

7: Peer-to-Peer: From Technology to Politics

MICHEL BAUWENS

Introduction: Technology as both Embedding and Empowering Human Relationships

A New Template of Human Relationships?

This chapter is about ‘a new template of human relationships’. First of all we should establish that such ‘templates’, general forms of human relationships, exist. For this we refer to the theory developed by Alan Page Fiske (1993), who argues that

People use just four fundamental models for organizing most aspects of sociality most of the time in all cultures. These models are Communal Sharing, Authority Ranking, Equality Matching, and Market Pricing. Communal Sharing (CS) is a relationship in which people treat some dyad or group as equivalent and undifferentiated with respect to the social domain in question. Examples are people using a commons (CS with respect to utilization of the particular resource), people intensely in love (CS with respect to their social selves), people who ‘ask not for whom the bell tolls, for it tolls for thee’ (CS with respect to shared suffering and common well-being), or people who kill any member of an enemy group indiscriminately in retaliation for an attack (CS with respect to collective responsibility). In Authority Ranking (AR) people have asymmetric positions in a linear hierarchy in which subordinates defer, respect, and (perhaps) obey, while superiors take precedence and take pastoral responsibility for subordinates. Examples are military hierarchies (AR in decisions, control, and many other matters), ancestor worship (AR in offerings of filial piety and expectations of protection and enforcement of norms), monotheistic religious moralities (AR for the definition of right and wrong by commandments or will of God), social status systems such as class or ethnic rankings (AR with respect to social value of identities), and rankings such as sports team standings (AR with respect to prestige). AR relationships are based on perceptions of legitimate asymmetries, not coercive power; they are not inherently exploitative (although they may involve power or cause harm).

In Equality Matching relationships people keep track of the balance or difference among participants and know what would be required to restore balance. Common manifestations are turn-taking, one-person one-vote elections, equal share distributions, and vengeance based on an-eye-for-an-eye, a-tooth-for-a-tooth. Examples include sports and games (EM with respect to the rules, procedures, equipment and terrain), baby-sitting coops (EM with respect to the exchange of child care), and restitution in-kind (EM with respect to righting a wrong). Market Pricing relationships are

oriented to socially meaningful ratios or rates such as prices, wages, interest, rents, tithes, or cost-benefit analyses. Money need not be the medium, and MP relationships need not be selfish, competitive, maximizing, or materialistic – any of the four models may exhibit any of these features. MP relationships are not necessarily individualistic; a family may be the CS or AR unit running a business that operates in an MP mode with respect to other enterprises. Examples are property that can be bought, sold, or treated as investment capital (land or objects as MP), marriages organized contractually or implicitly in terms of costs and benefits to the partners, prostitution (sex as MP), bureaucratic cost-effectiveness standards (resource allocation as MP), utilitarian judgments about the greatest good for the greatest number, or standards of equity in judging entitlements in proportion to contributions (two forms of morality as MP), considerations of ‘spending time’ efficiently, and estimates of expected kill ratios (aggression as MP). (Source: E-mail communication)

How is technology related to such types of sociality? We will argue in this chapter that technology both embeds social relationships and empowers them. We are neither defending a position of technological determinism, nor saying that technology simply reflects social or subjective structures, but that there are correlations and mutual influences. Our position is best reflected by those of philosopher of technology Andrew Feenberg, who argues that technology reflects in its very code, the contradictory social interests and world views. Technology is therefore a social construct reflecting deeply held epistemologies and ontologies.

A good example is the very structure of the Internet: originally commissioned by the military through their research programs (DARPA), it was designed as a decentralized network to survive nuclear wars, but it also went beyond that as is described by Janet Abate (1999). Reflecting the social values of the participating scientists at the end of the 1960s, it both reflected the political sensitivities of the era and the general values of peer-reviewed science based on open sharing of knowledge. Hence the network was designed to allow for a free flow of information and constant cooperation. At the same time, because of its very structure, and unlike previous forms of communication technology which were either one-to-one (the telephone) or one-to-many (print and mass media), it empowers many-to-many relationships and hence the autonomous networking of human groups. Significantly, e-mail was not planned by its conceptors but introduced by the early community of users.

The aim of this chapter is to describe this mutually influential relationship between the technological format, and the forms of human relationships that it reflects or empowers. To describe it, we will use the heuristic format described by Ken Wilber (2001) in his various books such as *A Theory of Everything*: indeed his four-quadrant descriptive scheme of the human lifeworld gives us a very useful descriptive tool. As a reminder, he says that every phenomenon has both an interior and exterior aspect (it has desires and motivations vs. it has/is a body in space), an individual and collective aspect (it has relative individual autonomy and agency, but, it is always already a part of a collective system). This gives us a quadrant system which distinguishes the field of the subject (the self, the ‘I’ perspective, the subjective), the field of the object (the body in space, the object, the ‘it’, the objective), the field of the intersubjective (the world view and immaterial aspects

of systems and groups, the 'we' perspective), and finally the field of measurable systems, the interobjective (the 'its', political, economic, social, physical 'systems'). Note that since humans are characterized by the fact that they exteriorize the functions of the body and the brain in technological artefacts, that we will put technological developments in the quadrant of the 'object'. After undertaking our extensive survey of the emergence of P2P across these quadrants, we simplified Wilber's scheme even further and retained the following categories: 1) technology and the economy, 2) social organization and politics, 3) culture and spirituality.

