The Power of Networks

An Illustrated Manual for People, Collectives, and Companies Driven to Cyberactivism

David de Ugarte

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Where Does Web 2.1 Lead?
Think Different

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Credits

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The Power of Networks was written by David de Ugarte (http://deugarte.com).

The illustrations in the book are also in the public domain. The first one was created by Rodrigo Araya (http://puntogov.blogia.com) from an original graph by Paul Baran. The second one is an exclusive illustration by the same author. And the third one is a picture taken in Madrid by David de Ugarte.

This book was translated into English by Asunción Álvarez (http://inthewords.com).

About the Author

David de Ugarte, Fisher of Names
by Pedro Martín

How can I talk about David, now that, after a few years, I have come across him once again in virtual space, without talking about memories, and without looking like what I really am – someone in his mid-forties who's starting to witter on about the good old times. How can I not remember the picture, which I believe I still keep, in which he is standing by the *comandante's* side, or that picture of the legendary "F" cover. Or that phone call asking about his beloved poodle.

What can I say about this self-made, many-faced, surprising, and self-contradictory character? I will therefore talk about just one side of him, about David as a "fisher of names", someone who is always necessary in changing times. And to do so I will start by talking about my natural reference point, architecture.

In his hyper-acidic and highly recommended *From Bauhaus to Our House*, Wolfe talks about Le Corbusier as a builder of concepts rather than real things. Indeed, it is true that Le Corbusier's work is not very extensive, as opposed to, for instance, Wright's prolificness. He was however capable of distilling his ideas into lectures and exhibitions in a way that the Californian master never achieved in his own writings. In fact, Wolf mentions that Wright would ironically say of Le Corbusier to his associates: "Now that he has finished one building, he'll go write four books about it."

Of course, the architectural concepts put forward by Le Corbusier were not necessarily deeper or more valid than Wright's, Mies's, or Aalto's; they only reflected his own personal way of understanding architecture. However, Le Corbusier was particularly brilliant in his way of extracting the essence of every concept and giving it a "word shape". Every idea that was then floating around in the collective mind of his profession was suddenly given an associated word, a term with which to refer to it: *maison domino*, *immeubles-villa*, "regulating lines", the five points (*pilotis, toit-terrasse, plan libre, façade libre* and *fenêtre-bandeau*), *modulor*, *unité d' habitation*. Their value does not necessarily lie in the concept itself, but in the word, the tool to refer to the concept. Le Corbusier was, above all, an "inventor of dialectical tools".

David de Ugarte, in his lively and enriching blog, proves to be a restless seeker of ideas, of new connections, but above all he proves to be a "fisher of names" as the Swiss architect was. He gives us tools to talk, share, relate, and build with. The ideas he brings to us may well have been recently created or been around for a while – it doesn't matter: what is new is the word defining them, the tool for change. Computer-assisted mechanisation (CAM), a process by which objects can be created from a few simple instructions, has been around for decades. But we didn't now the word *fabbing*, which David has brought to us, and which is now a household word. *Spime*, *devolution*, *mumi,* words which already existed, but which thanks to David now have become concrete, and a part of

our own blogosphere.

That is why his Contextopedia, in which all those names are collected, those labels with ever-changing definitions, is so interesting. It took me some time to get used to *techie, ubuntu, cyberpunk,* and *hacker.* Now, while he keeps developing that brilliant little thingy whose name sounds like a character out of *Friends*, I know that he will keep fishing or shaping for us the words that we will use to talk about the Web 2.1. David de Ugarte, our very own "fisher of names".

Prologue

Logics, Ontology, and Dissidence of and in the Blogosphere

by Juan Urrutia

As a member of the video game generation, he uses digital technology in the same way as we use language: he thinks *in* it – not about it, but within it. An economist in possession of an official degree, an art lover who has studied its history extra-officially, perhaps he would have rather been an epidemiologist, but has become an entrepreneur after his previous incarnations as a science-fiction devourer and a revolution reporter. He is an inhabitant of the blogosphere, seeking his niche within it as he tells us about its development, and only now and then does he allow the fluidity of his thought to solidify into a book which eventually ends up once again dissolved into a new, life-giving current exploring this new world.

I have a hunch that this time he has felt the need to make a brief stop in his explorations and tell himself what his main line of thought is – and it happens to be a crystal-clear line. The architecture of information and communication determines the structure of political and economic power, and both kinds of power cease to be when faced with the unstoppable onslaught of proliferating networks and their increasing density. The growth of networks leads to a new world in which the relentless logic of scarcity, which has led to so much material and intellectual poverty, is radically transformed,

affording us a glimpse of a different and utterly non-reassuring place to which we are however helplessly drawn.

If you will allow me to make an odd recommendation, I would start by reading the appendix (available online), in which the main references supporting the argument of the book are collected. Their contents are not easy to grasp, but one would be hard pressed to find a better summary of the issues at stake or a better stimulus to start reading from page one.

Baran's distinction between three kinds of network is crucial here. Centralised and de-centralised networks are trees with a greater or lesser number of hierarchical levels, whereas distributed networks are like creepers. In the two former forms of architecture there is only one way of linking any two nodes; whereas in the latter creeper- or rhizome-shaped networks there are many alternative ways of doing so, which makes them hugely resistant to rupture tensions and to any kind of attack. Distributed architecture constitutes a pluriarchy (or polyarchy), the foremost example of which is the blogosphere. By contrast, the two other kinds of architecture exemplify hierarchy. In economist-parlance, centralised and de-centralised networks correspond, respectively, to a centralised economy and to a set of rival monopolists, whereas distributed networks correspond to perfect competition. Centralised and de-centralised networks are populated by benevolent dictators and the emphatically named captains of industry. Distributed networks are the abode of the hacker.

The most beautiful paragraphs in a book which never

ceases to be analytical may be those devoted to the hacker avatar, the mumi. The hacker exemplifies the blurring of boundaries between work and leisure, and between remuneration and reputation. In a world in which information and power flow along a distributed web, abundance is more relevant than scarcity, and imposes its own figures of speech. What becomes important in the logic of abundance is certainly not remuneration, but the reputation for knowing the terrain; and the origin of power lies not in the secret, but in its diffusion – not in treasure, but in the free gift, in the potlatch of ideas. Hence the fact that power and the undeserved wealth that usually comes with it are highly volatile, so that a mumi can be replaced any day by a more munificent one due to an increase in node links.

It is precisely the dynamics of mumi-replacement that weaves the distributed web while using it to freely provide an abundance of ideas. And it is precisely this unrestrainable proliferation that gives rise to an intuitive distrust towards distributed social networks. This is the censorious reflex that every defender of order in the grip of fear has and encourages as an apparent guarantee of safety. And yet there is an intelligent – though not simple – way of getting across the point that the proliferation of connections between people is an increasingly evident sign of the epistemic advantages of distributed networks, understood as filters for innovative ideas.

If we compare a tree to a creeper, we will immediately realise that in the tree model a new idea that is struggling for acceptance must go through a number of stacked filters before it reaches its audience – from the root to the

beginning of the first offshoot and so on. By contrast, in the creeper model new ideas can spread out through many alternative channels, as if the filters were aligned in parallel. It's obvious that there will be many more ideas floating around in the latter model than in the former. It is also obvious, though, that in the latter model there will also be a higher proportion of really, really terrible ideas floating around. If there were no cognitive biases with their corresponding measurement errors, and if rationality had no boundaries, the tree would be an optimal epistemic device, as it would let only good ideas through. But we live in an imperfect world, with cognitive biases and limited rationality, and therefore it is entirely possible that the creeper is the best epistemic configuration to obtain the best possible results. As shown in "The Semantic Power of Rhetoric", following Sah y Stiglitz (1984), these results are likelier to come about (a) the greater the proportion of good ideas is within the pool of ideas waiting to be captured; and (b) the greater the difference or rank is between the best and the worst ideas. It seems to me that in our world both premises are currently becoming true: and therefore I daresay that here there is a solid argument in favour of the proliferation of links between people made possible by the Internet.

Yet man does not live by truth alone, but also needs a little self-esteem, something akin to individuation – that is, the passage from group- or identity-based identity to individual or collective identity. Individuation, current pieties notwithstanding, is not a given, but a desirable consequence of civilisation which is however not easy to attain or achieve. I will now argue, in two steps, that the

primitive element of analysis is the group and that because of this individuation is costly.

I will quote, as the first step in my argument, something I wrote some time ago in my blog concerning the ontology put forward by Lawson as a desirable economic methodology, and which would seem to have been specially designed to characterise the blogosphere. I mentioned there Lawson's central idea that

> *the social domain is an emergent realm which depends on us and is made up of social groups, social rules and practices within these groups. This social domain constitutes a closed system, intrinsically dynamic and internally related in the sense that any individual within the group is necessarily situated in relation to others.*

I can't find a more adequate abstract characterisation of the blogosphere. Even back then the connection between ontology and distributed networks was obvious. Indeed, I went on to say that

> *it is not only a kind of sweet tolerance which allows ontology to live. And a sneaky feeling starts creeping in. What if this apparently backward move actually was akin to one of the trendiest movements within mainstream Economics?*
>
> *I refer to Network Theory as a way of understanding many phenomena which are not*

related to the functioning of the market but rather to the emergence of this particular institution and, more generally, to many interesting social facts which are not intermediated by markets.

Let us recall first what David de Ugarte said[1] *two or three days ago on the blogosphere. In his theses 4/5/6 he argues that the real media is not one blog but the blogosphere itself, that this blogosphere is divided into different groups, none of which is going to be the influential one forever, because these subgroups change all the time, and that the structure of this collection of blogs is distributed and not merely decentralized.*

Having shown that the blogosphere is a prime example of a distributed network, I must now move on to the second step of my argument – that is, show how it can further contribute to individuation, something that I have explored in another paper which can be found on my website.[2] The problem, put bluntly, is that, in order to cease to be identified by the characteristics of the group you belong to and start to be recognised by your own unique characteristics as an individual, you must go through an initiation rite which can be called dissidence. But dissidence comes at a price – that of the bad conscience derived from the betrayal against the group, as well as the possible revenge exacted by the group, including reinsertion costs. The higher this price is, the fewer individuals will crop up: but those who do are more

authentic, in a Heideggerian sense.

