

CYBER-COMMUNISM: How the Americans are Superseding Capitalism in Cyberspace

RICHARD BARBROOK

... is the impact of the ... information revolution on capitalism not the ultimate exemplification of ... Marx's thesis that: 'at a certain stage of their development, the material productive forces come into conflict with the existing relations of production ...'? ... does the prospect of the ... 'global village' not signal the end of market relations ... at least in the sphere of digitalised information? (Žižek, 1998, pp. 33–34).

■ GHOSTS IN THE MACHINE

A spectre is haunting the Net: the spectre of communism. Reflecting the extravagance of the new media, this spectre takes two distinct forms: the theoretical appropriation of Stalinist communism and the everyday practice of cyber-communism. Whatever their professed political beliefs, all users of the Net enthusiastically participate in this left-wing revival. Whether in theory or practice, each of them desires the digital transcendence of capitalism. Yet, at the same time, even the most dedicated leftist can no longer truly believe in communism. After the fall of the Berlin Wall and the implosion of the Soviet Union, this ideology is completely discredited. The promises of social emancipation turned into the horrors of totalitarianism. The dreams of industrial modernity culminated in economic stagnation. Far from representing the future, communism seems like a relic from the past.

Above all, the Soviet Union was incapable of leading the information revolution. The political and economic structures of Stalinist communism were far too inflexible and secretive for the emergence of the new technological paradigm. How could the totalitarian party

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allow everyone to produce media without its supervision? How could the central planning agency permit producers to form collaborative networks without its authorization?

A much more open and spontaneous society was needed to develop the Net. Excited by the libertarian potential of further digital convergence, the proponents of almost every radical ideology have recently updated their positions. Yet, among the cyber-feminists, communication guerrillas, techno-nomads and digital anarchists, there is no new version of the once dominant current of Stalinist communism. Even its former acolytes admit that the Soviet Union exemplified the worst failures of Fordism: authoritarianism, conformity and environmental degradation (Hall and Jacques, 1989).

The ideologues of American neo-liberalism have seized this opportunity to lay claim to the future. For almost 30 years, they have been predicting that new technologies were about to create a utopian civilization: the information society. For instance, the Tofflers have long been convinced that the convergence of computing, telecommunications and the media would free individuals from the clutches of both big business and big government (Toffler, 1980). Similarly, Ithiel de Sola Pool prophesied that interactive television would allow everyone to make their own media and participate in political decision-making (de Sola Pool, 1983).

Despite their radical rhetoric, these conservative pundits were primarily interested in proving that information technologies would force the privatization and deregulation of all economic activity. Their post-Fordist future was the return to the liberal past. When the Net became popular, this free market fundamentalism was quickly adapted to fit the new situation. Most famously, *Wired* argues that the 'New Paradigm' of unregulated competition between cyber-entrepreneurs is extending individual freedom and encouraging technological innovation in the USA (Barbrook and Cameron, 1996). As the Net spreads across the world, the material and spiritual values of American neo-liberalism will eventually be imposed on the whole of humanity. As Louis Rossetto—the founding editor of *Wired*—explains:

This new world [of the Net] is characterised by a new global economy that is inherently anti-hierarchical and decentralist, and that disrespects national boundaries or the control of

politicians and bureaucrats ... and by a global, networked consciousness ... that is turning ... bankrupt electoral politics ... into a dead end (Hudson, 1996, p. 30).

■ CULT OF THE DIGERATI

The narcissism of the Californian ideology reflects the self-confidence of a triumphant nation. With the Cold War won, the USA no longer has any serious military or ideological competitors. Even its economic rivals in the EU and East Asia have been surpassed. According to most commentators, the renaissance of American hegemony is founded upon its lead in new information technologies. No country can match the 'smart weapons' of the US military. Few companies can compete against the 'smart machines' used by American corporations. Above all, the USA dominates the cutting-edge of technological innovation: the Net. Realizing the American dream, a lucky few are making huge fortunes from floating their hi-tech companies on Wall Street (Greenwald, 1998). Mesmerized by the commercial potential of e-commerce, many others are speculating their savings on new media share issues: 'Internet stocks ... may be the hottest things since the Dutch tulip-bulb craze in the 1600s' (Kadlec, 1999, p. 1).

Despite all the wealth being generated by technological innovation, the division between rich and poor continues to widen in the USA (Elliott, 1999). In contrast with the European and East Asian forms of capitalism, American neo-liberalism can successfully combine economic progress with social immobility. Ever since the 1789 French revolution, conservatives have searched for this union of opposites: reactionary modernism (Herf, 1984).

Although necessary for the survival of capitalism, the social implications of economic growth have always frightened the Right. Over the long-run, continual industrialization slowly erodes class privileges. As their incomes rise, ordinary people can increasingly determine the political concerns and cultural attitudes of society. As a result, successive generations of conservatives have faced the dilemma of reconciling economic expansion with social stasis. Despite deep ideological differences, they have always proposed the same solution: the formation of a hi-tech aristocracy (Nietzsche, 1961; Ortega y Gasset, 1932).

IT'S TIME TO CLOSE THE WINDOWS.

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Cybercommunism and the Gift Culture

Posted by [Hemos](#) on Friday September 10, @03:11PM EDT

from the interesting-author-interesting-idea dept.

A number of readers alerted us to the latest [Andrew Leonard](#) piece over at Salon. He's covering the latest Richard Barbrook book "Cybercommunism". One of the salient points of Barbrook's latest argument is that all of this free-software/open-source is "superseding capitalism". For those who remember, Barbrook was the author of [The California Ideology](#), a 1996 screed.

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Irony (Score:3, Informative)

by [Aaron M. Renn](#) (arenn@urbanophile.com) on Friday September 10, @11:22AM EDT (#2)

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The ironic thing about that piece I thought was that he was describing the hacker "gift culture" at the same time his own paper is limited to "non-commercial" use only. In other words, it's not DFSG compliant!

I don't agree that the hacker culture is a "communist" one. Voluntary associations and donations are very much a feature of such anti-communist systems as anarcho-capitalism as well as anarchy/communism. However, I did love the way he compared the current proprietary software industry to Stalinism.

Did I get enough -ism's in there?

Re:Irony (Score:1)

by [iserlohn](#) (iserlohn@ragemail.com) on Friday September 10, @11:59AM EDT (#44)
([User Info](#))

Yes, but doesn't anarcho-capitalism undermine the principles of both ideologies? Some sort of a naming game?