As these respective fields have differentiated in modernity, and obtained a relative autonomy, we believe that if we can show that the proposed phenomena of peer-to-peer starts to appear consistently in the various fields, that we have a strong case that something is indeed brewing, and that it is indeed of a 'transformative' nature.

Definition and Scope of this Chapter

But what is peer-to-peer? Peer-to-peer is a specific form of a network, which lacks a centralized hierarchy, and in which the various nodes can take up any role depending on its capabilities and needs. Peer-to-peer is an 'egalitarian' network if you like, a form of 'distributive and cooperative intelligence'. Thus, intelligence can operate anywhere, and it lives and dies according to its capacities for cooperation and unified action. As we will see, it is related to Alan Page Fiske's typology in that it particularly 'reflects' and 'empowers' two particular forms of sociality: 'Equality Matching' and 'Communal Shareholding'.

Before reading the bulk of this chapter and its description of the emergence of peer-to-peer, it is important to know what I am saying, and more importantly, what I am not saying.

I am not arguing that technology in its P2P format inevitably creates a new type of society. Indeed I am fully aware that the current form of technology, despite its distributive and cooperative character, is embedded in an institutional framework which can make it function differently. The financial networks, which are globalized but nevertheless concentrated in key centers, is a good example. The use of Internet by Al Qaeda is another one. But, the seed of potentiality, which has already become in many respects an 'actuality', is there as well, and this is our focus. We believe that if a worldwide social movement would take up our concept, it would carry enormous power. Therefore, I am not saying that these developments will lead to political changes independent of human will and political and social struggle,

I am not painting a utopian future or saying P2P has only positive aspects. However, the pathologies and negative aspects of P2P are not within the scope of this particular chapter.

However, I am saying:

- Because of the social values that are embedded in the format, it enables and empowers particular social practices, such as 'Equality Matching', and 'Communal Shareholding', in particular.
- Because of such enablement, peer-to-peer can be a useful field of political

promotion and struggle, especially for the social and political forces that favor such types of sociality.

- P2P can be a useful discourse, or language, that retranslates the emancipatory project in a way that is not only compatible with the new phase of cognitive capitalism, but also appeals to the new generation of youth, and additionally it can also find a linkage with the older forms of such socialites and the political and social movements and struggles that it produces.
- Because of the constraints of the space allocated to this article, I will restrain the scope of this article to the descriptive part.

Elsewhere, I have described the normative aspects of peer-to-peer, as well as its strategic aspects. The latter refers to the contradictory position of peer-to-peer as both the very infrastructure of 'cognitive capitalism', and as a practice that transcends and endangers its functioning. I have described three possible scenarios of 1) peaceful co-existence, 2) destruction of peer-to-peer in a context of information feudalism, 3) extension of the cooperative sphere until it becomes dominant. However, it is beyond the scope of this chapter.

The Emergence of P2P Across the Human Lifeworld: Technology and Economy

Peer-to-Peer as Technological Paradigm

Peer-to-peer is first of all a new technological paradigm for the organization of the information and communication infrastructure that is the very basis of our post-industrial economy. The Internet itself, as network of networks, is an expression of this paradigm. The early Internet was a pretty 'pure' peer-to-peer network, and it has now changed into being a network of unequal networks, many of them fully or partly walled, and with differential abilities. But nevertheless, it remains a network of networks, without centralization, and still functions as peer-to-peer, since no one is able to exclude participation.

Every node is capable of receiving and sending data. The peer-to-peer mode therefore makes eminent sense in terms of efficiency, as compared to the older models. It should be noted that, just as networks, peer-to-peer can come into many hybrid forms, in which various forms of hierarchy can still be embedded (as with the Internet, where all networks are not equal). If one surveys the technical literature, one realizes that there is no consistent definition of peer-to-peer, which is why we use a broader social definition. For example, the Web, though technically a client-server format, and though an unequal network with large and small publishers, socially still enables the free publication by any participant. Thus, according to the social definition, though imperfect, it is a peer-to-peer network.

As a technological format, peer-to-peer comes into two main forms. One is distributed computing, which takes advantage of the unused disk space and processing power at the edges of the Internet, i.e. all voluntary participating computers; and file-sharing, which distributes and places content, and sends the contact from computer to computer without having to pass to central servers.

Distributed computing is now considered to be the next step for the worldwide computing infrastructure, in the form of grid computing, which allows every computer to use its spare cycles to contribute to the functioning of the whole, thereby obviating the need for servers altogether. The telecommunication infrastructure itself is in the process of being converted to the Internet Protocol and the time is not all too far away where even voice will transit over such P2P networks. Last year, telecom experts have been able to read about developments such as Mesh Networks or Ad Hoc Networks, described in *The Economist*:

The mesh-networking approach, which is being pursued by several firms, does this in a particularly clever way. First, the neighborhood is 'seeded' by the installation of a 'neighborhood access point' (NAP) – a radio base – station connected to the Internet via a high-speed connection. Homes and offices within range of this NAP install antennas of their own, enabling them to access the Internet at high speed. Then comes the clever part. Each of those homes and offices can also act as a relay for other homes and offices beyond the range of the original NAP. As the mesh grows, each node communicates only with its neighbors, which pass Internet traffic back and forth from the NAP. It is thus possible to cover a large area quickly and cheaply. (The Economist, 2002)

Moreover, there is the worldwide development of Wireless LAN networks, by corporations on the one hand, but also by citizens installing such networks themselves, at very low cost.