In this sense, and using Ugarte's terminology, the more of an individual you are, the less of a person you become. In order to become your own master, you will have had to give up the directives of your group, the web you used to belong to, and hurl yourself into someone else's web – given that, in the ontology I'm putting forward, there is never a network void. This is where the dialectical wealth of the blogosphere comes from. TICs make it possible to generate a wide distributed network which functions autonomously but which, unlike other collective entities, makes dissidence possible at a low cost – with interesting consequences when it comes to understanding this book by Ugarte the hacker.

The first consequence is an interpretative one. The distinction between lyric and heroic – one of the best and most brilliantly expressed ideas in this book – has its analytical counterpart in the idea of the independence cost which is implicit in the technical apparatus in Akerlof and Kranton's paper on identity.[3] In order to be a dissident when the cost is very high, one must be a cruel hero, an impassive god who cares nothing for the suffering of others, an exalted soldier – an entrepreneur, we would say today. But if you want to be a minor dissident, a discount-price dissident, shall we say, you can be a sweet lyricist, a nice little bourgeois as well as a fierce defender of justice, particularly when it concerns you personally. This is what we liberals prefer as opposed to the Carlist [4] taste for banners and fanfares. The author and I both come from families that fought Carlism, and I hope it shows. Moreover, this lyricism fits in perfectly with distributed

networks. The different social identities of subgroups, being very dense, are also very close to each other: thus it is extremely easy to cross over from one subgroup to another, and come to understand other identities.

The second consequence of the lowering of the cost of dissidence is a more speculative one: namely, it might be suspected that the lowering of costs will dissipate group loyalty and mutual trust between group members. And this dissipation would make the technical possibility of commitment in a world seen as a blogosphere, or, more generally, as a distributed network, more difficult. Certainly that danger exists, and it has some odd implications.

On the one hand, the creation of stable coalitions is very unlikely, and thus the core of an economy will be very small, as the creation of practically any coalition will be possible. Thus the individual logic which constitutes the basis for agent behaviour in economic models will lead us to an equilibrium position – something easy to determine and defend, as there are not many other cooperative solutions driven by group logic. On the other hand, a strange paradox arises: namely, it is precisely the disloyalty on the part of the individual economic agent – who can be identified with the hacker – that makes coexistence difficult due to mutual distrust. The paradox lies in the fact that, just when individual logic and group logic seem to overlap, we come across an individual who cannot be completely trusted, and coexisting with whom will be less boring than most would wish.

This latter remark is not a pessimistic note. On the contrary: it is a call for a continued inquiry into the pros

and cons of living within a distributed network like the one that already surrounds us. The book that the reader is about to read provides much material for such an inquiry. If the author's fluent, seductive style leads you to believe that you have understood everything, I daresay that you should read it again with greater care and leisure. I did, and found that his words on cyberactivism and business management are not only deeper than they seem, but above all reveal a remarkable awareness of "what's going on", and an obvious revolutionary spirit, in the best sense of the term.

[1] http://www.deugarte.com/7-tesis-sobre-la-blogsfera

[2] http://juan.urrutiaelejalde.org/trabajos/individuacion_por_pertenencia.pdf

[3] Akerlof, George A. and Rachel E. Kranton, "Economics and Identity," *Quarterly Journal of Economics* 105, 3 August 2000, pp. 715-753.

[4] **Translator's Note:** Carlism is a currently moribund traditionalist and legitimist political movement in Spain seeking the establishment of a separate line of the Bourbon family on the Spanish throne. The Basque Country – where Urrutia's and de Ugarte's respective families originate – was one of the main Carlist strongholds until fairly recently.

The Power of Networks

What Is This Book About?

That we are living in changing times and that those changes have something to do with "social networks" has become a commonplace, almost a cliché, by now. And yet nobody seems to be very clear about what those networks are, and, above all, what is new about them. After all, if the networks we are talking about are the networks established by people when they interact, society has always been a network. And if we are talking about activist movements, they have also been there forever, interacting with each other in a sort of hyperactive parallel universe. There are however two new elements concerning this issue that everyone intuitively understands. On the one hand, there is the Internet and its most direct consequence: the emergence of a new sphere of social interaction which every day brings millions of people together. On the other hand, there is the recent appearance of a wide literature on networks applied to every field, from physics and biology to economics, as well as the inevitable spate of popular science, marketing ploys, and advertising gimmicks.

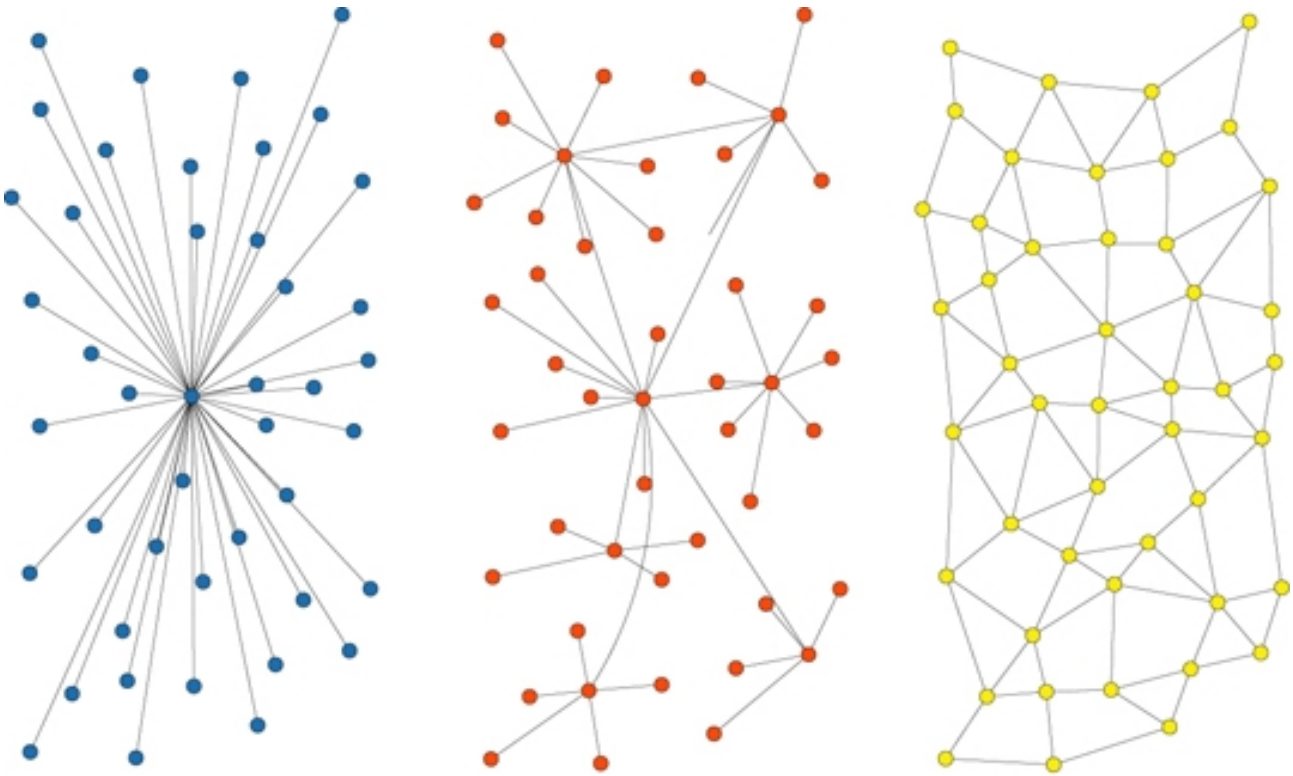
Then there is a whole series of movements ranging from revolution to civic protest, through a new kind of sophisticated hoopla which nobody knows very well how to class, and which frequently fills newspaper pages. They first event of this kind became well-known when in 2000 the crowds took to the streets of Manila to demand President Estrada's resignation. The media then remarked on the lack of leaders, and on how political entities and trade unions were forced to follow the people instead of

heading them. But that was too far away from Old Europe and we paid little attention to it, just enough for many of the thousands of participants in the demonstrations which took place in Spain on 13th March 2004 to be aware of the role they could play in bringing about a crucial change. That was Mobile Phone Night, and even though the degree to which it influenced the results of the presidential election the following day is still a matter of debate, nobody can deny that it was a radically new moment in Spanish history. In a short book published online just a few months before, the Spanish economist Juan Urrutia had predicted such rallies, and provided the methodological tools with which to understand them. He termed them "cyberthrongs". A year and a half after that, in November 2005, the French Police acknowledged their helplessness in the face of the Paris suburb revolts, arguing that the speed with which the revolters acquired veritable "urban guerrilla" techniques and experience made it impossible for them to act effectively. Some claim that a mysterious new collective subject has emerged. Howard Rheingold has spoken of "wise crowds". In this book I won't treat them as if they were all part of the same movement, but rather as symptoms of a new form of social organisation and communication which is growing ever stronger, and through which very different, even mutually contradictory, ideas can be upheld. Information rallies such as those that led to the Madrid Big Booze-Up in the Spring of 2006 and to Dan Brown's popular discrediting in Spain have also entered this cyberthrong hit parade that shows that something is changing. This book aims to define that something, and how we common citizens can gain greater independence and power of communication

through it. It has three parts. The first part is a very brief history of how social networks, the map of relationships through which ideas and information move, have changed through time, driven by changes in communication technologies. The second part focuses on the new political movements, from the Colour Revolutions in Eastern Europe to cyberthrongs all over the world. It also sketches out the two basic models of cyberactivism that lead to the massive spread of new messages from the web. Finally, the third part tries to provide all kinds of individuals, companies, and collectives with some useful conclusions concerning how to communicate socially in a distributed network world, a world in which we are all potential cyberactivists.

Join the dots

There are only three illustrations in this book. The first one somehow contains everything that will come after, so ideally the reader should keep it in mind. It was created by Paul Baran for a dossier in which he described the structure of a project which would later become the Internet.