Re:Irony (Score:1)

by [Aaron M. Renn](#) (arenn@urbanophile.com) on Friday September 10, @12:16PM EDT (#60)

([User Info](#)) <http://www.urbanophile.com/arenn/>

<http://slashdot.org/articles/99/09/10/157243.shtm/>

The earliest versions of this reactionary fantasy emphasized the hierarchical division of labour under Fordism. Although many skills were destroyed by the industrial system, new specialisms were simultaneously created. Within Fordism, engineers, bureaucrats, teachers and other professionals formed an intermediate layer between management and the shopfloor (Elger, 1979). Unlike most employees, this section of the working class received high incomes and escaped subordination to the assembly line. Fearful of losing their limited privileges, some professionals became enthusiastic supporters of reactionary modernism. Instead of fighting for social equality, they dreamt of founding a new aristocracy: the technocracy.

Reason, science, and technology are not inert processes by which men [and women] discover, communicate, and apply facts disinterestedly and without passion, but means by which, through systems, some men [and women] organise and control the lives of other men [and women] according to their conceptions as to what is preferable (Israel, 1972, pp. 2–3).

During the boom years of Fordism, the new ruling class was supposedly being formed by the managers and other professionals from large corporations and government departments (Burnham, 1945). However, when the economy went into crisis in the early 1970s, right-wing intellectuals were forced to look for supporters amongst other sections of the intermediate layer. Inspired by Marshall McLuhan, they soon discovered the growing number of people developing new information technologies (McLuhan, 1964). For almost three decades, conservative gurus have been predicting that the new ruling class would be composed of venture capitalists, innovative scientists, hacker geniuses, media stars and neo-liberal ideologues: the *digerati* (Bell, 1973; Toffler, 1980; Kelly, 1994).

Seeking to popularise their prophecies, they always claim that every hi-tech professional has the opportunity to become a member of this new aristocracy. Within the convergent industries, skilled workers are essential for the development of original products, such as software programs and website designs. In common with many of their peers, most digital artisans suffer from the insecurity of contract employment.

However, they are also better paid and have greater autonomy

over their work. As in the past, this ambiguous social position can encourage gullibility towards reactionary modernism. Chasing the American dream, many hi-tech workers hope to make millions from founding their own company. Instead of identifying with their fellow employees, they aspire to join the digerati: the new technocracy of the Net (Kroker and Weinstein, 1994).

Unlike in earlier forms of conservatism, this desire for domination over others is no longer openly expressed in the Californian ideology. Instead, its gurus claim that the rule of the digerati will benefit everyone. For they are the inventors of sophisticated machines and the improvers of production methods. They are pioneering the hi-tech services which will eventually be enjoyed by the whole population.

Over time, the digerati will transform the restrictions of Fordism into the freedoms of the information society. The compromises of representative democracy will be replaced by personal participation within the 'electronic town hall'. The limits on personal creativity in the existing media will be overcome by interactive forms of aesthetic expression. Even the physical confines of the body will be transcended within cyberspace. In the Californian ideology, the autocracy of the few in the short-term is necessary for the liberation of the many in the long-term (Toffler, 1980; Kelly, 1994; Hudson, 1996; Dyson, 1997). 'Not haves and have-nots—[but have-nows and] have-laters' (Rossetto, 1996).

■ LIBERATING MINORITY

What is now expected from the digerati in the age of the Net was once predicted about other heroic elites in the times of steel and electricity. Ever since the late nineteenth century, science fiction novelists have fantasized about a small group of scientists and philosophers inventing the technological fix for the problems of society (Bellamy, 1982; Wells, 1913). Among political activists, this faith in the leading role of the enlightened minority has an even older pedigree. At the peak of the French revolution in the 1790s, the Jacobins decided that the democratic republic could only be created by a revolutionary dictatorship. Although their regime was fighting for political and cultural freedom, substantial sections of the population violently resisted the modernization of French society. Accord-

ing to the Jacobins, the minds of these traditionalists had been corrupted by the aristocracy and the clergy. The revolutionary dictatorship was needed not only to crush armed rebellions, but also to popularize the principles of republican democracy. For only once everyone had been educated could all citizens participate in political decision-making. The tyranny of the minority in the short-term would lead to democracy for the majority in the long-term (Brinton, 1961; Barbrook, 1995, pp. 19–37).

Although the Jacobins only held power for a few years, their example has inspired revolutionary movements for generations. In many countries, radical groups have faced the identical problem of transforming traditional communities into industrial societies. Whatever their ideological differences, every revolutionary minority had the same mission: leading the masses towards modernity. By the mid-nineteenth century, the European Left had realized that this goal of political and cultural emancipation could only be achieved through economic progress.

Henri de Saint-Simon had explained that the power of the aristocracy and clergy was founded upon agriculture. If the economy could be modernized, wealth and power would inevitably transfer to members of the new industrial professions: entrepreneurs, workers, politicians, artists and scientists. Like the Jacobins, Saint-Simon argued that this new elite shouldn't just look after its own interests. For these modernizers also had the historical task of liberating their less-fortunate fellow citizens from poverty and ignorance. By creating economic abundance, the enlightened minority would enable everyone to enjoy happy and productive lives: 'Politics should now be nothing more than the science of providing people with as many material goods and as much moral satisfaction as possible' (Saint-Simon and Halévy, 1975, p. 280).

Inspired by Saint-Simon, early socialists believed that economic growth would inevitably lead to political and cultural emancipation. Under capitalism, there had to be continual improvements in the methods and machinery used to make goods and services: *the forces of production*. Over time, these advances were slowly undermining the private ownership of business: *the relations of production*. According to this version of Saint-Simon, the increasing interdependence of the modern economy would eventually force the adoption of more collective forms of social organization. Whatever their current

difficulties, the parliamentary parties of the European Left were confident of eventual victory. Sooner or later, the development of the forces of production would democratize the relations of production (Marx, 1970, pp. 20–21; Engels, 1975, pp. 74–101).

By the mid-twentieth century, this Marxist remix of Saint-Simon had also been appropriated by apologists of totalitarianism. Even before seizing power, V.I. Lenin had argued that revolutionary intellectuals should form a prototype of the Jacobin dictatorship: the vanguard party (Lenin, 1975a). Under the old order, the minds of most people were filled with incorrect ideologies from right-wing newspapers, churches and other cultural institutions. The enlightened minority had the historical duty of leading these ignorant masses towards the utopian future. After the 1917 Russian revolution, Lenin and his followers were able to create a modernizing dictatorship. Like its predecessor in 1790s France, this new regime was committed to fighting against reactionary forces and to educating the whole population (Lenin, 1975b).

In addition, the revolutionary dictatorship had acquired an even more important task: the industrialization of the Russian economy. Appropriating the analysis of Saint-Simon and his Marxist interpreters, Lenin claimed that economic modernization would eventually lead to political and cultural liberation. By imposing authoritarian rule in the short-term, the Russian revolutionaries hoped to construct participatory democracy in the long-run (Lenin, 1932; Bukharin, 1971).