In *Fortune* magazine, Stewart Alsop uncovered yet another aspect of the coming peer-to-peer age in technology, by pointing out that the current 'central server based' methods for interactive TV are woefully inadequate to match supply and demand:

Essentially, file-served television describes an Internet for video content. Anyone – from movie company to homeowner – could store video on his own hard disk and make it available for a price. Movie and television companies would have tons of hard disks with huge capacities, since they can afford to store everything they produce. Cable operators and satellite companies might have some hard disks to store the most popular content, since they can charge a premium for such stuff. And homeowners might have hard disks (possibly in the form of PVRs) that can be used as temporary storage for content that takes time to get or that they only want to rent – or permanent storage for what they've bought. (Alsop, 2002)

In general one could say that the main attractivity of peer-to-peer is that it will seamlessly marry the world of the Internet and the world of PCs. Originally, ordinary PC users who wanted to post content or services needed access to a server, which created inequality in access, but with true peer-to-peer file-sharing technologies, any PC user is enabled to do this.

P2P is superior because it places intelligence everywhere in the network; a total view of reality is no longer the privilege of the top of the hierarchy. Hence it enhances the collective intelligence of the entity adopting it, speeds up problem solving by mobilizing greater numbers, finding the answer faster by combining

more perspectives and expertise. Almost in any technological endeavor, peer-to-peer is the solution to some kind of bottleneck created by the previous centralized form of organization.

Centralization is justified for two main reasons: 1) in a context of scarcity of intelligence, it makes sense to organize the flows; 2) it is a function of power and control. But in a context of the massive spread of computers, and of a mass intellectuality of an educated population, intelligence has become over-abundant, digital files can be reproduced at will at marginal cost, and such distribution often precludes the old styles of total control and organization. In such a context, centralization creates bottlenecks, and puts its users at a competitive disadvantage.

Peer-to-Peer as Distribution Mechanism

The last citation on the bottleneck concerning interactive TV points to yet another aspect of peer-to-peer: its incredible force as distribution mechanism. Indeed, the users of Personal Video Recorders such as TiVo are already using file-sharing methods that allow them to exchange programs via the Internet, and the model of TiVo is now emulated by almost all competitors and put as a standard feature of the new generation of cable modems. It is estimated that by 2004, half of American families will be equipped with it. But this is, of course, dwarfed by what is currently happening in the music world. Again the advantage here should be obvious, as in this mode of distribution, no centralizing force can play a role of command and control, and every node can have access to the totality of the distributed information.

The latest estimates say that:

Worldwide annual downloads, according to estimates from places like Webnoize, would indicate that the number of downloads – if you assume there are 10 songs on a CD – is something like five times the total number of CDs sold in the U.S. in a year, and one-and-a-half times the worldwide sales. (Cave, 2002)

The original file-sharing systems, such as Napster, AudioGalaxy, and Kazaa, still used central servers or directories which could be tracked down and identified, and thus attacked in court, as indeed happened, thereby destroying these systems one by one. But today, the new wave of P2P systems avoid such central servers altogether. The most popular current system, an expression of the free software community, i.e. Gnutella, had over 10 million users in mid-2002, and as they are indeed distributed and untraceable, have been immune to legal challenge. Though the industry has used a variety of legal means to thwart the growth of file sharing, and even caused a dip in its uptake, as we write, usage is up again. Significantly, commercial forces, such as Apple iTunes/iPod, are adapting commercial versions (though with severe restrictions), and are in the process of convincing industry majors to adopt such a modified model.

But let us not forget that it will be very difficult to emulate the universal access, infinite flexibility in usage, and marginal distribution costs, of the existing file-sharing systems.

Peer-to-Peer as Production Method

P2P is not just the form of technology itself, but increasingly, it is a ‘process of production’, a way of organizing the way that immaterial products are produced (and distributed and ‘consumed’). The first expression of this was the Free Software movement launched by Richard Stallman (2002). Expressed in the production of software such as GNU and its kernel Linux, tens of thousands of programmers are cooperatively producing the most valuable knowledge capital of the day, i.e. software. They are doing this in small groups that are seamlessly coordinated in the greater worldwide project, in true peer groups that have no traditional hierarchy. Eric Raymond’s seminal essay/book *The Cathedral and The Bazaar* (2001) has explained in detail why such a mode of production is superior to its commercial variants.

Richard Stallman’s Free Software movement is furthermore quite radical in its values and aims, and has developed legal devices such as Copyleft and the General Public License, which uses commercial law itself to prohibit any commercial and private usage of the software. Projects such as the Creative Commons initiated by Lawrence Lessig (2004), are extending the concept beyond software, to authorship in general.

Here is an explanation of the free software concept:

‘Free software’ is a matter of liberty, not price. To understand the concept, you should think of ‘free’ as in ‘free speech,’ not as in ‘free beer.’

Free software is a matter of the users’ freedom to run, copy, distribute, study, change and improve the software. More precisely, it refers to four kinds of freedom, for the users of the software:

The freedom to run the program, for any purpose (freedom 0).

The freedom to study how the program works, and adapt it to your needs (freedom 1).

Access to the source code is a precondition for this.

The freedom to redistribute copies so you can help your neighbor (freedom 2).

The freedom to improve the program, and release your improvements to the public, so that the whole community benefits. (freedom 3). Access to the source code is a precondition for this. (Free Software Association, 2004)

Less radical, and perhaps more widespread because of this, is the Open Source movement launched by the above-mentioned Eric Raymond, which stipulates that the code has to be open for consultation and usage, but where there are restrictive rules and the property remains corporate. Together, even in a situation where the software world is dominated by the Microsoft monopoly, these two types of software have taken the world by storm. The dominant server of the Internet (Apache) is Open Source, but more and more governments and businesses are using it as well, including in mission-critical commercial applications. Many experts would agree that this software is more efficient than its commercial counterparts. What is lacking today is the spread of user-friendly interfaces, though the first open source interfaces are coming into existence and programs such as OpenOffice are beginning to be used.