If we examine them carefully, we will see that the dots are joined in different ways in each graph. These three arrangements – the technical term is *topology* – define

three completely different ways of organising a network: centralised, de-centralised, and distributed.

When Paul Baran wrote his famous report, he included this illustration in order to show the extent to which the nature of a distributed network was different from that of a de-centralised one. Our aim in including it here is the same one: but whereas he saw the segment-linking nodes as computers, we will for the most part see them as individuals and institutions. Whereas Baran thought of connections as telephone lines and cables, we will think of them as relationships between people.

Rodrigo Araya, a Chilean social historian who has specialised in cyberthrongs and democratic revolutions all over the world, has further added a colour code: blue for centralised, red for de-centralised, and yellow for distributed. This colour code will, in the next illustration (which is Araya's own work), allow us to establish links between different historical events and issues, on the one hand, and the topologies of the information networks upholding them, on the other.

The main idea underlying this book is that the key to understanding most of the new social and political phenomena lies in grasping the difference between a world in which information spreads through a de-centralised network and a world in which information spreads through a distributed network. I would therefore recommend the reader to earmark this page and return to it every now and then.

A Very Brief History of Social Networks

Behind every information architecture a power structure lies hidden

Spanish cyberpunk slogan~1990

Technology, and particularly communications technology, generates the conditions of possibility for changes in power structures. Daniel R. Headrick argues in *The Tools of Empire* that 19th-century European imperialism, which at one point controlled three quarters of the surface of the Earth, only became possible when transport and communications technology resulted in

> the establishment of economic networks […] After all, before a colony could become valuable and annexed to a European economy, a communication and transport network had to be laid.

The key element that made possible the division of Africa in Berlin in 1885 was the previous existence of a primitive network of instantaneous telecommunications: the telegraph.

The first telegraph line between the United Kingdom and France was made available to the public in November 1851. The first direct message between London and Paris was sent a few months later. In 1858, the first transatlantic cable linked the United States with the European network.

It was the beginning of what Tom Standage called, in a wonderfully epic book, “the Victorian Internet”.

Even though Standage displays in his book a rather ironic attitude towards the eventual effect that the telegraph had on diplomatic relations (inasmuch as it completely modified military strategy), it is nonetheless interesting that the three countries that were first linked by that network have remained allies to our day. The telegraph not only joined the United States’, Britain’s and France’s stock exchanges, but also brought together and merged their respective economic interests, providing the drive both for the earliest globalisation and for imperialism. And that drive was more powerful than the rivalry generated by the centrifugal force that was the competition between the three countries.

Moreover, the creation of news agencies (Associated Press and Reuters), the direct descendants of the telegraph, contributed to the establishment of an agenda in the public debate between the three powers.

It is hard to understand nowadays the extent of the importance that news agencies had for democracy. The main advance was at first that they made it possible for national and global news to be included in the local press at a time when literacy was on the rise, as a result both of production needs (machines required more and more complex skills from workers) and of the educational activity within the trade movement itself.

But by introducing national and international affairs – until then the exclusive matter of government elites – into the popular press (and not only the "bourgeois" press, well beyond the means of most people both because of its price and its language), foreign and State policy became something about which any citizen, whatever his social class, could have an opinion. Arguments for census suffrage became obsolete because information and opinion now belonged to the entire citizenship.

In fact, the telegraph was also the main factor in the rise of new topics and new values. It made it possible for trade unions to envisage coordinated actions in France and England. The 1864 call for the conference which would eventually become the basis for the First International was a direct consequence of the engineering work by which the first telegraphic cable was laid beneath the English Channel. Trade unions and workers' associations were keen to foil factory owners' plans to avoid strikes by moving production from one side of the channel to the other. They saw very clearly that the telegraph made it possible to coordinate their own demands. Proletarian internationalism, which would become a trademark of the end of the 19th century and the first third of the 20th century, was – like its polar opposite, imperialism – a possibility which was only opened by that first international web of copper cables.

But the complete political translation of the consequences of the new information structure would come later, in the Second International (1889). Its aim was to promote large organisations which would coordinate social movements on a national level, and which by

entering the political arena would defend workers' interests in national parliaments.

We can say that the original social-democratic movement and its model, the SPD, are the children of that "de-centralised" (but not distributed) vision of the world, from its territorial arrangement to its conception of the State. The case of French Socialism is particularly striking, as its history is linked not to Paris but to a small provincial town, Clermont-Ferrand, which happened to lie at the centre of the French railway and telegraph network.

Nowadays we find it natural (because it is so usual) that power should be conceived of in a de-centralised way, that human organisations (States, companies, associations, etc.) should be articulated in hierarchical levels corresponding to territorial spaces. We are also comfortable with the structure of social and political representation derived from such a de-centralised conception of power, as well as with the fact that it takes place through the gradual centralisation (local, regional, national, international, global, etc.) of decisions taken over an equal universe of topics at each level.

Things weren't like this before the advent of the telegraph, not even in the most avant-garde political organisations which sprang up after the French Revolution. The centralised conception was as pure as the universe of topics was different at each level (whenever there was more than one level). Thus, the famous Jacobin centralism mirrored the post system of the Old Regime.

De-centralised structures were originally the result of the effective interconnection of centralised networks, but in the long run they produced their own logic, generating

new, higher, non-national nodes, such as news agencies at first, and later on the first multinational companies. IBM displayed the extreme vigour of the autonomous hierarchisation of its nodes when it acted as a supplier for both sides during the Second World War. According to certain researchers, the internal logic of IBM was that of a "pure" de-centralised organisation, where any branch of the tree can be isolated from the rest. The Nazi government pressed IBM for information about the Allies' technology, and Roosevelt in turn tried to use IBM to block the German management system. IBM's response was to give both sides a symmetrical ultimatum, together with a promise of complete impermeability – only the Founding President of IBM (the cusp node in the hierarchical de-centralised tree) would be in possession of the information from both sides. In order to make this possible, the German branch of the multinational had become completely independent in 1941.

The first network revolution, which shaped our world, was the passage from the tendency towards centralised, national organisations characteristic of the modern State to the tendency towards decentralised, international entities in the 19th and 20th centuries. We have gone from local strata to national classes, from wars between States to wars between blocks and alliances, from colonies to imperialism, from club-parties to mass parties. And it was all made possible by the first great revolution in telecommunications.

In the first illustration, we have moved from the first topology to the second. We must now take a leap through time.

At the end of the Second World War, the world had completely developed the de-centralised model which was latent in the creation of the telegraph. In fact, communications would henceforth become much more abundant than with the telegraph. The very same war and entrepreneurial needs that led to a globally de-centralised world would eventually lead to the development of new tools for the information process.

In 1944, in Bletchley Park, the British cryptographic centre, Alan Turing encouraged the creation of Colossus, the first computer. Computer Science was born. But let us not fool ourselves – in the old world computer scientists used to wear white lab coats. They were the purest representation of technocracy, an incarnation of the popular stereotype of the scientist which was born during the war and lived on in the pulp literature of the 50s.

Early computer architecture could be understood and a great metaphor for the ideal Socialist state. A benevolent, all-powerful centre tended to by scientist-priests in specially conditioned rooms. For mere mortals, just dumbed-down, phosphorescent green terminals, no etiquette (or lab coat) required. Everyone is equal to everyone, everyone has access (albeit restricted and sanctioned by the central authority) to the information which is processed in the holy of holies. All citizens are equal, but some citizens are more equal than others – namely, those who also transmit.

"I know you and Frank were planning to disconnect me, and I'm afraid that's something I can't allow to happen," says HAL, the intelligent supercomputer in *2001: A Space Odyssey.* When Arthur C. Clarke's novel

was turned into a film in 1968, Dr Chandra, HAL's trainer, turned out to be a very believable character indeed.

Less than a year later the United States would send the first human beings to the Moon. The massive investment required for this by-product of the arms race allowed computers to become faster, more powerful, to store memory systems and connect to each other. Giddy with the speed of technological advance, many partook in the fantasy of artificial intelligence and HAL – both a project and a metaphor for an entire microcosm of knowledge bureaucrats who toiled away, happily busy, in places like Bell Labs and IBM. Arthur C. Clarke even made a joke in the ASCII code in which letters were being associated to numbers in the nascent computer culture: H+1 = I; A+1 = B; L+1 = M; HAL+3 = IBM. Just give them three more decades of space race, Clarke was saying, and IBM would create intelligent computers.

Those computer bureaucrats thought about artificial intelligence as a mere linear development, like a tree that becomes stronger the more it grows. Eventually, they thought, machines would think, or at least pass the Turing test, becoming indistinguishable from a human being in blind-test conversation.

But even then there were already signs that the global de-centralised system was approaching critical point. The value of system production kept increasing dramatically by comparison to its weight in tonnes. The percentage of that value due to the scientific and technical components of production became ever more crucial. But as the system relied more and more heavily on science and creativity, it became increasingly clear that the incentive system

provided by the hierarchical de-centralised production model was a burden slowing the process down.

The first cultural responses started soon after, snowballing into a mass phenomenon with the 1968 students' movement in the United States. New values and new topics were on the rise. At the crossroads of computer science and academe, a new kind of character appeared: the hacker. As Eric S. Raymond described it in his famous book, the hacker's model of intellectual production and information processes, created within the main American universities, looked like a bazaar rather than a cathedral (which Raymond likened traditional companies to).

The first two skirmishes which the then-tiny circle of hackers engaged in would come to have global consequences. The first one, in 1969, was started by Whitfield Diffie, a young mathematician who had travelled all over the United States in search of scattered clues concerning the (secret) evolution of cryptography since the beginning of the world war. By interviewing war veterans and combing through libraries and memories, he created the fragmentary map of a hidden world. He was funded by no one – Diffie, a pure-bred hacker, possibly the first hacker in the information society, did it all for art's sake. He would soon come farther than any intelligence system had ever reached: he discovered and implemented asymmetric cryptography, the current basis for all secure communications. Thanks to him, cryptography ceased to be restricted to the world of (military) secrecy, and passed into the domain of private use – from the closed community of intelligence, it fell into the hands of hackers and applied mathematicians, to

the great annoyance (and endless court battles) of American government agencies.