This determination to modernize the economy soon led to the removal of all political and cultural freedoms. The promise of eventual emancipation justified the murder and imprisonment of millions. The creativity of artists was reduced to making propaganda for the totalitarian party. The modernizing dictatorship had even lost interest in improving the living conditions of the masses (Ciliga, 1979, pp. 261–291). Instead, the Soviet leadership became obsessed with the introduction of new technologies: the mechanical proof of increasing productive forces.

By the early 1930s, Josef Stalin—the successor of Lenin—was measuring progress towards the utopian future by rises in the output of industrial goods: steel, cars, tractors and machine-tools (Stalin, 1954, pp. 512–520). Economic development had become an end in itself: ‘The results of the Five-Year Plan [of industrialization] have

shown that the capitalist system... has become obsolete and must give way to another, higher, Soviet, socialist system...' (pp. 541–542).

Back in the nineteenth century, there had been no clear definition of communism. While Mikhail Bakunin had found its antecedents within peasant communities, Karl Marx believed that the new system was prefigured by industrial co-operatives (Bakunin, 1973, pp. 182–194; Marx, 1959, pp. 435–441). But, after the Soviet Union's victory over Nazi Germany in 1945, there could no longer be any doubt about the correct interpretation of communism. Across the world, almost every revolutionary movement embraced some variant of the Stalinist creed. The radical intellectuals must form a vanguard party to overthrow the existing order. Once in power, this revolutionary minority had to set up the modernizing dictatorship. As well as providing security and education, the totalitarian state would organize the rapid development of the economy (Djilas, 1966). Almost all radicals believed that this Stalinist version of communism had been proved both in the factory and on the battlefield. Once the Cold War started, any other interpretations were marginalized. For nearly 50 years, the imperial rivalry between the two superpowers was expressed as a fierce ideological conflict: Russian communism versus American capitalism.

■ STALIN IN SILICON VALLEY

During the Cold War, each side claimed that its particular socio-economic structures represented the future of all humanity. Despite championing rival systems, the apologists of both superpowers still shared a common—and unacknowledged—theoretical source: Saint-Simon. Ever since the 1917 revolution, the Russian state had been using his futurist prophecies to justify its actions.

Learning from its Cold War opponent, the US government began making similar claims about its policies. Although promoting liberal capitalism, American propagandists enthusiastically mimicked the theoretical rhetoric of Stalinist communism. The power of the minority of capitalists was in the long-term interests of the majority of the population. Any flaws in American society would be soon solved by further economic growth. Above all, the utopian potential of the USA was proved by the continual introduction of new technologies:

the symbol of increasing productive forces (Rostow, 1971). Alongside their military–political contest over ‘spheres of influence’, the two superpowers also competed over who represented the future.

The collapse of the Soviet Union didn’t end the theoretical influence of Stalinist communism over right-wing American intellectuals. On the contrary, the global mission of the USA had been confirmed by victory over its totalitarian rival. According to one apologist, American neo-liberalism is now the realization of the Hegelian ‘end of history’. Although wars and conflicts will continue, there is no longer any alternative form of socio-economic system (Fukuyama, 1992).

For the proponents of the Californian ideology, this narcissistic assumption is proved by American dominance over the cutting-edge of economic modernity: the Net. If other countries also want to enter the information age, they will have to imitate the peculiar social system of the USA. Like its Cold War predecessors, this contemporary celebration of American neo-liberalism appropriates many theoretical assumptions from Stalinist communism. Once again, the enlightened minority is leading the ignorant masses towards a utopian civilization. Any suffering caused by the introduction of information technologies is justified by the promise of future liberation (Hudson, 1996, p. 33). Echoing the Russian tyrant, the *digerati* even measure progress towards utopia by increasing ownership of modern artefacts: home computers, beepers, mobile phones and laptops (Katz, 1997, pp. 71–72). Although the Soviet Union has long disappeared, the proponents of the Californian ideology are still appropriating the theoretical legacy of Stalinist communism:

vanguard party	<i>digerati</i>
The Five-Year Plan	The New Paradigm
boy-meets-tractor	nerd-meets-Net
Third International	Third Wave
Moscow	Silicon Valley
<i>Pravda</i>	<i>Wired</i>
party line	unique thought (<i>pensée unique</i>)
Soviet democracy	electronic town halls
Lysenkoism	memetics
society-as-factory	society-as-hive
New Soviet Man	post-humans

Stakhanovite norm-busting	overworked contract labour
purges	downsizing
Russian nationalism	Californian chauvinism

■ REVENGE OF SAINT-SIMON

Across the industrialized world, this conservative appropriation of Stalinism now dominates discussions about the Net. Every guru celebrates the emergence of the new technocracy: the digerati. Every pundit claims that these pioneers of the Net are building a new utopia: the information society.

Yet, like their Soviet predecessors, contemporary right-wing intellectuals can only produce corrupted versions of Saint-Simon's prophecy. While this socialist philosopher wanted economic progress to liberate everyone, these proponents of reactionary modernism exclude the majority of the population from their hi-tech future. For the privileges of the digerati depend upon the subordination of the unenlightened masses.

In the Californian ideology, permanent technological revolution is always identified with unchanging social hierarchy. However, without the promise of eventual redemption, economic modernization becomes an end in itself. Once again, conservative philosophers are promising an imaginary future to dissuade people from improving their lived present.

Although always imminent, the arrival of the information society must be perpetually postponed. As in the former Soviet Union, the prophecy of Saint-Simon is never supposed to be actually realized within the USA. On the contrary, the development of the forces of production is designed to reinforce the existing relations of production, for both public and private institutions only introduce new information technologies to advance their own interests. Back in the 1960s, the US military funded the invention of the Net to fight nuclear wars. Ever since the 1970s, financial markets have used computer networks to impose their hegemony over the entire world.

During the last few years, both capitalist companies and government departments have adopted the Net to improve communications with their employees, contractors and clients. At the moment, every speculator on Wall Street is looking for the cyber-entrepreneur who is building the next Microsoft. Despite all the utopian predictions of

the digerati, there appears to be nothing inherently emancipatory in the convergence of computing, telecommunications and the media. Like earlier forms of capitalism, the information society remains dominated by the hierarchies of the market and the state (Schiller, 1995; Winston, 1998, pp. 321–336).

At the beginning of the new millennium, American neo-liberalism seems to have successfully achieved the contradictory aims of reactionary modernism: economic progress and social immobility. Because the long-term goal of liberating everyone will never be reached, the short-term rule of the digerati can last forever. Yet, as in the former Soviet Union, this dialectic of development and stasis is inherently unstable. By modernizing agricultural societies, the ruling parties of Stalinist communism slowly destroyed the foundations of their own power. Over time, the relations of production formed by totalitarianism became incompatible with the continual expansion of the forces of production. At this historical moment, Saint-Simon finally had his revenge on his false disciples.