Please also remember that peer-to-peer is in fact the extension of the methodology of the sciences, which have been based since 300 years on ‘peer

review'. Scientific progress is indeed beholden to the fact that scientists are accountable, in terms of the scientific validity of their work, to their peers, and not to their funders or bureaucratic managers. And the early founders of the Free Software movement were scientists from MIT, who exported their methodology from knowledge exchange to the production of software. In fact, MIT has published data showing that since a lot of research has been privatized in the U.S., the pace of innovation has in fact slowed down. Or simply compare the fact of how Netscape evolved when it was using Open Source methods and was supported by the whole Internet community, as compared to the almost static evolution of Internet Explorer, now that it is the property of Microsoft.

The methodologies initiated by the Free Software and Open Source movements are rapidly expanding into other fields; witness the movements such as the royalty-free music movement, the Open Hardware project (and the Simputer project in India), OpenTV and many much more of these type of cooperative initiatives.

I would like to offer an important historical analogy here. When the labor movement arose as an expression of the new industrial working class, it invented a series of new social practices, such as mutual aid societies, unions, and new ideologies. Today, when the class of knowledge workers is socially dominant in the West, is it a wonder that they also create new and innovative practices that exemplify their values of cooperative intellectual work?

And is it not particularly significant that the industry majors, who champion an economic system that claims to be the most efficient in terms of innovation, is putting all its energies in the stifling of technological innovation, much like the medieval guilds and nobility tried to stop the new practices of the early industrialists?

Peer-to-Peer in Manufacturing?

We would in fact like to go one step further and argue that peer-to-peer will probably become the dominant paradigm, not just in the production of immaterial goods such as software and music, but increasingly in the world of manufacturing as well. This has recently been argued by Steve Weber (2004), professor of political science at U.C. Berkeley, who maintains:

that the open source community has built a mini-economy around the counterintuitive notion that the core property right in software code is the right to distribute, not to exclude. And it works! This is profound and has much broader implications for the property rights regimes that underpin other industries, from music and film to pharmaceuticals. Open source is transforming how we think about 'intellectual' products, creativity, cooperation, and ownership – issues that will, in turn, shape the kind of society, economy, and community we build in the digital era. (Publisher statement, e-mail communication)

Two recent examples should illustrate it. Lego Mindstorms is a new form of electronic Lego, which is not only produced by Lego, but where thousands of users are themselves creating new building blocks and software for it. The same happened with the Aibo, the artificial dog produced by Sony, which users started to hack, first opposed by Sony, but later with the agreement of the company. This

makes a lot of sense, as indeed, it allows companies to externalize R&D costs and involve the community of consumers in the development of the product. This process is becoming generalized. Of course, work has always been cooperative (though also hierarchically organized), but in this case, what is remarkable is that the frontier between the inside and the outside is disappearing. This is in fact a general process of the Internet age, where the industry is moving away from mass production to one-to-one production or 'mass customization', but this is only possible when consumers become part and parcel of the real production process. If that is the case, then that of course gives rise to contradictions between the hierarchical control of the enterprise vs. the desires of the community of users-producers. It can also potentially give rise to new forms of social production, which bypass the corporate model altogether.

At a conference of Oekonux, the engineers of Volkswagen and Siemens who were present were adamant that the model of Open Sources was exportable to industry, and this is also the point of view of Steve Weber, in the above-mentioned book.

Some Preliminary Considerations

One has, of course, to ask oneself, why is this emergence happening, and I believe that the answer is clear. The complexity of the post-industrial age makes the command and control approaches, based on centralization, inoperable. Today, intelligence is indeed 'everywhere' and the organization of technology and work has to acknowledge that.

And more and more, we are indeed forced to conclude that peer-to-peer is indeed a more productive technology and way of organizing production than its hierarchical, commodity-based predecessors. This is of course most clear in the music industry, where the fluidity of music distribution via P2P is an order of magnitude greater, and at marginal cost, than the commodity-based physical distribution of CDs.

What is important is that peer-to-peer is a continuously offensive strategy, and implicitly creates a new public domain, and that industry is on the defensive.

Social Organisation and Politics

P2P is also emerging as the new way of organizing and conducting politics. The alter-globalization movement is emblematic for these developments:

- they are indeed organized as a network of networks,
- they intensively use the Internet for information and mobilization and mobile (including collective e-mail) for direction on the ground,
- their issues and concerns are global from the start,
- they purposely choose global venues and heavily mediated world events to publicize their opposition and proposals.

Here is a quote by Immanuel Wallerstein (2002, see also 2004), 'world system'

theorist and historian, on the historic importance of Porto Alegre and its network approach to political struggle:

Sept. 11 seems to have slowed down the movement only momentarily. Secondly, the coalition has demonstrated that the new antisystemic strategy is feasible. What is this new strategy? To understand this clearly, one must remember what was the old strategy. The world's left in its multiple forms – Communist parties, social-democratic parties, national liberation movements – had argued for at least a hundred years (circa 1870–1970) that the only feasible strategy involved two key elements – creating a centralized organizational structure, and making the prime objective that of arriving at state power in one way or another. The movements promised that, once in state power, they could then change the world.