When reading Steven Levy's wonderful telling of this epic in *Crypto*, one cannot help but wonder how on earth that could happen. How could the most paranoid scientific bureaucracy in history, fifteen years before the fall of the Berlin Wall, let something as important as the possibility of secure asymmetric ciphering slip through their fingers? How could a few hippies fool them and effectively render the until-then almighty agencies helpless? How could IBM just *not notice*?

What had happened was only a harbinger of the world to come. The answer is simple: the logic of incentive systems. As any economist could tell you, the incentives which the old closed system could provide were not in alignment with the new aims to be achieved. It was only a matter of time for a Diffie to turn up.

The second battle is still being fought. The man responsible for starting it may be the most famous hacker in history, Richard Stallman. Unwilling to accept that he could be prevented from sharing or improving on his own developments, Stallman launched a devastating criticism against software copyright. As a result, GNU, GNU-Linux, and other licences were created, which would constitute the basis for the first great structure of free property in distributed development – the free software movement.

But two things had been previously necessary for all this new, alternative production system to burst forth: the development of personal computing tools, and a

distributed global network of communications between them. That is, the PC and the Internet.

Let us go back to 1975 in Los Altos, California. A clichéd image: two hackers sharing a workshop in a garage. They build and sell Blue Boxes, circuits which when connected to the phone fool Bell terminals and allow callers to make free calls. The hackers are Steve Jobs and Steve Wozniak. Wozniak puts forward the project of building a computer for personal use at the Homebrew Center, a club for electronics hackers. Jobs comes up with a plan: he will sell his van if Wozniak sells his calculator (calculators were still quite expensive then), and they will both set up an assembly workshop in the garage. But Jobs works for Hewlett Packard. The terms of his contract force him to offer any ideas he might want to develop to HP before working on them on his own. Jobs and Wozniak arrange a meeting with HP and try to sell them the idea. The response from HP is as expected: computers are for managing large social processes, they require much more power than a smaller machine could ever have, and moreover a small computer would be useless in the home. A personal computer would be something like a bonsai tree which would never take root. Who would ever want such a thing?

And indeed Apple I was not particularly powerful: 4 Kb which could be increased to four more, with optional cassette storage. But that was the first step towards turning HAL off. Apple II was launched in April 1977, and Apple III, which already had a 48Kb capacity, in 1979.

After that, nobody had to explain any more what a personal computer was, or what it was for. In universities,

the budding hacker communities took Jobs and Wozniak's cue and started building computers. In 1980 IBM followed suit and designed the first IBM PC, in an attempt to ride the turning tide.

The idea wasn't bad. It involved selling, assembling, and designing, within an open architecture, computers made from cheap third-party components. All the power of the IBM brand should be enough to swallow the nascent domestic market whole, and keep possible licenser-granters and clone-makers within specific segments.

But that's not what happened. Things had changed. IBM thought of its machines as relatively autonomous substitutes for the old dumbed-down terminals. It thought of PCs as cogs within the old centralised architecture, thicker branches for its trees. Because they had a universal open-architecture model, electronics hackers were able to start building their own component-compatible machines, and even to sell them much cheaper than the blue giant's originals. The hacker's dream – to make a living from computers – was becoming true. Electronics hackers in the 70s ended up setting up their own little workshops, stores, and garages. Without techie defenders, Apple would eventually disappear even from the underground, but PCs would gradually become detached from IBM.

When you have more than one computer at home, even if you are only setting someone else's computer up for them, it's inevitable that you'll be tempted to turn them into a network. When your friends have a modem and you can devote a computer to sharing stuff with them, it's inevitable – particularly when local calls are free – that you will leave it on all day, connected, so that your friends

can connect to your computer whenever they feel like it. The more powerful PCs became, the more powerful the hackers' network architectures grew too.

Like a creeper growing on a tree, the use of this new kind of tool gradually spread and became distinct throughout the eighties. That was when the structures that would shape the new world were created: LAN home networks, the first BBS, Usenet – different inventions by different people with different motivations. The advent of free, mass-consumption Internet drew ever nearer. It was what the changing times were calling for. Even though hackers didn't realise it then, all those innovations were expressing not only the hackers' own way of self-organisation and of representing reality, but the entire architecture of a new world which would have to be represented and organised as a network in order to work and give rise to a new kind of incentive. Soon an increasingly dense creeper made up of little bonsai computers would smother HAL and disconnect him for ever.

A few paragraphs have taken us on a dazzling journey. The de-centralisation which had arisen as a possibility with the advent of the telegraph restructured the world almost completely after the Second World War. But a global, de-centralised world is a world with huge management needs, a world requiring computers and instantaneous information.

Information, technology, and creativity became increasingly important for production value. But it is hard to encourage creativity and scientific development within a de-centralised hierarchic structure. As Pekka Himanen

ironically quips in his book *The Hacker Ethic and the Spirit of the Information Age*:

> How could Einstein have arrived at the formula $E = mc^2$ if his activities had taken place within the chaos of self-organised researchers? Does not science operate within a strict hierarchy, led by a science businessman, with division managers for each discipline?

Hacker culture represents the alternative mode of organisation characteristic of the incentive system demanded by those self-organised research groups. This is an incentive system that questions so-called "intellectual property" and the very topology of information structure. In order to create, in order to generate value, hackers require free access to information sources. Every node demands its own right to connect to other nodes without going through any central-node filters. In this way, they can further develop the technological tools they have inherited. PCs and the Internet are the instruments for computing and data transmission within a distributed structure.

But information structures are not innocent in the least. Topology entails values. And as Himanen points out, the hacker movement has developed a work ethics based on recognition, not remuneration, and an ethics of time in which the Calvinist dichotomy between labour (understood as a divine punishment) and joyful "leisure" has disappeared. These values have become attached to

the design of new tools and the cultural and political changes which they have brought about.

Yes: political changes. For the changes in the structure of information brought about by the Internet have opened the floodgates to a new distribution of power. The Internet, connecting millions of hierarchically equal small computers, has led to an *era of distributed networks* and to the possibility of going from a world in which power is de-centralised to a world in which power is distributed. And that is the world we are building.

From Pluriarchy to the Blogosphere

Hierarchies necessarily appear in every de-centralised structure. The higher we are in the information pyramid, the less we will depend on others to receive information and the more possibilities of transmitting it we will have. The version of an event given by a world press agency will reach every last corner of the planet, whereas that given by the local press – even if it's located in the same place where the event is happening – will hardly cross its closest borders, even if the version given by the local press is completely different, and superior to, that given by the global agency. The statements made by the general secretary of a political party will reach all party members through internal networks, but those made by a village

politician will only reach as far as the village boundaries.

The capacity to transmit is the capacity to bring people together, to summon up the collective will, to act. The capacity to transmit is a pre-condition for political action. And in every de-centralised structure, such a capacity really is exclusive to very few nodes.

In distributed networks, by definition, nobody depends exclusively on anyone else in order to send his message to a third party. There are no unique filters. In both kinds of network “everything is connected to everything,” but in distributed networks the difference lies in the fact that any transmitter doesn't have to always go necessarily through the same nodes in order to reach others. A local newspaper doesn't have to sell its version of an event to an agency journalist who has just come to the area, and a local politician in a village doesn't need to convince all his regional and provincial colleagues in order to reach his fellow party members in other parts of the country.

Don't distributed networks have political forms of organisation then? The thing is that we have become so used to living within de-centralised power networks that we tend to confuse the organisation of representation with the organisation of collective action. The perversion of de-centralisation has reached such a degree that “democracy” has become synonymous with electing representatives – that is, filter nodes.

What defines a distributed network is, as Alexander Bard and Jan Söderqvist say, that

> every individual agent decides for himself, but lacks the capacity and opportunity to decide for any of the other agents.

In this sense, every distributed network is a network between equals, even though some nodes may be better connected than others. But what is important is that, within such a system, decision making is not binary. It's not a matter of “yes” or “no”. It's a matter of “to a greater or lesser degree.”

Someone makes a proposal and everyone who wishes to join in can do so. The range of the action in question will depend on the degree to which the proposal is accepted. This system is called a pluriarchy, and, according to the same authors,

> it makes it impossible to maintain the fundamental notion of democracy, where the majority decide for the minority whenever there are disagreements.

Even if the majority not only disagreed with a proposal, but also acted against it, it wouldn't be able to prevent the proposal from being carried out. Democracy is in this sense a scarcity system: the collective must face an either/or choice, between one filter and another, between one representative and another.

It is easy to see why there is no conventional “direction” within pluriarchic networks. But you can also see that it is inevitable that groups will arise whose aim will be to bring about a greater ease of flow within

networks. These are groups that specialise in proposing and facilitating group action. They are usually inwards- rather than outwards-oriented, although in the end they are inevitably taken for representatives of the whole of the network or, at least, for an embodiment of the identity that defines them. Members of these groups are netocrats within each network – in a certain sense, network leaders, as they cannot make decisions but can use their own careers, their prestige, and their identification with the values of the whole or a part of the network to call for group action.

What happens when a distributed structure clashes with a de-centralised one? The de-centralised structure has the upper hand when it comes to mobilisation capabilities and speed. In recent years, there have been plenty of examples of rulers who have thought that controlling traditional filters (i.e. press and TV) would be enough to condition the citizenship by ensuring that only the most convenient pieces of news reached them. However, the emergence of the new information networks led them to come up against thousand of citizens who had taken to the streets. In some cases (Philippines, Spain, etc.), it has led them to resign. But what matters most is not so much the result of those demonstrations as what they were symptoms of.

Thousands of pages have been written trying to fathom where the power of text messages, the electronic "word of mouth", lies, but that is really only the tip of the iceberg. The truth is that these cyberthrongs would have been unthinkable in the absence of a new distributed mode of communication.

When Himanen wrote *The Hacker Ethic,* his model was based on the communities for the development of free software. A few years later, the same distributed information logic has reached the domain of general information and public opinion. The key lies in blogs.

Blogs are personal, automatic, and simple publishing systems the spread of which has brought about the emergence of the first great distributed communication medium in history: the blogosphere, an information environment which mirrors the premises, conditions, and results of the pluriarchic world.