The [Stalinist] communist revolution ... has brought about a measure of industrial civilisation to vast areas of Europe and Asia. In this way, material bases have actually been created for a future freer society. Thus, while bringing about the most complete despotism, the [Stalinist] communist revolution has also created the basis for the abolition of despotism (Djilas, 1966, pp. 41–42).

Like its erstwhile opponent, American neo-liberalism is now also being undermined by the development of the forces of production. As predicted by Saint-Simon, the full potential of recent technological and social advances cannot be realized within the traditional hierarchies of capitalism. According to the proponents of the Californian ideology, the Net is founded upon the buying and selling of information goods and services. Only through market competition can individual desires be satisfied. Yet, when they go on-line, Net users are primarily engaged in giving and receiving information as gifts. Quite spontaneously, people are adopting more democratic methods of working together within cyberspace.

Fulfilling the prophecy of Saint-Simon, these new relations of production have emerged at the cutting-edge of economic progress: the Net. Not surprisingly, they are being pioneered by a privileged

minority of the world's population: people with access to computer-mediated communications technologies. As a result, these new ways of working are most widespread within the leading capitalist nation: the USA. The technological and social preconditions for the realization of Saint-Simon's prophecy are now present. While conservative ideologues remain entranced by the theoretical legacy of Stalinist communism, their fellow Americans are discovering the practical benefits of a new version of this concept: cyber-communism: 'Gift cultures are adaptations not to scarcity but to abundance. They arise in populations that do not have significant material-scarcity problems with survival goods' (Raymond, 1998a, p. 9).

The gift economy of the Net emerges from the technological and social advances catalyzed by capitalist modernization. Over the last 300 years, the reproduction, distribution and manipulation of information has become slowly easier through a long process of mechanization. A manually operated press produced copies which were relatively expensive, limited in numbers and impossible to alter without recopying. After generations of technological improvements, the same quantity of text on the Net is easily circulated, copied and remixed.

However, individuals need money and time to access this advanced communications system. While most of the world's population still live in poverty, the inhabitants of the industrialized countries have reduced their hours of employment and increased their wealth over two centuries of economic growth. Ever since the advent of Fordism, mass production has depended upon workers having enough resources and leisure for mass consumption (Negri, 1988). Having disposable income and spare time, many workers within the metropolitan countries are now able to work on their own projects (Gorz, 1989). Only at this particular historical moment have the technical and social conditions developed sufficiently for the emergence of cyber-communism: 'Capital thus works towards its own dissolution as the form dominating production' (Marx, 1973, p. 700).

■ ACADEMIC GIFT ECONOMY

The invention of the Net was the greatest irony of the Cold War. At the height of the struggle against Stalinist communism, the US

military unwittingly bankrolled the creation of cyber-communism. Although initially developed for the military, its inventors soon started using the Net for their own purposes. Crucially, scientists simply assumed that all information should be distributed for free over their new communications system. Unlike most other sectors of production, the gift economy has long been the primary method of socializing labour within universities. Funded by the state or by donations, scientists don't have to turn their intellectual work directly into marketable commodities.

Instead, research results are publicized by 'giving a paper' at specialist conferences and by 'contributing an article' to academic journals. By being quoted, scientists acquire personal recognition which enhances their career prospects within the university system. Despite increasing commercialization, the giving away of findings remains the most efficient method of solving common problems within a particular scientific discipline.

The rationality of professional services is not the same as the rationality of the market ... In the professions, and especially in science, the abdication of moral control would disrupt the system. The producer of professional services must be ... responsible for his products, and it is fitting that he not be alienated from them (Hagstrom, 1982, p. 29).

Because of these pioneers, the gift economy became firmly embedded within the social mores of the Net. Over time, the charmed circle of its users has slowly grown from scientists through hobbyists to the general public. Each new member doesn't just have to observe the technical rules of the system, but also adheres to certain social conventions. Without even thinking about it, people continually circulate information between each other for free. Although the Net has expanded far beyond the university, its users still prefer to co-operate together without the direct mediation of money.

There are even selfish reasons for adopting cyber-communism. By adding their own presence, every user is contributing something to the collective knowledge accessible to those already on-line. In return for this gift, each individual obtains potential access to all the information provided on the Net by others. Within a market economy, buyers and sellers tend to exchange commodities of equivalent worth.

Yet, within the hi-tech gift economy, everyone receives far more from their fellow users than any individual could ever give away (Ghosh, 1998, p. 10). Not surprisingly, there is no popular clamour for imposing the equal exchange of the marketplace on the Net. Even the most dogmatic neo-liberals are happily participating within cyber-communism.

From the beginning, these gift relations of production were hardwired into the technological structure of the Net. Although funded by the military, scientists developed computer-mediated communications to facilitate the distribution and manipulation of their own research data. Working at universities, they never conceived of this information as a commodity. On the contrary, these academics were advancing their careers by giving away the results of their labour. Creating a communications system for their own use, they incorporated these working methods inside the technologies of the Net (Geise, 1996, pp. 126–132).

Above all, their invention depends upon the continual and unhindered reproduction of information. When on-line, every connection involves copying material from one computer to another. Once the first copy of a piece of information is placed on the Net, the cost of making each extra copy becomes almost zero. The architecture of the system presupposes that multiple copies of documents can easily be cached around the network. Although most of its users are now from outside the academy, the technical design of the Net still assumes that all information is a gift.

In an information space, we can consider the authorship of materials, and their perception; but ... there is a need for the underlying infrastructure to be able to make copies simply for reasons of efficiency and reliability. The concept of 'copyright' as expressed in terms of copies made makes little sense (Berners-Lee, 1996, p. 11).

■ ECLIPSE OF COPYRIGHT

Despite its huge popularity, the gift economy of the Net appears to be an aberration. Mesmerized by the Californian ideology, almost all politicians, executives and pundits are convinced that computer-mediated communications can only be developed through market competition between private enterprises. Like other products,

information must be bought and sold as a commodity. This faith in market forces comes from historical experience.

During the past three centuries, the mediation of commodity exchange has dramatically increased the productivity of labour. Responding to changes in prices, workers and resources are distributed towards the most efficient sectors of the economy. Competing against rival firms, entrepreneurs must continually improve the methods and means of production. When disciplined by the market, the self-interest of individuals can be directed towards increasing the wealth of the whole nation (Smith, 1970; Ricardo, 1973).