This strategy seemed to be very successful, in the sense that, by the 1960s, one or another of these three kinds of movements had managed to arrive at state power in most countries of the world. However, they manifestly had not been able to transform the world. This is what the world revolution of 1968 was about – the failure of the Old Left to transform the world. It led to 30 years of debate and experimentation about alternatives to the state-oriented strategy that seemed now to have been a failure. Porto Alegre is the enactment of the alternative. There is no centralized structure. Quite the contrary. Porto Alegre is a loose coalition of transnational, national, and local movements, with multiple priorities, who are united primarily in their opposition to the neoliberal world order. And these movements, for the most part, are not seeking state power, or if they are, they do not regard it as more than one tactic among others, and not the most important. (Wallerstein, 2002)

This analysis is confirmed by Michael Hardt, co-author of *Empire* (2001), the already classic analysis of globalization that is very influential in the more radical streams of the anti-globalization movement:

The traditional parties and centralized organizations have spokespeople who represent them and conduct their battles, but no one speaks for a network. How do you argue with a network? The movements organized within them do exert their power, but they do not proceed through oppositions. One of the basic characteristics of the network form is that no two nodes face each other in contradiction; rather, they are always triangulated by a third, and then a fourth, and then by an indefinite number of others in the web. This is one of the characteristics of the Seattle events that we have had the most trouble understanding: groups which we thought in objective contradiction to one another – environmentalists and trade unions, church groups and anarchists – were suddenly able to work together, in the context of the network of the multitude. The movements, to take a slightly different perspective, function something like a public sphere, in the sense that they can allow full expression of differences within the common context of open exchange. But that does not mean that networks are passive. They displace contradictions and operate instead a kind of alchemy, or rather a sea change, the flow of the movements transforming the traditional fixed positions; networks imposing their force through a kind of irresistible undertow. (Hardt, 2002)

Here is also a description by Miguel Benasayag (see Benasayag & Sztulwark, 2002) of the type of new organizational forms exemplified in Argentina:

M.B. : Les gens étaient dans la rue partout, mais il faut savoir quand même qu'il y a une spontanéité 'travaillée', pour dire ce concept là. Une spontanéité travaillée, cela ne veut pas dire qu'il y avait des groupes qui dirigeaient ou qui orchestraient ça, bien au contraire. Quand arrivaient des gens avec des bannières ou des drapeaux de groupes politiques, ils étaient très mal reçus à chaque coin de rue. Mais en revanche, une spontanéité 'travaillée' en ce sens que l'Argentine est 'lézardée' par des organisations de base, des organisations de quartier, de troc...

C.A. : Léopardée, c'est un maillage?

M.B. : Oui, c'est ça, il y a un maillage très serré des organisations qui ont créé beaucoup de lien social. Il y a des gens qui coupent les routes et qui font des assemblées permanentes pendant un mois, deux mois, des piqueteros. Il y a des gens qui occupent des terres ... Donc cette insurrection générale qui émerge en quelques minutes dans tout le pays, effectivement elle émerge et elle cristallise des trucs qui étaient déjà là. Donc c'est une spontanéité travaillée; c'est à dire que quand même il y a une conscience pratique, une conscience corporisée dans des organisations vraiment de base. C'est une rencontre du ras-le-bol, de l'indignation, de la colère populaire, une rencontre avec les organisations de base qui sont déjà sur le terrain. J'étais en Argentine quelques jours avant l'insurrection. Et il y avait partout partout des coupures de routes, des mini insurrections. Et ce qui s'est passé, c'est qu'il y a eu vraiment comme on dirait un saut qualitatif: les gens en quantité sortent dans la rue et y rencontrent les gens qui étaient déjà dans la rue depuis très longtemps en train de faire des choses. Et cela cristallise et permet de faire quelque chose d'irréversible.' (Courant Alternatif, 2002)

What is significant is that the Argentinean demonstrators seemed to reject the whole political class, not just the established parties but also the left-wing radicals who wanted to speak for them and 'centralise their struggles', clearly opting for various forms of self-organization. So here, the often-decried anti-politics have a whole different context, not as a sign of apathy, but as a sign of rejection of hierarchical forms. Also related is the extraordinary rapid resurgence in Argentina of barter systems, based on the Local Exchange Trading Systems, which in a very short time succeeded in mobilizing hundreds of thousands of Argentineans. While the Argentine crisis is now less acute, and traditional politics is once again on the ascendant, many of the social practices described above are still being practiced.

A report from the Canadian Security Intelligence Service has paid particular attention to the innovative organizing methods of the alterglobalization protesters, and to their use of technology: Internet before and after the event and cell phones during the events. It concludes that with these innovations, established police powers have great difficulty to cope:

Cell phones constitute a basic means of communication and control, allowing protest organizers to employ the concepts of mobility and reserves and to move groups from

place to place as needed. The mobility of demonstrators makes it difficult for law enforcement and security personnel to attempt to offset their opponents through the presence of overwhelming numbers. It is now necessary for security to be equally mobile, capable of readily deploying reserves, monitoring the communications of protesters, and, whenever possible, anticipating the intentions of the demonstrators. (E-mail communication)

Here's an example of P2P organizing at the extreme right, related to what is reportedly one of the fastest growing radical religions today, the Odinists:

