill this prediction.

Paradoxically, it is the global financial meltdown that may offer the first real chance for transnational civil society to have a significant impact on world politics. Not because networkers will have any direct influence on the few transnational institutions that do exist: only the richest states and the lobbies of the very large corporations can sway the IMF, OECD, and WTO; and despite all the inroads made by non-governmental organizations, the U.N. is only really effective as a kind of megaforum for debate. But in the context of a worldwide economic crisis, networkers may be able to use an understanding acquired by direct participation in global information flows to effectively criticize the institutions, ideologies, and economic policies of their own countries. In other words, transnational civil society may find ways to link back up with the national civil societies. There is already an example of networked resistance to economic globalization that has operated in just this way: the mobilization against the Multilateral Agreement on Investments. This ultraliberal treaty aims not at harmonizing but at *homogenizing* the legal environment for transnational investment. It would prohibit any differential treatment of investors, thus making it impossible for governments to encourage locally generated economic development. It would allow investors to sue governments in any case where new environmental, labor, or cultural policies entailed profit losses. And its rollback provision would function to gradually eliminate the "reservations" that individual states might initially

impose. Negotiations on the MAI began secretly in 1995 among the twenty-nine member-states of the Organization for Economic Cooperation and Development, and might actually have been concluded in April 1998 had the draft text of the treaty not been obtained and made public, first by posting it on the internet (see the Public Citizen site <http://www.citizen.org>). This plus the resultant press coverage brought cascading opposition from around the world, including a joint statement addressed to the OECD and national governments by 560 NGOs. The result was that member-states were forced into questioning certain aspects of the treaty and negotiations were temporarily suspended, though not definitively adjourned.

Detailed information on the MAI can be obtained over the internet, for instance from the National Centre for Sustainability in Canada (<http://www.islandnet.com/~ncfs/maisite/>). The diffusion of this information remains important at the date I am writing (September 1998), as further negotiations are upcoming. Opponents say that like Dracula, the MAI cannot stand the light of day. What I find particularly interesting in this context is the way the angle of the daylight differs across the world. Canadian activists, having seen their local institutions weakened by NAFTA, are extremely concerned with preserving national sovereignty. Consumer advocates and environmentalists were able to exert the strongest influence on the U.S. Congress. In France, the threat to government subsidy of French-language audiovisual production tipped the balance of indignation. NGOs in developing countries that may be incited to join the treaty immediately pointed to the dangers of excessive speculation by outside investors. Underlying these and many other specific concerns there is no doubt a broad conviction that the single, overriding value of capitalist accumulation by any means, and for no other end than accumulation itself, is insane or inhuman. But even if the current financial crisis is almost certain to reinforce and extend that conviction, still it will have no political effect until translated into more tangible issues, within an institutional environment that is still permeable to those whose only power lies in their intelligence, imagination, empathy, and organizing skills. Like it or not, that environment is still primarily to be found in the nation, and not in some hypothetical Oneworld consciousness. Which is tantamount to saying that transnational civil society, if developed for its own sake, would probably end up as homogeneous and abstract as the process of transnational capital circulation that structures the TNCs. The only desirable global governance will come from the endless harmonization of endlessly negotiated local differences.

I have evoked the position of networkers as human nodes in the global information flow. What are the implications of that position? In his three-volume study of *The Information Age*, sociologist Manuel Castells gives the following definition: "A network is a set of interconnected nodes. A node is the point at which a curve intersects itself." This definition is either fatalistic or provocative. Fatalistic if it defines the network of information exchange as an entirely autonomous system, interlinked only to itself in a structure of recursive proliferation. But provocative if it helps push the human nodes to assert their autonomy by seeking connections outside the recursive system. Can we hope that a redirection of priorities will arise from the aberrant spectacle of

Your Death is my Business. The viatical industry is in the business buying up life insurance of terminally ill people. Say you hold of life insurance of $ 100,000 and need to the money to get the appropriate treatment for the illness or just to spend it while you can. But the life insurance money won't come until your dead. Here is where the viatical service comes in. A friendly broker will buy your insurance policy, pay you, say, $ 50,00, take over the policy and the payment of premiums and collect the money once your gone. Mutually beneficial. If you die soon. Within a year and the broker makes a killing, so to speak, 100 percent return. If you die in two years the return is still ok. But if you, miraculously recover and live on happily for the next couple of years, the broker sits on a foul investment: the insurance policy that cannot be cashed. The viatical industry started up in the eighties in the wake of the AIDS epedemic and grew considerably in the nineties. Many of the companies have cashed in and are not traded on stock markets. Currently, the industry, some sixty companies, does $650–750 million in business a year and the quicker its clients die, the better their return. In 1996, an AIDS conference in Vancouver confirmed a breakthrough in AIDS research. For this industry, good news are bad news. The stock price of Dignity Partners Inc, a San Francisco firm, plunged from $14.50 earlier the year to just $1.38. [Felix Stalder <stalder≠@fis.utoronto.ca>, Betting on Death, Fri, 28 Aug 1998 11:28:16 -0700]

financial short-circuiting and resultant material penury in a world whose productive capacities are so obviously immense? I suspect that in the near future at least some progress toward the reorientation of the world economy is likely, particularly in the E.U. where the rudiments of transnational democratic institutions do exist. Even in the U.S., real doubt may grow about the sustainability of the speculative market in which so many have invested. In this context there may be a chance for activists to talk political economics with the far larger numbers of networkers who formerly had ears only for the neoliberal consensus. But a real change in the hegemony will not come about without an expansion of the magic circle of empowerment to people and priorities which have been marginalized and excluded. There is a tremendous need right now to spend some time away from computers and out of airports, not to ideologize people in the national civil societies but just to find out what matters to them, and to discover other levels of experience that can feed one's own capacities for empathy and imagination. Such experience can help requalify the transnational networks. In this respect I continue to think there has been something compelling in the Zapatista electronic insurgency, despite the aura of exoticism it is often reduced to. Not only has it been a vital force in shifting the hegemonic balance in Mexican civil society by giving uncensored voice to the demand for greater democracy. Not only has it been able to mobilize support from far-flung nations at a time when "Third Worldism" was becoming a term of insult and disdain. But in addition to these considerable accomplishments it has been able to infuse the global network with stories and images of the Lacandon forest, evoking experiences of time, place, and human solidarity that seem to have been banished from the accelerating system of abstract exchanges. The thing is not to romanticize such stories and images, but to look instead for the real resonances they can have in one's own surroundings. Call it transnational culture sharing, if you like.