The founding fathers of liberal economics discovered the central paradox of capitalism: individual property is the precondition of collective labour. In pre-modern societies, the aristocracy and clergy's control over their lands was circumscribed by feudal rights and duties. The work of the peasantry was organized through the particular set of customs found in each domain. In contrast, the pioneers of capitalism transformed land into a tradable commodity: the enclosures. Once feudal bonds were removed, work of different types and in various locations could be regulated by a single mechanism: the marketplace (Marx, 1976, pp. 873–930).

Over the last few centuries, this modern form of collective labour has become ubiquitous, for the disciplines of market competition not only raised productivity within traditional trades, but also encouraged the development of new industries. Within the metropolitan countries, ordinary people are now using goods and services which were unavailable even to kings and popes in earlier times. However, each of these technological wonders has been shaped by the peculiar production relations of capitalism. As well as satisfying a human desire, every new product must also be sold as a commodity. Within a market economy, the enclosure of collective labour is perpetual (Midnight Notes Collective, 1990).

Under capitalism, most goods and services are produced as commodities. If they're tangible objects or temporary actions, this social transformation is usually unproblematic. However, the commodification of intellectual labour has always been more difficult. While teaching and entertaining are like other services, publications are very different from other goods. Most of the work to create an information product is expended in making the first copy. Even with the earliest printing presses, the cost of producing each subsequent

copy is always much cheaper. In an open market, publishers would be encouraged to plagiarize existing works rather than paying for new material.

The first capitalist nations quickly discovered a pragmatic solution to this economic problem: copyright. Although everyone could buy cultural artefacts, the right to reproduce them was limited by law. Like every other form of work, intellectual labour could now be enclosed into a commodity (May, 1998a, pp. 68–73). ‘Milton produced *Paradise Lost* as a silkworm produces silk, as the activation of *his own* nature. He later sold his product for £5 and thus became a merchant’ (Marx, 1976, p. 1044).

At the end of the twentieth century, copyright continues to provide the legal framework for information production. Many forms of intellectual labour are sold as commodities: books, music, films, games and software. The publishers of copyright-protected artefacts have become major industries: the multi-media multinationals. The international legal agreements protecting intellectual property are continually tightened: Berne, the WTO, TRIPS.

Not surprisingly, most politicians, executives and pundits assume that the Net will inevitably be commercialized. Like radio broadcasting and cable television in earlier times, the moment of the gift economy can only be temporary. As in other cultural industries, intellectual labour within cyberspace has to be enclosed into information commodities (May, 1998b; Frow, 1996; Porter, 1995).

Anticipating this obsession, some pioneers did try to incorporate copyright protection within computer-mediated communications. For instance, Ted Nelson’s Xanadu project contained a sophisticated tracking and payment system for enforcing intellectual property. Using this software, individuals could work together by trading information commodities with each other.

Yet, despite its technical brilliance, the Xanadu scheme failed for entirely social reasons (Wolf, 1995). Instead of encouraging participation, copyright protection proved to be a major obstacle to on-line collaboration, for most people benefit more from circulating information without payment than trading cultural commodities. By giving away their own personal efforts, Net users always receive the results of much greater amounts of labour in return from others. The scarcity of copyright cannot compete against the abundance of gifts. Far from intensifying commodification, the Net is the practical

vindication of the old hacker slogan: 'information wants to be free' (Lang, 1998; Ghosh, 1998).

At the cutting-edge of modernity, the exchange of commodities now plays a secondary role to the circulation of gifts. The enclosure of intellectual labour is challenged by a more efficient method of working: disclosure. Within universities, scientists have long solved problems within their specialisms by pooling their findings.

As the Net grows, more and more people are discovering the benefits of the gift economy. For they not only have the opportunity to contribute their own information, but also to gain access to the knowledge of many others. Everyday, the users of the Net are sending emails, taking part in listservers, making websites, contributing to newsgroups and participating within on-line conferences. No longer enclosed in the commodity, intellectual labour is continually disclosed as a gift. The passive consumption of fixed information products is transforming into a fluid process of 'interactive creativity' (Berners-Lee, 1998, p. 5).

The logic of digital technology leads us in a new direction. Objects, as well as ideas, are no longer fixed, no longer tangible. In cyberspace, there is no weight, no dimensions; structure is dynamic and changing; size is both infinite and immaterial. In this space, stories are written that change with each new reader; new material can be added, and old material can be deleted. Nothing is permanent' (Kleinman, 1996, p. 76).

The types of 'interactive creativity' between Net users are very varied. While some on-line encounters are only temporary, others evolve into long-lasting collaborations. Although many users only talk to close friends and family, some are building relationships which solely exist on the Net. If most on-line conversations are frivolous, other groups are meeting to talk about serious issues. Out of all these different types of 'interactive creativity', Net users have developed their own distinctive form of social organization: the network community (Rheingold, 1994; Hamman, 1999).

By circulating gifts between each other, individuals are able to work together on common projects. For, as well as having fun, the members of network communities are engaged in a continuous process of collective labour. Everyone can send out gifts of texts,

visuals, animations, music, games and other software to their on-line colleagues. In return, they will receive lots of virtual presents from their fellow community members. By contributing their own work, each individual potentially possesses the creative efforts of the whole network community (Ghosh, 1998; Kollock, 1999).

The pleasure of giving and receiving gifts can radically change the personal experience of collective labour. Within the marketplace, individuals primarily collaborate through the impersonal exchange of commodities. The buyers and sellers should remain unconcerned about each other's fate. In contrast, the circulation of gifts encourages friendships between its participants. The construction of a successful network community is always a labour of love. Working within cyber-communism can be not only more productive, but also more enjoyable than digital capitalism.

According to Howard Rheingold, these social benefits of the hi-tech gift economy are not confined to the Net. Despite all their wealth, many Americans are suffering from the isolation and alienation imposed by market competition. Luckily, some can now find friendship and intimacy within network communities. Since there is no necessity for the enclosure of collective labour within cyberspace, Americans can compensate for the damage caused by their nation's '... loss of a sense of a social commons' (Rheingold, 1994, p. 12).

The results of 'interactive creativity' within network communities are often trivial and mundane. Yet, at the same time, some on-line collaborations are creating very sophisticated products. Among the most celebrated are the network communities working on free software. From the beginning, scientists developed the core programs of the Net as gifts. The exponential expansion of the system was only made possible by the absence of proprietary barriers. For instance, although the Xanadu project contained most of the technical capabilities of the Web, this prototype of computer-mediated communications lacked the 'killer app' of Tim Berners-Lee's invention: the absence of copyright. Neither the program nor its products were designed to be commodities (Berners-Lee, 1996).