A blogger is the opposite of a journalist. Like Himanen's hackers, they rarely specialise, write both about their personal lives and about international and local current affairs. The author is sometimes a direct source, very often analyses other blogs and sources, and almost always selects third-party sources for his readers. In blogs, the author's personal life is not detached from general information and opinion. And that lack of detachment between life, work, and ideas is a direct implementation of hacker ethics, in effect the denial of the division of labour characteristic of de-centralised hierarchic networks.

The blogger's incentive, moreover, is prestige, the number of readers, links and quotations published by other bloggers like him. The blogosphere is an almost completely de-monetarised environment. The incentive system that underlies it is similar to that underlying free software; it is a pluriarchic prestige-based environment, which evidently generates more or less volatile netocracies for each sub-network identity.

As a whole, and inasmuch as it is a distributed network where everyone can publish, the blogosphere tends to erase the transmitter/receiver dichotomy characteristic of the centralised and de-centralised models (such as were implemented, respectively, in totalitarian countries like Franco's Spain and in the Anglo-Saxon model of democracy).

The power of distributed networks lies in the fact that in them filters disappear: eliminating or filtering a node or node cluster will not delay access to information. By contrast with the de-centralised information system which arose with the invention of the telegraph, in distributed networks it is impossible to “burn bridges” and restrict the information that reaches the final nodes by controlling a few transmitters.

To sum up, the great global blog network (the “blogosphere”) is the first global distributed mode of communication, and comprises all the categories of “hacker ethics”.

As for bloggers, old-fashioned media see them as “intruders” or dilettantes lacking in credibility, in the same way as the great proprietary software companies used to say that free software developers were mere amateurs (that was before most of them, led by old IBM, Sun and Novell, adapted their business models to the new copyleft property systems).

For the blogger is nothing but an incarnation, in the domain of information, of the hacker, the *bricoleur.* He's the anti-professional: someone who cannot be contained within the old guild categories created within the de-centralised structures dependent on the great media power

nodes. The idea of journalism as an activity, as a specific ability requiring specific knowledge, was born with the information industry and is really nothing new. In 1904 Joseph Pulitzer predicted that before the 20th century was over journalism schools would be granted the status of higher education institutions, like law or medical schools.

When Pulitzer, a media tycoon, said this, he was expressing the needs of the then nascent de-centralised information system, by contrast to the local, scattered structures of the pioneering early American journalism.

Pulitzer was thinking within the framework of an industrial business model which required workers specialised in writing copy in the same way as engineers were needed to design stabilising systems. That's why he asked the education system to train them. The time for people like Mark Twain – journalists-cum-activists, like the unforgettable editor of the local paper in *The Man Who Killed Liberty Valance* – was over.

In the 20th century, information followed the de-centralised structural pattern characteristic of the communication networks it was based upon. Information was a product, exclusively traded by states and by Citizen Kanes. Those were the times of the Ford T and Taylorism, when the old notion of "professional" was on the wane: "professional" was coming to denote just a specialised form of advanced training in the sciences or the humanities. The idea of a profession as a political-moral fact (i.e. to profess) was forgotten, and professions were turned into qualifying guilds.

This is the logic of journalism as a news factory, an irreplaceable and necessary informational mediation. This

view generates its own myths: the journalist is no longer an activist but a technician, a necessary mediator upholding the freedom of expression and guaranteeing the collective right to information ("the public's right to know"). These myths conceal an underlying reality: the industrial information system, a classic de-centralised system in which in order to be able to publish one's opinions or views of reality one must have a capital equivalent to that required to set up a factory – in the same way as in order to publish a CD or a book one still needs, respectively, a record label and a publishing house.

In the model of the de-centralised information environment, the media used to be the guard dogs watching over information, which was extracted by professional journalists from reality itself, giving it its first textual form: news. Newspapers thus were the product of a specialised professional activity sprinkled throughout with a series of personal opinions, valuable in that they were supposed to be better informed due to their position in the hierarchy tree. The mythical embodiment of the journalist was the foreign correspondent, a de-contextualised gentleman who was sent – to considerable expense – to faraway places where events deemed to be newsworthy took place. The improvement of communication systems hasn't changed or improved the structure of this system, but only increased its immediacy to its highest degree: hence the embedded-journalist in the Iraq war.

By contrast, in the digital creeper sources appear in a hypertextual way and practically in real time, as they are provided by participants themselves. That's why in the

new reticular structure of information the centre of journalism is no longer the writing of copy, the conversion of information from fact into news which used be the purpose of journalists. Rather, what matters now is the selection of sources which are anyway immediately and directly available to the reader. This is what most blogs do, as do, by definition, press-clipping services. Their contribution consists in selecting sources from a certain point of view. In the same way as it makes no longer sense to understand newspapers as "newsmakers", so opinion is no longer based on the best information attributed to an individual, as the network makes sources available to everyone. What is important now is interpretation and analysis – that is, the deliberative component which signals the appearance of a truly public, non-industrially mediated, citizens' sphere.

This is one more aspect of the most characteristic result of the development of the distributed network society: the expansion of our personal autonomy with respect to the establishment. We become more autonomous, for instance, when we can write our own blog and establish a medium-and-source relationship with others, becoming a part of that collective newspaper which we all make every morning with our web browser tags. That is, the network allows us to act socially on a certain scale, bypassing the mediation of external institutions – in fact, it allows us to act as "individual institutions" and, in that sense, to become much freer and to acquire many more options.

In practice, the emergence of a pluriarchic information sphere, which is what the blogosphere, the identity

aggregators and the new personal press-clipping services roughly amount to, is a real process whereby power is reorganised into a distributed information structure.

We are living in the early days of a new media environment which, due to its very architecture, guarantees access to information in a more robust way. On the 13th May 2004, when after the Madrid bombings Spanish newspapers modified their headlines at the President's request, a veritable informational swarming took place. By breaking down the dichotomy between transmitters and receivers, the new information structure does away with journalists *qua* specialists, making everyone a journalist in his own medium, or rather a node in the great reticular, distributed medium that is the whole of the blogosphere.

The death of the journalist as a distinct professional should not be mourned: nor should the end of the media, which until now have monopolised the representation of reality and manipulated democracy, be feared. The current blogosphere has the potential for a redistribution of informative power among the citizenship, in such a way that no node is irreplaceable or determining, in such a way that we are all potentially equally relevant. Pluriarchy, for the first time a real social possibility, lurks beneath every blog.

In the same way as free software is a new kind of non-state public goods, so the blogosphere is a distributed mode of communication, public, free, and trans-national, the first real democratic public sphere, and practically universal. The media, particularly television, had privatised public life and political debate, reducing the

collective imaginary to a totalitarian show, industrially produced following the same guidelines as the production of merchandise. The blogosphere, by contrast, represents the beginning of a veritable reconquest of information and the imaginary as collective and de-merchantilised creations.

However, as a manifestation in the information sphere of the end of the division and specialisation characteristic of de-centralised networks, the blogosphere will not only threaten the media. Every information structure is underpinned by a power structure. Changes in the structure of the information sphere threaten the system of political representation. If the blogosphere actually manages to erode media representation, how could the representation of professional political mediators remain intact?

Finally, with the emergence of distributed networks, a new social and political landscape is appearing – a world of blurry borders, with no professionalised, "necessary" mediators, with no "irreplaceable" filtering elites. The blogosphere gives us a foretaste of what the new forms of pluriarchic political organisation will be like.

Mumis and Network Effects

But, the reader may say, what will happen to Google? Will standards disappear? Will Internet giants vanish and will the web as we know it be replaced by new distributed formations?

Not really: it's even possible that distributed networks will bring about the proliferation of this generous new kind of monopolist – but let us go more slowly.

Let us imagine the third user of the phone network: for him, accessing the network meant getting in touch with two other people. For the fourth user, it meant getting in touch with three other people, and so on. The more members a user network has, the more valuable it is for a non-member to belong to it. Even though every new additional member brings less extra value to the network than the previous member, the fact is that just consuming it makes a product valuable. This phenomenon is known as the "network effect".

Network effects generate a whole series of phenomena which have caught the attention of information economists.

To begin with, they provide incentives for standardisation. The creators of products linked to the network effect (from fax to Skype) will try to corner most of the new market they have created before competitors with similar products turn up. They will be interested in turning their product into the standard as soon as possible, and in order to do so they will be willing to make the

formats used by their products open or even free, giving up all or part of their "intellectual property" legal rights.

On the other hand, as the network grows, what economists call a "Pareto suboptimality" emerges: it is possible for an individual's position to improve without impairing that of the rest.

Once a certain threshold has been crossed and the network reaches a certain size, when the marginal cost of a product (i.e. the cost incurred by serving one more customer or providing a customer with one more product unit) becomes zero or comes very close to zero, it is possible for every individual to take whatever he needs or desires without detracting from the others' opportunities. That is, we enter again a "logic of abundance" like the one we discovered in distributed networks. We find ourselves in a situation in which pluriarchy is possible, although now there will be one single great provider and distributer of abundance, the *mumi.* An odd moniker for Google? Actually, it's much older than that.

The anthropologist Marvin Harris describes mumis, in his *Life Without Chiefs*, as one of the pillars of society among the Siuai in the Solomon Islands. Even though he includes the study of mumis within his research into social evolution towards hierarchisation, the very survival of the figure of the mumi to this day shows how powerful it is.

Mumis are social animators, people who intensify production and then redistribute it. A young man who wishes to become a mumi must work tirelessly towards the preparation of communal feasts for the entire tribe to enjoy. With that, he will gain followers, who will provide meat and coconuts for even larger feasts. If he is capable

of setting up a larger feast than that of establishes, his renown will increase, and he will win the followers of the previous mumi over, becoming the head of the tribe.

The key to *Internet mumis* lies in the fact that, like Melanesian mumis, it is very difficult for them to become *chiefs* and charge for their services, returning to a scarcity economy. Any candidate to mumihood will be able to repeat his offer at zero price. This being so, once a certain threshold is crossed, the network effect will act in his favour and the old mumi will sink into oblivion or retreat into a marginal market.

This is how Google outstripped Altavista and Yahoo in the web browser market, and killed off the old Usenet, where groups where democratically created, by launching Google Groups, where creation of groups is free.