Today, the number of white racist activists, Aryan revolutionaries, is far greater than you would know by simply looking at traditional organizations. Revolutionaries today do not become members of an organization. They won't participate in a demonstration or a rally or give out their identity to a group that keeps their name on file, because they know that all these organizations are heavily monitored. Since the late 1990s, there has been a general shift away from these groups on the far right. This has also helped Odinism thrive. Odinists took the leaderless resistance concept of [leading white supremacist ideologue] Louis Beam and worked on it, fleshed it out. They found a strategic position between the upper level of known leaders and propagandists, and an underground of activists who do not affiliate as members, but engage instead in decentralized networking and small cells. They do not shave their heads like traditional Skinheads or openly display swastikas. (Southern Poverty Law Center, 2001 – my emphasis)

Culture & Spirituality

Peer-to-Peer in the Spiritual Field

Starting in the late 1980s arose a critical counter-movement against the feudal, authoritarian, patriarchal elements extant in the various world religions, but particularly as a reaction against the abusive practices generated by a number of 'spiritual masters' active in the West, but representing Eastern traditions. One such critique is expressed in *The Guru Papers* by the Kramers (1993), and in a critique of the hierarchical assumptions of Eastern spiritualities.

As a result, there has been the emergence of a great number of 'peer circles', which are based on peer-to-peer relationships, where a number of spiritual searchers, which consider themselves to be equals, collectively experiment and confront their experiences. This has been elaborated into a methodology by John Heron (1998) in his books on *Cooperative Inquiry* and *Sacred Science*, and also in the important new book by Jorge N. Ferrer (2001), *Revisioning Transpersonal Theory*:

Ferrer argues that spirituality must be emancipated from experientialism and perennialism. For Ferrer, the best way to do this is via his concept of a 'participatory turn'; that is, to not limit spirituality as merely a personal, subjective experience, but to include interaction with others and the world at large. Finally, Ferrer posits that spirituality should not be universalized. That is, one should not strive to find the common

thread that can link pluralism and universalism relationally. Instead, there should be emphasis on plurality and a dialectic between universalism and pluralism. (Paulson, 2002 – my emphasis)

The above description is important because it also signals a shift to the use of peer-to-peer, not just as a descriptive tool, but as a normative tool, reflecting a new set of social demands, embedded in which is also a social critique of ‘Authority Matching’ and ‘Market Pricing’ as it dominates fields of human endeavor.

A New Culture of Work and Being

Pekka Himanen (2002) has examined another cultural aspect of peer-to-peer, based on his analysis of the work culture of the free software and hacker communities, in his book about *The Hacker Ethic*. In this book, he compares the Protestant work ethic defined by Max Weber (2001) is his classic *The Protestant Ethic and the Spirit of Capitalism*, with the new mentality of hackers.

A quote from the blurb:

Nearly a century ago, Max Weber articulated the animating spirit of the industrial age, the Protestant ethic. Now, Pekka Himanen – together with Linus Torvalds and Manuel Castells – articulates how hackers represent a new, opposing ethos for the information age. Underlying hackers’ technical creations – such as the Internet and the personal computer, which have become symbols of our time – are the hacker values that produced them and that challenge us all. These values promoted passionate and freely rhythmmed work; the belief that individuals can create great things by joining forces in imaginative ways; and the need to maintain our existing ethical ideals, such as privacy and equality, in our new, increasingly technologized society. (Himanen, 2002: cover)

This same aspect is discussed by Kris Roose on the website noosphere.cc, where he distinguishes the ‘secondary culture’, described originally by Max Weber, where one works, many times unpleasantly, to make a living and buy oneself pleasures, and the tertiary culture, where the work itself becomes an expression of oneself (the ‘self-unfolding’ process described by Stephan Merten of Oekonux.de, see below) and a source of direct pleasure.

In his book, Himanen first describes how that what the Calvinists and Protestants actually did, was extending the work ethic of the Christian monasteries to the whole of society, a process of ‘Friday-ization’. In cognitive capitalism, this process reaches its zenith, and he cogently argues how the popular Personal Development ideologies promoted in the corporate world, are an extension and extreme-ization of the Protestant work ethic, but adapted to the network world, and made devoid of its ethics. This leads to the very unwelcome development of the ‘Friday-ization of Sunday’, so that the ethic of productivity and efficiency is contaminating our personal and familial lives, which have become ‘psychologically unsustainable’. But he says, there is a counter-movement at work, a counter-ethic, exemplified by the hackers (in the original meaning of the term, i.e. free software programmers), where one finds the process of the ‘Sunday-ization of Friday’ taking place. Indeed, work for them is a process of self-unfolding of creative interests, of

cooperative working and learning, of play, of intensive periods of 'flow', followed by extensive periods of rest and renewal. This culture, which is also in evidence in some creative industries, should be extended to the whole of industry, and this is in fact what is demanded by the new generations.

Richard Barbrook and other writers of *The Digital Artisans Manifesto* had already described some of the elements of this culture as well:

4. We will shape the new information technologies in our own interests. Although they were originally developed to reinforce hierarchical power, the full potential of the Net and computing can only be realized through our autonomous and creative labor. We will transform the machines of domination into the technologies of liberation.

9. For those of us who want to be truly creative in hypermedia and computing, the only practical solution is to become digital artisans. The rapid spread of personal computing and now the Net are the technological expressions of this desire for autonomous work. Escaping from the petty controls of the shop floor and the office, we can rediscover the individual independence enjoyed by craftspeople during proto-industrialism. We rejoice in the privilege of becoming digital artisans.