In recent years, the rapid growth of the Net has catalyzed a exuberant revival of the hacker ethic. Increasingly frustrated with commercial products, techies have come together to write their own software. When enclosed by copyright, a program's capabilities are frozen until the next version is made available. Even its bugs cannot

be fixed. In contrast, when disclosed as a gift, this virtual machine can be continually modified, amended and improved by anyone with the appropriate programming skills. The product has become a process. Above all, each member of the network community developing a program potentially has access to the skills of all their colleagues. If one person can't solve a software problem, others within the group will help find the solution (Leonard, 1998b).

By participating within such 'interactive creativity', formerly isolated techies are now making friends across the world. Like other network communities, collective labour within free software development can be not only more efficient, but also more enjoyable than working on commercial projects. As technological convergence intensifies, this gift economy of the Net is now encroaching further into the market economy of computing (Porterfield, 1998).

Starting from a prototype by Linus Torvalds, a network community of developers is building their own non-proprietary operating system: Linux (Linux Online, 1999). For the first time, Microsoft has a serious competitor for Windows. Enclosed by a capitalist monopoly, many American techies are working hard to perfect its pragmatic alternative: software cyber-communism: '... you assume that bugs are generally shallow phenomena—or, at least, that they turn pretty shallow when exposed to a thousand eager co-developers pounding on every single new release' (Raymond, 1998b, p. 7).

The convergence of many different technologies around digital formats is also reinforcing the gift economies found in other areas of cultural production. According to the multi-media multinationals, the Net will soon have to adopt the methods of the marketplace. Protected by encryption and passwords, digital information will be traded as a commodity. However, these aspiring enclosers of the Net are already confronted by the partial decommodification of their own cultural industries. For instance, the home-taping of music has existed for many decades. The continual advances in digital reproduction and the rapid spread of the Net are making this piracy of copyright material ever easier (Chesterman and Lipman, 1988, pp. 36–45; Leonard, 1998a).

Crucially, the most innovative forms of popular music now emerge from the creative appropriation of other people's intellectual property: house, hip-hop, drum & bass. Instead of remaining frozen in a single recording, tunes and breaks can be repeatedly sampled,

mixed and remixed. If someone has a good idea, many other musicians will try to refine the concept. Like the Net, contemporary DJ culture is also 'interactive creativity' (Garratt, 1998; James, 1997).

For years, the most popular word entered into search engines was quite predictable: 'sex'. Yet, in 1999, the top request became the music format of the Net: 'MP3' (Wice, 1999). For the commercial music industry, the minor problem of home-taping is amplifying into a major crisis. Since copying and distributing is now so easy, many people are giving away digital recordings not only to their friends, but also to complete strangers. As music is integrated within the Net, the scarcity of commodities is spontaneously transforming into the abundance of gifts (Leonard, 1998a).

As well as facilitating the piracy of existing recordings, technological convergence also deepens musical 'interactive creativity'. Like many other people, musicians are working together, making friends and inspiring each other within network communities. By publishing their own material, they can offer their music as gifts to Net users across the world. From these on-line collaborations, they are inventing new forms of rhythmic expression: midi-jamming, interactive music, cyber-trance.

As other media technologies converge into the Net, all forms of cultural production are slowly integrating into the hi-tech gift economy. Even television and film-making will soon be transformed by the possibilities of 'interactive creativity'. Despite their power and wealth, the multi-media multinationals can only inhibit this economic transformation. Quite spontaneously, the users of the Net are adopting more efficient and enjoyable ways of working together. At the dawn of the new millennium, many Americans are now experiencing the practical benefits of cyber-communism:

commodity	gift
enclosure	disclosure
copyright	piracy
fixed	fluid
product	process
proprietary	open source
digital encryption	free download
original recording	latest remix

scarcity	abundance
alienation	friendship
market competition	network communities
e-commerce	cyber-communism

■ MARKET ON THE COMMONS

Compared with the rest of humanity, the inhabitants of the USA are already very privileged. Although still denied adequate welfare provision, most Americans not only consume more goods and services, but also enjoy greater democratic liberties than the majority of the world's population. Over the past 200 years, the continual expansion and intensification of commodity exchange has massively raised the productivity of collective labour in the USA. Regulated by the federal government and local states, rival entrepreneurs have competed to build an increasingly complex and interdependent economic system.

According to almost all American politicians, executives and pundits, the next stage of the marketization of society is being pioneered at the cutting-edge of technology: the Net. As in the past, the enclosure of new types of collective labour will inevitably raise living standards and extend personal freedoms within the USA. There is no alternative to the organizing principle of the existing relations of production: *work-as-commodity*.

Ironically, the revenge of Saint-Simon is now being visited upon his American false disciples. As in the former Soviet Union, constant increases in the forces of production are threatening the dominant relations of production. Far from being the apotheosis of commodity exchange, the social and technical structures of computer-mediated communications embody an alternative form of collective labour: the gift economy. If individuals were forced to collaborate primarily through e-commerce, their opportunities to participate within 'interactive creativity' would be very limited. The full potential of the productive forces of the Net can only be realized by adopting the most advanced relations of production: cyber-communism.

At such historical moments, the proponents of reactionary modernism are thrown into an existential crisis. Despite their deep ideological differences, almost all right-wing intellectuals have the same goal: economic development without social progress. Sometimes for decades, ruling elites can successfully combine these con-

tradictory aims of reactionary modernism. However, the continual growth of the forces of production will eventually undermine the existing relations of production. Sooner or later, the supporters of reactionary modernism are forced to make a hard choice: economic growth or social stasis. For instance, the followers of Stalinist communism were confronted by this dilemma at the end of the 1980s. Wanting to catch up with their Western neighbours, most Eastern European politicians, executives and intellectuals accepted the demise of the totalitarian state which provided their livelihoods.

In contrast, the Serbian ruling elite decided to choose another option: destroying the forces of production. Fearful of losing their wealth and power, they launched wars and 'ethnic cleansings' to block any further social and economic progress. Instead of moving towards the utopian future, their totalitarian state headed in another direction: 'the flight from modernity' (Perovic, 1999).

Within the USA, there are also powerful groups championing reactionary anti-modernism: religious fundamentalists, white supremacists and the gun lobby. As in Serbia, some influential people are willing to sacrifice economic growth to maintain the existing social order. However, most of those with power and wealth would like to avoid making this choice. Instead, they want to update reactionary modernism for the age of the Net.

Within right-wing American politics, hi-tech neo-liberalism has long been the optimistic alternative to traditional conservatism. Far from fearing the future, its prophets confidently predict that economic progress will eventually liberate humanity from poverty and ignorance. Unable to use the 'L-word' for peculiar historical reasons, American neo-liberals even describe themselves as 'libertarians': a moniker taken from revolutionary left-wing anarchists.