Mumis are the quickest way to reach an abundance logic. The effects of the appearance of mumis are similar to those of the extension of distributed networks. In fact, mumis can appear as a reaction on the part of the centralising nodes in charge of a community, producing scarcity in response to the possibility of the network's becoming distributed.

My own favourite example of the way in which a mumi generates distributed modes of communication is *del.icio.us*, a web service which allows us to save pages that catch our attention, tagging them and saving all comments in them. *del.icio.us* was first designed as a way of enlarging our Favourites list and making it independent from the computer on which we happened to be browsing. By including tags, the system allowed us to see not only how many users had selected that link, but also which

pages under each tag were most popular .

But then a number of sites appeared (*reddit, digg* and their clones all over the world) in which users could nominate and vote for news and blog posts. These services aggregate all individual votes, and publish on their front pages a list of the most voted posts. As a whole, all these *voting groups* constitute a de-centralised network in which every site specialises in a language or topic.

In a way, all these sites, like all nodes in a de-centralised network, produce scarcity. Why should everyone vote to produce one single result? Wouldn't it be more logical that everyone could tell the system which results he or she wants to obtain, which users' opinions he or she wants to consult?

When users started to make these questions and even set up, with free software, similar systems for their own communities, *del.icio.us* saw that it had a chance to step in. Its system could also be employed by users, in an improved way, to share news among themselves. In fact, many users were already doing so. By using the RSS feed generated by *del.icio.us* for every result page, users were dynamically publishing on their blogs the favourites they were earmarking as they read other blogs and news every day.

No doubt few people would add to their blog the world total resulting from aggregating the favourites of all *del.icio.us* users; but they certainly consult the system to see what other things are being earmarked by their friends, colleagues, and acquaintances – by the people in their network with whom they share common interests, or whose tastes they are at least curious about.

And so *del.icio.us* launched *del.icio.us network*, a way of earmarking other users as a part of your network, and of picking from their accounts, in live time, the links they earmark as they browse the web. Of course, the fact that someone earmarks you as a part of their own network doesn't mean that they will be included in your own network until you aggregate them. In that way, every user can obtain a different aggregation based on other users' choices. Thus, *del.icio.us,* while centralising its system, distributes and generate as many different aggregations as would be produced by a distributed network, and generates, *de facto*, a distributed information network.

reddit was the first aggregator to see the coming threat: it was better to be a mumi, and give everyone whatever they wished, than be displaced by an outburst of community news exchange systems. Thus *reddit friends* was born, a version of the service in which each user can say which votes he or she wants to aggregate and whose proposals should be voted for. Unlike the original system, there is no longer a single collective result which everyone has cast a vote for. There are as many different results as there are users, interests, and tastes – just in the same way as if the system of great vote-centralising nodes had been replaced by a huge distributed network.

Mumis were one of the first *innovations* that the Internet experience brought to information economics. While studying them, the Spanish economist Juan Urrutia created the very concept of the “logic of abundance”.

Speaking broadly, we might say that there are two models that generate a logic of abundance: the model produced by the extension of a distributed network, and

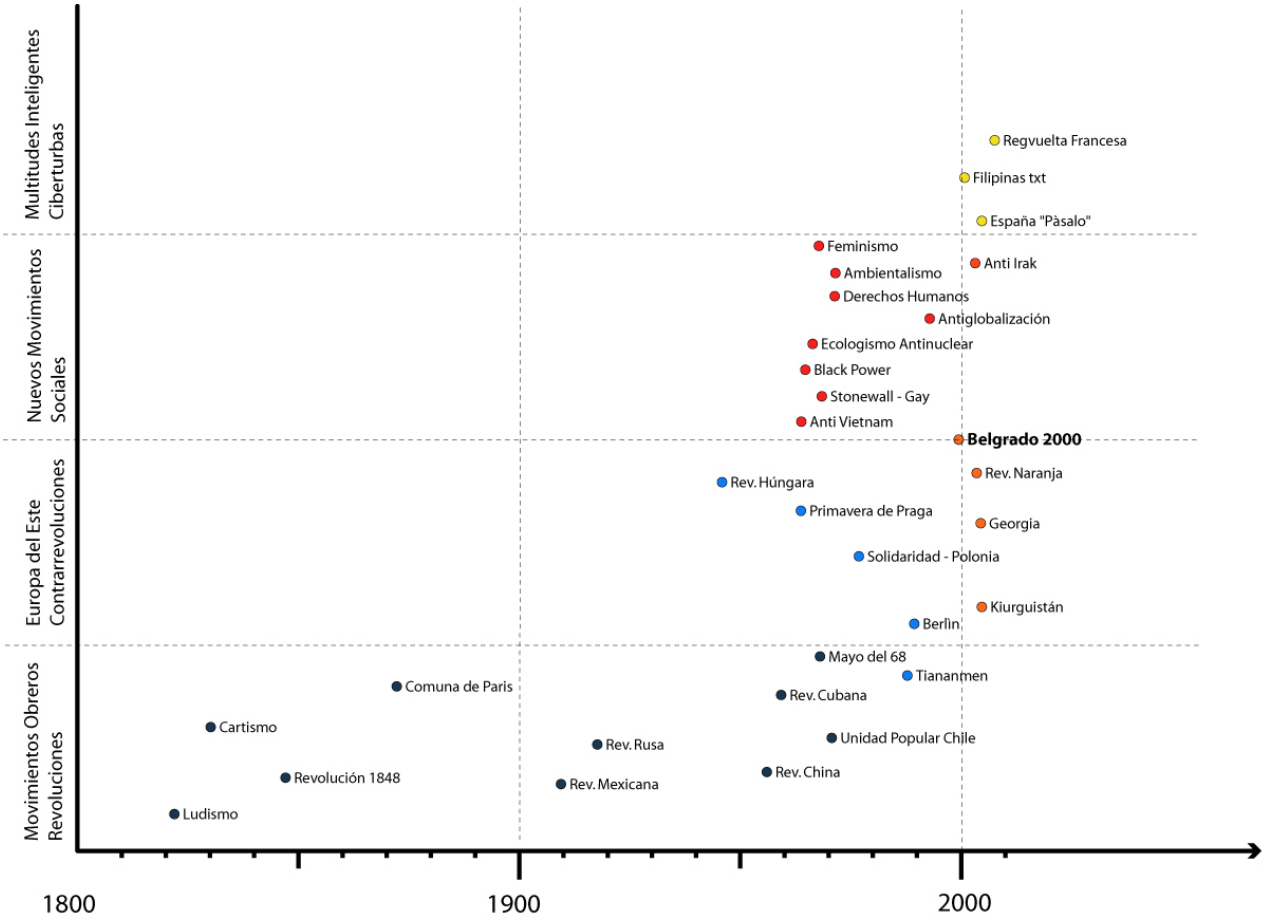
the model generated from a centralised network in which the centre (the mumi) is highly volatile. Whereas the blogosphere is an instance of the former, *del.icio.us*, Google and many of their products are examples of the latter.

In the end, whichever service infrastructure may prevail, the fact is that the old world of de-centralised networks and powers based on the filtering of information is crumbling down. What remains is the open promise of the *pluriarchy.*

The Spring of the Web

As we can clearly see in the following illustration, there was a transition period between "traditional" protest movements, on the one hand, and the "cyberthrongs" in the Philippines, Spain, and France, on the other. This period was characterised by the democratic revolutions in Eastern Europe.

These movements – which had their own precedents – already contained elements of an increasingly distributed world and informational structure. If only because of this, it is worth taking a closer look.



The eighties started in Poland with spontaneous mass movements against the Communist dictatorship. The Cold War background, the role played by the Church as a symbol of nationalist identity, and the debates about the role of Solidarność, in the tradition of workers' rallies, all diverted attention from the distributed reticular forms and the self-organised, spontaneous nature of the movement.

But by the end of the decade it had become obvious that there was an indubitable continuity between the Polish experience and the new democratic movements. The main evidence was given by the demonstrations that took place at the end of 1989 in the still non-unified East Berlin, the Singing Revolution that led to the independence of the Baltic countries, and, above all, the Czechoslovakian Velvet Revolution.

The 1990 Golaniad protest in Romania ended in a bloodbath that closed the peaceful revolution cycle. This in turn led to a phase in which the old dictatorial powers brutally defended themselves, and in which Croatian and Serbian *aparatchiks* led their countries to degrees of horror which had until then been unthinkable in post-Nazi Europe.

It was in Serbia, precisely, where a new revolutionary wave changed again the course of European history. The magic word was *Otpor!* – resistance. *Otpor!* was a breakthrough which had permanent effects. Soon *Kmara* would follow in the Georgian Rose Revolution, *Pora* in the Ukrainian Orange *Revolution, Kelkel* in the Tulip (or Lemon-tree) Revolution in Kyrgyzstan. These were all agitation networks which would prove almost impossible to recycle after the revolution, but which were originally

created to create the necessary critical mass and to bring about the tipping point for a network explosion. However, *Zubr* in Belorussia and MJAFT! in Albania are still active – the activities of Albanian agitators ranging from calls for protests against the local phone company to the launch of media-buses. The strategy of 21st-century revolutionaries involves contributing, through campaigns, to the creation of social networks.

After the Serbian movement, which ended with Milosevic's fall, the limelight was taken by the Philippines, where the first great "cyberthrong", self-organised by means of text messaging, forced President Estrada's resignation. The Philippine movement was structurally identical to the Spanish 13-M demonstrations, and remarkably similar to the November 2005 French cyberthrongs, which we will talk about later.

The popular revolutions in Eastern Europe show us how social networks can play a leading part in politics, whether they are driven by "enzyme" nodes or not. But they also showcase the importance of technology: text messages in the Philippines and Spain, but also the agitation blogs in Kelkel and Zubr which serve to call for and organise demonstrations that make it possible for social networks to burst onto the public arena.

The importance and breadth of all these movements – which not only have local consequences, but also modify the international balance, changing the map of the world – should not be overlooked. We are living in a veritable Spring of the Web, from Serbia to the Ukraine, from Kyrgyzstan to Byelorussia and even Kuwait.