10. We create virtual artifacts for money and for fun. We work both in the money-commodity economy and in the gift economy of the Net. When we take a contract, we are happy to earn enough to pay for our necessities and luxuries through our labors as digital artisans. At the same time, we also enjoy exercising our abilities for our own amusement and for the wider community. Whether working for money or for fun, we always take pride in our craft skills. We take pleasure in pushing the cultural and technical limits as far forward as possible. We are the pioneers of the modern. (Barbrook & Schultz, 2002)

But hackers are not in fact the only ones exemplifying those values of working for passion, based on self-unfolding of one's creativity and desires, and in the context of peer-based relationships. A whole new generation of youngsters have shown to be ready for such social practices, as shown in the book by Andrew Ross (2001) *No-Collar*, where he coined the concept of the 'Industrialization of Bohemia' and says these practices were exemplified for a short number of years in the dynamism of the Internet start-ups, before they were destroyed by the short-termism of their venture capital backers. We are in fact talking about new ways of feeling and being. We should note how the author also stresses the high human cost of such ways of working, when they clash with the contrary logic of for-profit management.

In our previous paragraph on peer-to-peer-based forms of political organizing, we quoted Miguel Benasayag, the philosopher who is going furthest in identifying new cultural substrata that makes P2P practices possible. (He has of course been influenced by the paradigmatic work of what we could call the 'founding P2P philosophers', Gilles Deleuze and Felix Guattari (1980), whose first chapter of their classic *Milles Plateaux* is dedicated to a description of the 'Rhizome', a complete peer-based network ...)

C'est pourquoi nous pensons que toute lutte contre le capitalisme qui se prétend globale et totalisante reste piégée dans la structure même du capitalisme qui est, justement, la globalité. La résistance doit partir de et développer les multiplicités, mais en aucun cas selon une direction ou une structure qui globalise, qui centralise les luttes. Un réseau de résistance qui respecte la multiplicité est un cercle qui possède, paradoxalement, son centre dans toutes les parties. Nous pouvons rapprocher cela de la définition du rhizome de Gilles Deleuze : 'Dans un rhizome on entre par n'importe quel côté, chaque point se connecte avec n'importe quel autre, il est composé de directions mobiles, sans dehors ni fin, seulement un milieu, par où il croît et déborde, sans jamais relever d'une unité ou en dériver ; sans sujet ni objet.'

'La nouvelle radicalité, ou le contre-pouvoir, ce sont bien sûr des associations, des sigles comme ATTAC, comme Act Up, comme le DAL. Mais ce sont surtout – et avant tout – une subjectivité et des modes de vie différents. Il y a des jeunes qui vivent dans des squats – et c'est une minorité de jeunes – mais il y a plein de jeunes qui pratiquent des solidarités dans leurs vies, qui n'ordonnent pas du tout leur vie en fonction de l'argent. Cela, c'est la nouvelle radicalité, c'est cette émergence d'une sociabilité nouvelle qui, tantôt, a des modes d'organisation plus ou moins classiques, tantôt non. Je pense qu'en France, ça s'est développé très fortement. Le niveau d'engagement existentiel des gens est énorme. (Benasayag, 2002 – my emphasis)

This is clearly a description of a new existential positioning, a radical refusal of power-based relationships and a clear departure from the old oppositional politics, where the protesters were using the same authoritarian principles in their midst, than those of the forces they were denouncing. Here are some further quotes, which highlight the new 'radical subjectivities':

Contrairement aux militants classiques, je pense que les choses qui existent ont une raison d'être, aussi moches soient elles...

Rien n'existe par accident et tout à coup, nous, malins comme nous sommes, nous nous disons qu'il n'y a vraiment qu'à décider de changer. Les militants n'aiment pas cette difficulté; ils aiment se fâcher avec le monde et attendre ce qui va le changer.

C'est toujours très surprenant: la plupart des gens ont un tas d'informations sur leurs vies, mais 'savoir', ça veut dire, en termes philosophiques, 'connaître par les causes', et donc pouvoir modifier le cours des choses.

Oui, l'anti-utilitarisme est fondamental. Parce que la vie ne sert à rien. Parce qu'aimer ne sert à rien, parce que rien ne sert à rien.

On voit bien cette militance un peu feignante qui se définit 'contre': on est gentil parce qu'on est contre. Non! ça ne suffit pas d'être contre les méchants pour être gentil. Après tout, Staline était contre Hitler! (Benasayag, 2002)

Conclusion

What have we tried to do in this chapter? Starting from the four types of sociality described by Alan Page Fiske, we have tried to show how peer-to-peer is a template for human relationships, that is expressed in a wide variety of fields of human endeavor (in the four quadrants of Ken Wilber), which mutually reinforce themselves. Peer-to-peer technology is the basic infrastructure of cognitive capitalism; it is a third mode of production not based on either profit or hierarchy; it is a new mode of distribution such as in the file-sharing networks; it is a new mode of organizing and conceiving cooperative relationships, expressed in a wide variety of social and political movements; it is a new way of feeling and thinking about the world. We have seen how peer-to-peer is not only a descriptive tool, but also a normative tool, which includes a critique of earlier modes of functioning, and a set of demands for new practices, such as for example in the field of spiritual experiencing. We have purported to show that peer-to-peer is therefore inextricably linked to both a potential re-enforcement of 'Equality Matching', and of a new domain of 'Communal Shareholding'.

If this chapter were to be continued, we would also have argued the following.