This optimistic form of conservatism is easily adapted for right-wing analyses of the Net. For instance, the proponents of the Californian ideology still believe that constant technological change can be reconciled with the preservation of social hierarchy (Barbrook and Cameron, 1996). Like their conservative forebears, these gurus often claim that their contradictory aims will be realized by mystical means: the Gaia mind, post-humans and memetics. More importantly, they also advocate a practical method for perpetuating reactionary modernism: the hybridization of the commodity and the gift.

Like pioneers in the Wild West, cyber-entrepreneurs are seizing all opportunities to enclose the newly opened electronic frontier. At the cutting-edge of convergence, the profits of commercial companies now depend upon the rapid expansion of the hi-tech gift economy (Kelly, 1997). The hardware and software for accessing the Net can be sold as commodities by large companies: IBM, Sun, Microsoft. The circulation of free information among users can be enclosed within commercial sites: AOL, Yahoo!, GeoCities.

Instead of resisting all changes, the digerati must embrace some social advances to reap the material benefits of technological progress. The lucky few have discovered a new way of achieving the American dream: the enclosure of cyber-communist labour into digital capitalist property (Leonard, 1999). Most famously, this bizarre union of opposites underpins the frenzied speculation in Net stocks. Each moment of 'interactive creativity' is a potential source of profits. If the correct hybrid of gift and commodity could be found, collective labour would immediately transmute into individual wealth. Excited by the riches of some cyber-entrepreneurs, many Americans are now speculating on the same assumption about the Net: '... communism is ... a *generalisation* and *consummation* of ... private property' (Marx, 1961, p. 99).

For nearly 30 years, the prophets of hi-tech neo-liberalism have identified economic growth with social stasis. In many sectors, they have advocated old-fashioned methods for raising profits: extending hours, reducing wages, speeding-up production, cutting welfare and increasing pollution. Yet, within the Net, these gurus champion the synthesis of both technological innovation and social progress. For the commodification of cyberspace is impossible without some accommodation with the gift economy. Even the increasing importance of e-commerce is facilitated by the non-commercial structure of the Net.

The 'cost of entry' into the digital marketplace is so low due to the absence of proprietary barriers. Small companies now have access to computer-mediated-communications once only available to government agencies, financial institutions and multinational corporations. Cutting-out the middlemen, many providers of goods and services can increase their profits by dealing directly with suppliers and customers over the Net. Excited by these developments, the proponents of the Californian ideology believe that the freest of all

free markets is now being held on the commons of cyberspace (Kelly, 1994; Hudson, 1996; Dyson, 1997).

■ PURITY OF THE GIFT

Opposed to this invasion by commercial interests, some left-wing activists are reviving a purist vision of the gift. The enclosure of the Net will be prevented by refusing any compromise with the commodity (Critical Art Ensemble, 1996). This revolutionary position takes its inspiration from 1960s hippie radicalism.

Over 30 years ago, many young people rebelled against the socio-economic systems of both the USA and the Soviet Union. The material benefits of modernity no longer compensated for the political authoritarianism and cultural conformity imposed by industrialism. Disillusioned with the hi-tech future, these hippies sought inspiration from the tribal past. While many were simply lifestyle tourists, others were looking for a revolutionary alternative to modernity. Crucially, some left-wing intellectuals believed that this utopia could be found in the gift economy of Polynesian tribes: the potlatch (Mauss, 1990).

For radical hippies, this gift economy was the complete antithesis of capitalism. Instead of accumulating surpluses, individuals in these primitive societies gained prestige by giving away their wealth at public celebrations. If market competition required alienating work to produce ever more goods and services, the potlatch involved the pleasurable destruction of excess resources. While the modern commodity imposed hierarchy and utilitarianism, the primitive gift encouraged equality and hedonism. Rejecting work-as-commodity, left-wing hippies proclaimed a new organizing principle for their utopian society: *waste-as-gift* (Situationist International, 1981; Baudrillard, 1975; Negri, 1979).

Many years later, this revolutionary anti-modernism still influences left-wing analyses of computer-mediated communications. Although emerging at the cutting-edge of technology, the gift economy of the Net can easily be confused with the potlatch of primitive societies. These tribal attitudes are also to be found within dance music, free parties, protest movements and other forms of 'DIY culture' (Brass *et al.*, 1997; McKay, 1998).

Imitating their hippie elders, left-wing Net activists emphasize the



Mukhina: Worker and Collective Farm Woman (1937)

autonomy of these gift relationships from the corruption of commodity exchange. Rejecting any hybridization, they champion the destruction of private property through the piracy of copyright material: waste-as-gift. Instead of being bought and sold, information will become freely available to everyone participating within the on-line potlatch.

Unfortunately, this revival of revolutionary anti-modernism also has reactionary implications. As in earlier times, left-wing intellectuals are tempted to see themselves as a vanguard leading the unenlightened masses. Drawn from the intermediate layer, they champion the 'refusal of work' to symbolize their superiority over the rest of the working class.

Although deprived of the Soviet Union, some members of the revolutionary minority will still apologize for foreign dictatorships which resist American hegemony. Despite the advent of new infor-

mation technologies, old political habits are difficult to discard. The revolutionary rhetoric of hippie communism is haunted by the reactionary practice of Stalinist communism (Barbrook, 1998).

■ AMERICAN ROAD TO COMMUNISM

Within the USA, this left-wing vision of the pure gift remains marginalized. Ever since independence, a fervent belief in private enterprise has defined American 'exceptionalism'. During the Cold War, no patriot could support the revolutionary ideology of the national enemy. Even today, many people still virulently oppose the public provision of welfare services considered indispensable in other developed countries (Lipset, 1996).

Yet these same right-wing Americans are happily participating in the construction of cyber-communism. Quite spontaneously, they adopt the working methods which are most beneficial to their own interests. Sometimes, they want to engage in e-commerce. At other times, they prefer to collaborate within the hi-tech gift economy. Like everyone else, conservative Americans choose cyber-communism for pragmatic reasons.

Despite their addiction to free market nostrums, Americans have long preferred practical solutions over ideological correctness. Sceptical about the theoretical obsessions of Europeans, they have always been proud of their 'Yankee pragmatism' (de Tocqueville, 1975, pp. 3–20). Updating this tradition for the Net, most Americans simply ignore the widening discrepancy between their political beliefs and their everyday activities. Although forced to talk like neo-liberals, they often choose to act like communists within cyberspace, for the literal application of the Californian ideology would immediately remove many of the benefits of the Net.

Not surprisingly, few Americans will openly admit to their pleasure in sinning against the national myth. While the reformist demand for a public health system remains obviously left-wing, the subversive implications of circulating information as gifts are literally unthinkable. Without any self-doubt, Eric Raymond can be simultaneously a passionate advocate of the decommodification of software and '... a self-described neo-pagan [right-wing] libertarian who enjoys shooting semi-automatic weapons ...' (Leonard, 1998b, p. 2).