This is a global movement in which countries with very different cultural and religious backgrounds are developing citizens' movements in network form. These movements allow citizens to oversee democratic processes, denouncing election fraud, corruption, and government abuse. The Spring of the Web is the concrete historical embodiment of the globalisation of democratic freedoms.

After all these experiences, blogs too must be seen not only as a distributed mode of communication, but also as a new form of political organisation which has spontaneously arisen within distributed information networks. Through their blogs, individuals lead non-segregated lives – lives in which politics, work, and personal matters are not categorised and compartmentalised. Lives in which everything comes in the same package.

This new form of organisation, based on contemporary models of non-violent civil resistance, owes its success to the diffusion and display of a lifestyle based on the collective and individual strengthening of people as opposed to power. This strengthening takes place through small gestures, jokes, signboards, which in themselves are insignificant, but which taken as a whole undermine the implicit consensus that power relies on. Laughter, football matches, graffiti, signs, and rock & roll are the tools which, collectively transmitted and elaborated on the web, blogged about on a daily basis, solidify into the activist nuclei of the Colour Revolutions, from Serbia to the Ukraine.

Blogs epitomise the network nature of these revolutionary movements. The web of activist nodes is a compendium of individual fighting methods, of downloadable signboards, slogans, and stickers – and also, of course, of information about the rallies instigated by autonomous groups in their home towns. But the engine, the spirit that moves them all, lies in the blogs and the webpages of network members. Blogs in which, of course, political analysis mingles with personal narratives.

As a result, the collective idea has emerged that the Serbian activists' motivation for clustering (as for Ukrainian activists later on) was mostly the Zeitgeist, a background of subversive humour and rock & roll.

New forms of organisation are best represented by a creeper that can be embedded in blogs themselves, such as *feevy.com*, rather than a webpage filled with mottoes, such as those political parties used to maintain. Personal blogs, associative nodes such as *blogaditas.com/planet* or *usfbloggers.com* (also *feevy*-based), are collective or individual experiments, automatically gathered in a space which enables them to share readers and grow together as debate and proposals increase. This is a pluriarchic representation of activists who think of themselves as netocrats, and who know that they can propose and syndicate, but not command or frame. For such activists, action is part of their daily lives, which they represent in their blogs as a multi-dimensional whole, not within a boring, limited classic ideological axis.

By replacing dust-dry assemblies with blogs, aggregators, and links, by substituting political rallies and banners by rock concerts and self-printed signboards, the

revolution is experienced as something that is joyful, creative, fun, and fulfilling, in a prefiguration of the lifestyle that is being fought for, and the yearned-for freedom to live that lifestyle. People sign up for a way of life, they place a bet on life. As the great Serbian activist Srdja Popovic said when looking back on what had happened:

> And we won because we loved life more. We decided to love life and you can't beat a life. So this is what Otpor did. We were a group of fans of life. And this is why we succeeded.

The point, once more, is the power that the network gives us to create and demolish myths, to conquer the future by telling stories. Because the revolution and the new freedoms constitute a tale, a beautiful story about a future that becomes real when we believe it, share it, and start to live in it today.

Even more revealing than the forms and languages of the Spring of the Web were the power elites' failure to grasp what they were coming up against. Given that their antagonists lack a strictly hierarchical structure which supervises and communicates, old organisations feel that they are increasingly inapprehensible. The key to distributed networks lies in their identity, in the existence of a common spirit which netocrats modulate by means of public messages.

Cyberactivists

As we saw in the case of the Colour Revolutions, technology had never played such an instrumental role (i.e., as a tool, as opposed to being itself in the spotlight) as in these new conflicts. Already in the nineties Arquilla and Ronsfeld wrote in *Swarming and the Future of Conflict*:

> The information revolution is changing the way in which people fight across the conflict spectrum. It is doing so mainly through the improvement of the power and capacity for action of small units, and by favouring the emergence of reticular forms of organisation – a doctrine and strategy which are making life increasingly difficult for the traditional large and hierarchical forms of organistion. Technology does matter, but it is subordinate to the organisation form which is adopted or developed. Nowadays the emergent form of organisation is the network.

In this reticular world, with a multiplicity of autonomous agents who spontaneously self-regulate on the networks, conflict is "multi-channel", taking place simultaneously on many fronts, and from an apparent chaos there rises a "spontaneous order" (the *swarming*) which is lethal for the old organisation dinosaurs. In most cases, this coordination does not require even a conscious or

centralised direction. On the contrary, as Arquilla pointed out, within the network identity, “the common doctrine is as important as technology”.

The same war in the network society, the *netwar*, is a privateers’ war in which many small units “already know what they must do”, and are aware that “they must communicate with each other not in order to prepare for action, but only as a consequence of action, and, above all, through action.” In this kind of conflict, what is implicit – i.e., the definition of the parties in conflict – is more important than what is explicit – i.e., the plans and strategies based on action-reaction causal lines.

Swarming is the conflict mode in the network society, the way in which power is controlled in the new world, and at the same time the way in which the new world achieves the translation of the virtual into the material.

How can action be thus organised in a distributed network world? How can civil swarming be achieved? Firstly, by giving up organising. Movements arise through spontaneous self-aggregation, so planning who is going to do what makes no sense any more, as we won't know what the *what* will be until the *who* in question has acted.

Cyberactivism is nowadays based on the development of three modes linked by a mantra which has been repeated to satiety in recent movements: *empowering people***.**

1. *Discourse*: successful cyberactivism is much like a self-fulfilling prophecy. Once we reach a number of people who not only want to but believe that they can change things, change becomes inevitable. That's

why new discourses are based on *empowering people*, on the stories told by individuals or small groups supporting a cause, who transform reality by using their will, imagination, and inventiveness. That is, new discourses define activism as a new form of "social hacking".

These are the *new myths* in an absolutely post-modern sense: unlike utopian Socialists or Ayn Rand followers, they impose no strict hierarchy of value, no set of values or beliefs. On the contrary, they put forward "ranks" that exemplify a certain outlook on the world, a certain lifestyle that is the real glue binding the network together. That's why this whole discursive lyricism entails a strong *identity component* which in turn enables communication, without the mediation of a "centre", between two members who have never encountered each other before. That is, it ensures the distributed nature of the network, and thus its overall robustness.

2. *Tools:* the development of tools that will make individuals aware of the possibility of *social hacking* is far more important than any demonstration. Cyberactivism, as a product of the hacker culture, is based on the DIY myth of the individual's capacity to generate consensus and transmit ideas in a distributed network.

   The gist of it is: tools must be developed and made publicly available. Someone will know what to do with them. Tools are no longer neutral. From downloadable template files for printing flyers and t-shirts to free software for the writing and syndication

of blogs, through manuals for non-violent civil resistance which can be propagated through many daily small gestures. All this has been seen in Serbia first and the Ukraine and Kyrgyzstan later. It works.

3. *Visibility*: tools must be developed so that people, through small gestures, can find like-minded equals. The visibility of dissent, the break with passivity is the culmination of the *empowering people* strategy.

   Visibility is something that must be permanently fought for. First online (to wit, the aforementioned examples of aggregators), then offline. Visibility, and therefore the self-confidence granted by numbers, is key for reaching *tipping points*, those moments in time when a threshold of rebelliousness is reached and ideas and information spread through an exponentially growing number of people. Hence the symbolic and real importance of cyberthrongs, the spontaneous manifestations organised and spread from blog to blog, by word of mouth, from text message to text message.

A cyberactivist is somebody who uses the Internet, and specially the blogosphere, to spread a discourse and make public a number of tools that will give the power and visibility that are nowadays monopolised by institutionsback to the people. A cyberactivist is an enzyme within the process by which society goes from being organised in de-centralised hierarchical networks to self-organising into basically egalitarian distributed networks.

The power of distributed networks can only be fully harnessed by those who believe in a world in which power is distributed, and in such a world, information conflicts take the shape of a swarming in which nodes synchronise messages until they bring about a change in the public agenda. And, in extreme cases, the spontaneous rallying of the masses on the streets: the cyberthrong.

The epic and the lyric in blog narrative

Having arrived at this point, I would like to make a slight detour and draw a distinction between the narrative mode that we have already seen in Popovic's quote, on the one hand, and the characterisation of the typical cyberactivist discourse as lyric, on the other.

The lyric mode, understood as a way of projecting future possibilities from current experience, is nothing but the narrative representation of a particular ethos, a lifestyle which is seen as an option among many, and does not seek to negate or eliminate others. The lyric mode invites one to join in without becoming diluted in the whole – it seeks conversation, not adhesion. As an ethical option, it stands opposed to the excluding, sacrificial, and confrontational dimension inevitably entailed by the epic mode.

It is true that this distinction is not new at all, except maybe in its application to blogging – to wit, that *I-want-to-write-a-beautiful-blog-as-part-of-a-beautiful-life* attitude so beloved of cyberpunks and digital Zionists. In any case, the literary debate is worth picking up once again.

In *Of Love and Death,* Patrick Süskind opposes the lyric Orpheus – the mythical if human creator of the first songs – to the epic Jesus of Nazareth.

> [Orpheus] has lost his young wife to the bite of a poisonous snake. And he's so distraught by his loss that he does something which to us may seem

demented, but also completely understandable. He wants to bring his beloved back to life. It's not that he questions Death's power or the fact that Death has the last word; much less does he want to vanquish Death in a meaningful way, to seek eternal life for mankind. No, he only wants his beloved Eurydice back, not for all eternity, but for the normal span of a human life, to be happy with her. That's why Orpheus's descent to the Underworld must in no way be interpreted as suicidal, but rather as an undertaking which is doubtlessly risky yet completely life-oriented, and even as a desperate struggle for life […]

It has to be acknowledged that Orpheus's discourse is pleasantly different from Jesus of Nazareth's rudeness. Jesus was a fanatical preacher who didn't seek to convince people but to impose an unconditional servitude. His expressions are scattered with orders, threats, and the constant refrain “I tell thee...” That is how those who don't want to save a single man but all Mankind have always spoken. Orpheus, on the other hand, loves only one and wants to save only one: Euridyce. And that is why his tone is more conciliatory, kinder […]

The Nazarene makes no mistakes. And even when he appears to make them – for example, when he brings a traitor into his own circle – his mistake is calculated, part of his plan for salvation. Orpheus, however, is a man who has no plans or superhuman skills, and, as such, is liable to make

> a great mistake, a horrible error, at any time, which makes us like him again. He takes mischievous pleasure – and who could blame him? – in his success.