There is an increasing contradiction between the economic logic of cognitive capitalism, and its 'Market Pricing' dominance, and the social logic of new forms of cooperation, as well as the embeddedness of innovation in a general system of widespread public intelligence (the 'general intellect'). This creates a whole series of new conflict zones, new enclosures and disenclosures, struggles around the new public domain of knowledge, and about the very infrastructure of the hitherto peer-to-peer Internet. There are three potential scenarios of co-existence between the new cooperative sphere and the for-profit sphere: peaceful co-existence, information feudalism, and a new type of P2P society.

As we are not technological determinists, we are not saying that peer-to-peer technology will cause and determine the changes towards some utopian end state, but we do maintain that the technology both embeds, and reflects, a change in human mentality, and that it enables and empowers such changes, provided they are taken up by social movements. Furthermore, we believe that P2P, because it is such an essential part of the lives and practices of the new generations, is a powerful new discourse to reinforce or renew the emancipatory project of more equality and justice in the human lifeworld, adapted to the realities and forms of consciousness prevalent in cognitive capitalism. We also believe it can be usefully connected to older forms of 'Equality Matching' and 'Communal Shareholding', as defended by tribal movements defending their bio-agricultural inheritance and communal lands, by the labor movement, and by others, showing them that their demands, far from being only holdovers of an earlier era, are also pointers to a future where 'Market Pricing' and 'Authority Matching' are again balanced in a more equitable manner with the competing socialities of 'Equality Matching' and 'Communal Shareholding'.

References

- Abbate, J. 1999. *Inventing the Internet*. Cambridge, MA: MIT Press.
- Barbrook, Richard, Schultz, Pit. 2002. *The Digital Artisans Manifesto*, Hypermedia Research Center, downloaded 2002, <http://www.hrc.wmin.ac.uk/hrc/theory/digitalartisans/t.1.1.html>.
- Benasayag, M.; Sztulwark, Diego. 2002. *Du contre-pouvoir*. Paris: La Decouverte.
- Benasayag, Miguel with Lemahieu, Thomas. 2002. 'Resister "malgre tout"', *Peripheries*, downloaded 2002, <http://www.peripheries.net/g-bensg.htm>.
- Cave, Damien. 2002. 'File sharing: Innocent until proven guilty', Salon, 13 June 2002, downloaded 2002, <http://www.salon.com/tech/feature/2002/06/13/liebowitz/index.html>.
- Courant Alternatif. 2002. 'Argentine: entretien avec Miguel Benasayag', downloaded 2002, <http://oclibertaire.free.fr/ca117-f.html>.
- Deleuze, G., Guattari, Felix. 1980. *Capitalisme et Schizophrenie*. Tome 2: Milles Plateaux. Paris: Ed. De Minuit.
- Ferrer, J. 2001. *Revisioning Transpersonal Theory: A Participatory Vision of Human Spirituality*. Albany, NY: SUNY Press.
- Alsop, Stewart. 2002. 'I want my file-served television', *Fortune*, 11 June 2002, downloaded 2002, <http://www.fortune.com/fortune/alsop/0,15704,370066,00.html>.
- Free Software Association. 2004. 'The Free Software Definition', downloaded 2004, <http://www.fsf.org/>.
- Hardt, M. 2002. 'Porto Alegre: Today's Bandung', *New Left Review* 14, downloaded 2002, <http://www.newleftreview.net/NLR24806.shtml>.
- Hardt, M., Negri, Toni. 2001. *Empire*. Cambridge MA: Harvard University Press.
- Heron, J.1998. *Sacred Science*. Ross-on-Wye: PCCS Books.
- Himanen, P. 2002. *The Hacker Ethic and the Spirit of the Information Age*. New York: Random House.
- Kramer, J., Alstad, Diane. 1993. *The Guru Papers: Masks of Authoritarian Power*. Berkeley, CA: Frog.
- Lessig, L. 2004. *Free Culture. How Big Media uses technology and the law to lock down culture and control creativity*. New York: The Penguin Press.
- Page Fiske, A. 1993. *Structures of Social Life*. New York: Free Press.

Paulson, Daryl. 2002. 'Daryl Paulson on Jorge Ferrer', Ken Wilber Online, downloaded 2002, <http://wilber.shambhala.com/html/watch/ferrer/index.cfm/xid,76105/yid,55463210>.

Raymond, E. 2001. *The Cathedral and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary*. Sebastopol, CA: O'Reilly.

Ross, A. 2001. *No-Collar: The Humane Workplace and its Hidden Cost*. New York, NY: Basic Books.

Southern Poverty Law Center. 2001. 'The New Romantics', Intelligence Report, 101, downloaded 2002, <http://www.splcenter.org/intel/intelreport/article.jsp?aid=236>.

Stallman, R. 2002. *Free Software, Free Society: Selected Essays of Richard M. Stallman*. Boston, MA: Free Software Foundation.

The Economist. 2002. 'Watch this airspace', June 20, 2002 downloaded 2002, http://www.economist.com/printedition/displayStory.cfm?Story_ID=1176136.

Wallerstein, I. 2002. 'Porto Alegre, 2002', Commentary No. 82, Feb. 1, Fernand Braudel Center, downloaded 2002, <http://fbc.binghamton.edu/82en.htm>.

Wallerstein, I. 2004. *The Essential Wallerstein*. New York: New Press.

Weber, M. 2001. *The Protestant Ethic and the Spirit of Capitalism*. London: Routledge.

Weber, S. 2004. *The Success of Open Source*. Cambridge MA: Harvard University Press.

Wilber, K. 2001. *A Theory of Everything*. Boston: Shambhala.