Among Americans, cyber-communism is the love that dares not

speaking its name. No one talks about what everyone is doing. Above all, the historical significance of their collective behaviour on the Net can never be discussed. Within everyday life, people have always given gifts to each other. Many social activities are already organized by voluntary labour and with donated resources. The DIY culture is the celebration of doing-things-for-yourself in all aspects of life from politics to music (Hyde, 1999; Brass *et al.*, 1997).

Now, with the advent of the Net, this gift economy is challenging market competition at the cutting-edge of modernity, for only these new relations of production can fully realize the social and technical potential of its advanced productive forces. When digital gifts are freely circulated, people are able to participate within 'interactive creativity'.

As information is incessantly reproduced, the quantity of collective labour embodied in each copy is soon reduced to almost nothing. Under these social and technical conditions, circulating information as gifts can be not only more enjoyable, but also more efficient than commodity exchange. Although appreciating the benefits of e-commerce, Americans are enthusiastically participating within an alternative form of collective labour: cyber-communism.

In earlier times, the abolition of capitalism was envisaged in apocalyptic terms: revolutionary uprisings, mass mobilizations and modernizing dictatorships. In contrast, cyber-communism is now an unremarkable everyday experience within the USA. The users of the Net are spontaneously adopting more enjoyable and efficient ways of working together. Instead of destroying the market economy, Americans are engaged in the slow process of *superseding* capitalism (Hegel, 1873, pp. 141–142; Marx, 1961, pp. 98–114).

In this dialectical movement, hi-tech neo-liberals perfect the existing relations of production by developing e-commerce: work-as-commodity. Reacting against this enclosure of cyberspace, left-wing activists destroy information property within the on-line potlatch: waste-as-gift. For those nostalgic for ideological certainty, there can be no compromise between these contradictory visions of the Net.

Yet, the synthesis of these dialectical opposites must happen for pragmatic reasons. Often Net users benefit more from working together through circulating gifts than from taking part in e-commerce. Living within a prosperous society, many Americans are no longer solely motivated by monetary rewards. With sufficient time

and money, they will also work to gain the respect of their peers for their efforts.

Increasing numbers of people are now satisfying this desire for recognition within network communities. Individuals receive praise and friendship from their fellow-members by making excellent contributions to collective projects. Within the Net, the rise in the productive forces encourages a more advanced form of collective labour: *work-as-gift* (Kohn, 1998; Leonard, 1998b). ‘... Work is born from the Desire for Recognition ... and it preserves itself and evolves in relation to this same Desire’ (Kojève, 1969, p. 230).

The dialectical process of superseding capitalism is marked by the evolving syntheses of gift and commodity within the Net. During this transition, neither the disclosure nor the enclosure of collective labour can be assumed. If the correct hybrid isn’t found, individuals working on a collective project can quickly disappear to more agreeable locations within cyberspace. Sometimes, they will look for monetary rewards. On many occasions, they will prefer the freedom of autonomous labour.

Depending upon circumstances, both these desires need to be partially realized in a successful hybrid of gift and commodity. During the last 200 years, the intimate bonds of kinship and friendship have simultaneously inhibited and underpinned the impersonal relationships needed for rapid economic growth. The modern has always co-existed with the traditional. Now, in the age of the Net, the exchange of commodities is being both intensified and prevented by the circulation of gifts. The modern must synthesize with the hyper-modern.

The gurus of the Californian ideology emphasize the survival of social hierarchy within these hybrid productive relations of the Net. Already, successful cyber-entrepreneurs begin their careers by giving away their most desirable products. If their brand is widely adopted, they hope to make money by providing supporting services and products to its users. A lucky few *digerati* can become very wealthy by selling shares to Wall Street speculators (Cusumano and Yoffie, 1998; Leonard, 1999).

Yet, even in this conservative synthesis of gift and commodity, copyright has ceased to be the precondition of information production. Every consumer is now won with promotional items. Unable to resist the technical possibilities of digital convergence, some

neo-liberal ideologues accept the eventual disappearance of copyright (Barlow, 1994). Since plagiarism will soon become ubiquitous, cyber-entrepreneurs must adopt other ways of commodifying the Net: real-time services, advertising, merchandising. The hi-tech aristocracy can only protect their privileges by continually making gifts to the masses.

This hybridization of productive relations is prevalent across the hi-tech industries. For instance, many people gain employment only after serving an apprenticeship within network communities. If their work is respected among their peers, they can join the emerging intermediate layer employed by e-commerce companies: the digital artisans. Although operating outside the academy, the gift of information still facilitates the sale of labour.

According to the prophecies of Saint-Simon, innovative workers in advanced industries should be pioneering the economic and cultural conditions for social emancipation. The intermediate layer is the vanguard of modernity. Faithful to this role, digital artisans are making many technological and aesthetic advances. Despite having to sell their creativity for money, their ways of working are often egalitarian and collaborative. Once again, the intermediate layer is inventing the future.

Yet even this synthesis is already being superseded at the cutting-edge of modernity. The heroic minority is no longer alone. After two centuries of economic growth, ordinary people are also able to adopt advanced productive relations. Within the Net, working together by circulating gifts is now a daily experience for millions of people. As well as in their jobs, individuals also collaborate on collective projects in their free time. Freed from the immediate disciplines of the marketplace, work can increasingly become a gift.

The enlightened few are no longer needed to lead the masses towards the future, for the majority of Net users are already participating within the productive relations of cyber-communism. Everyday, they are sending emails, taking part in listservers, making websites, contributing to newsgroups and participating within on-line conferences. Having no need to sell information as commodities, they spontaneously work together by circulating gifts.

All across the world, politicians, executives and pundits are inspired by the rapid expansion of e-commerce in the USA. Mesmerized by neo-liberal ideology, they fail to notice that most information

is already circulating as gifts within the Net. Engaged in superseding capitalism, Americans are successfully constructing the utopian future in the present: cyber-communism.

No social order is ever destroyed before all the productive forces for which it is sufficient have been developed, and new superior relations of production never replace older ones before the material conditions for their existence have matured within the framework of the old society. ... The bourgeois mode of production is the last antagonistic form of the social process of production—... an antagonism that emanates from the individuals' social conditions of existence—but the productive forces developing within bourgeois society create also the material conditions for a solution of this antagonism. The prehistory of humanity accordingly closes with this social formation (Marx, 1970, pp. 21–22).

■ DIALECTICS OF CYBER-COMMUNISM

The Positive:	work-as-commodity e-commerce reactionary modernism
The Negation:	waste-as-gift potlatch revolutionary anti-modernism
The Negation of the Negation:	work-as-gift network communities revolutionary modernism

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