No doubt many Christians will feel alienated from Süskind's view of Jesus. No matter – that is not what is relevant about this long quotation. Jesus can be replaced by Che Guevara or any other leader who promises salvation – by anyone who grounds his narrative of the future on the epic, the ultimate sacrifice, the desire to die for others.

What Süskind rightly points out is that the epic mode is inextricably linked to the love of others conceived as something abstract. That's why the hero's solution is necessarily all-encompassing, and steps over every single one in order to redeem the whole. The epic is definitely monotheistic in the same sense as all the great theoretical devices of modernity are.

Orpheus, the lyric mode, takes as a starting point the humbleness of one among many, of love and the concrete, of the person – not the individual – who assumes and projects him or herself towards everyone else from the acknowledgement of his or her own difference and that of everyone else. Orpheus offers something and innovates without trying to make others accept a single global truth. That's why his narrative becomes acceptable in post-modernity – because his action and his narrative are not meant to be the ending to anything, but merely a part of the great celebration that is his own life. An open celebration. That's why the lyric mode starts a

conversation – because it can accommodate both inclusion and ironical detachment, but never excommunication.

The epic mode, on the other hand, can only accommodate adhesion and exclusion, for only the hero can speak, the son of the God of Logos (both reason and word) who knows no truth other than his own.

Desmond Morris recently wrote an odd essay on happiness: *The Nature of Happiness.* He defines happiness as the sudden burst of pleasure that one feels when something improves, and argues that it is an evolutionary achievement of our species, the genetic prize granted to the members of a species that became curious, basically peaceful, cooperative, and competitive in order to adapt and improve in a diverse, changing environment.

Morris argues that happiness is fleeting because it's linked to change. Thus, Juan Urrutia's oft-quoted motto "Allow yourself to be seized by change" would sum up singularly well the attraction of the lyric nature of innovation and its joyful outlook on the future.

The lyric nature of networks is based on joy, on the happiness brought about by change. It is rebellious in that rebelliousness is a component of social network theory: by singing of the happiness caused by change, by innovation, by increasing the expectation of a prize for those who join in, the lyric of networks encourages listeners to lower their rebelliousness threshold, leading to the expansion of the new behaviours, and thus of social cohesion.

Within this framework, the lyric mode, understood as the narrative of happiness, which takes as its starting point happiness or the expectation of it, is an encouragement to

change: examples of it are the explorer or the cartographer who minimise risks by experimenting – to their own cost – in order to make their results public. This stands opposed to the epic mode of the conqueror and the combatant, who prefigure a society of sacrifice and conquest, of suffering individuals struggling to attain the *plus ultra* of a final victory which will give a meaning to the Passion undergone. By contrast, the lyric mode of social innovation looks more like the passionate tale of the naturalist who is experiencing a permanent, progressive discovery, who knows about the infinite beyond and values the journey in itself as a complete work, a permanent re-invention, a joyful Resurrection.

The epic mode is ill-suited to networks – at least Southern ones – because epics are about individuals, about solitudes. Prometheus undergoes his punishment in isolation. The epic, martyred Jesus, is a lonely Jesus ("Father, why hast Thou forsaken me?") The Resurrected Christ returns to establish links with others, visits his mother and his friends, rebuilds the network that was broken by the exhaustion caused in those he loved by his own sufferings, bringing back the depleted faith, and foreshadowing the great Pentecostal miracle: speaking in tongues for every member of the original cluster.

It is hard to say to what degree, from the point of view of networks, the individual is an aberrant abstraction. We are not individuals – we are persons, defined not only by our own being but by a set of relationships, conversations, and expectations, which together constitute existence.

That which applies to individuals does not apply to persons. The enemy is not your mirror when you are not

one but many. The epic task is the task to achieve a coherent confrontation-based identity, to turn one's enemy into everyone's enemy. That's why the epic simplifies and homogenises. But the lyric mode tells us that our identity lies not in what is, but in what can be achieved, in the happiness of the next change, of the next possible improvement. It encourages us to define ourselves by our next step – it encourages everyone to carry the banner of their own course. It encourages everyone to lead their own way, not to accept a single destiny or destination.

That's why the epic mode sees the collectivity as an organisation, a mould, an army, the result of a plan or a tragic will. Che Guevara talks about Bolivia like a suffering Christ talking about his Father-people. The lyric mode, by contrast, narrates collectivity from commonality, in the form of magic (the invention of which, by the way, was attributed to Orpheus by the Ancient Greeks), as the image yielded by a reshaping of practices, experiments, and games. Nothing is farther from the Kabbalistic and Messianic Shekhinah that culminates in the New Jerusalem than the right to seek one's own happiness – which provides the subversive, lyric counterpoint to the modern order of the American Constitution.

This is the framework within which power is defined in completely opposite ways in both forms of discourse. In the epic mode, power emerges as the result of battle. After the battle there remains a void, or a new fractal war cycle on a new scale. The Iliad is followed by the Oresteiad. From Iphigenia's sacrifice to Orestes's persecution by the avengers of his own mother, through Agamemnon's

triumph: Troy betrayed, sacked and razed to its foundations.

In the lyric tale, power emerges consensually, as the collective result of an experiment tested by many, the end of a road which is for many the way of building an existence seized by change. The power of the lyric mode comes from its ability to generate new consensus and design new games, new experiences which many or all in a network will regard as an improvement and a source of happiness for every one.

Blogs seen as the logs recording beautiful lives. Building and singing of what has been built. Because what greater triumph can there be than that of building one's own happiness from small things?

Cyberthrongs

We all have an intuitive idea of what cyberthrongs are. One non-problematic definition might be:

> The kind of mobilisation which constitutes the culmination of a process of social debate carried out by personal communication and electronic publishing media in which the divide between cyberactivists and mobilised masses breaks down.

The main idea is that it is the social network as a whole that puts cyberactivism into practice and makes it grow – unlike other processes, such as the Colour Revolutions, in which the permanence of de-centralised structure side by side with distributed ones led to the preservation of a clear divide between cyberactivists and the social base. As seen, there were "organising organisations", even if they were mere small social activist sub-networks, rather than traditional organisations.

One of the characteristic traits of cyberthrongs is that it's impossible to find in them an "organiser", a responsible, stable "dynamising group." At the very most, original "proposers" can be found who during the course of the mobilisation tend to disappear within the movement itself. Among other things, because cyberthrongs emerge at the periphery of informative networks, not at their centre.

The problem which such new movements as those that we have characterised as cyberthrongs, and which have such an influence over political agendas, is that it is extremely difficult to discuss or analyse them without one's judgement or perception being mediated by their consequences, or by their position within the political debates they open.

This was obviously the case with the demonstrations that took place in Spain on the night of 13th March 2004. It had happened before in the Philippines. It might seem that the French case would lend itself more easily to a dispassionate analysis, as the movement is so poor ideologically and has been so universally rejected. However, as it has become mixed up in the media with the immigration debate, and even with the fear of Jihadi terrorism, it isn't free of partisan conditioning either.

When we approach this kind of movement, the first thing we notice is the existence of a clear distinction between a deliberative, debate phase, and a later organisation and street mobilisation phase. The former is relatively lengthy if underground inasmuch as it is not reflected in any traditional mirror. In fact, in the three most recent cases, blogs played a key instrumental role, although the “conversation” started by each one logically involved different areas of the blogosphere. In fact, the tendency seems to be for the web to have an increasing importance in this phase, as personal publication technologies spread.

Let us move from the Philippine local radios and online fora in 2001 to the mixture of alternative digital media, fora and relatively central, ideologised blogs in the

period of 11th-12th March 2004 in Spain, and finally come to the so-called "peripheral blogosphere" which arose in France in November 2005 and in Spain during the 2006 Big Booze-Up.

In each case, not only the number of emitters increases with respect to the previous one, but also the total number of people involved. The French example is particularly interesting in this respect, inasmuch as the deliberative environment was an ongoing creation, which arose in a relatively spontaneous way from a couple of "tribute pages" lodged in a free blog service linked to a music radio station, Skyrock.

A few days after the riots started, the French Police were already aware that they were not facing an irrational explosion in the suburbs, but a contemporary form of organised urban violence, a guerrilla network which had spontaneously emerged in the aftershock of the first disturbances. This is how the French public television described it:

> *Des policiers évoquent aussi l'«émulation» entre groupes, via des «blogs», une compétition entre quartiers voisins ou la recherche d'une exposition médiatique.*
>
> *Policemen are also talking about "emulation" between groups by means of "blogs," competition between neighbouring districts, or the search for media exposure.*

Thirteen days later, three bloggers were arrested over their roles in the French riots. According to the newpaper *Libération:*

> *Ces blogs, intitulés «Nike la France» et «Nique l'État» ou encore «Sarkodead» et «Hardcore», incitaient à participer aux violences dans les banlieues et à s'en prendre aux policiers. Ils ont été désactivés par Skyrock le week-end dernier. L'information a été ouverte pour «provocation à une dégradation volontaire dangereuse pour les personnes par le biais d'internet». Les trois jeunes gens, dont deux de Seine-Saint-Denis (Noisy-le-Sec et Bondy), âgés de 16 et 18 ans et un autre, 14 ans, des Bouches-du-Rhône, avaient été arrêtés lundi matin […]. Les trois jeunes qui «ne se connaissent pas entre eux», avaient «pris comme support» le site internet de la radio Skyrock. […].*

> *These blogs, entitled «Nike la France», «Nique l'État» or even «Sarkodead» and «Hardcore», encouraged readers to take part in the violent riots in the suburbs and to attack policemen. They were de-activated by Skyrock last weekend. They have been labelled «a provocation to voluntary degradation, endangering people, by means of the internet». The three young men, two of whom, 16 and 18, come from Seine-Saint-Denis (Noisy-le-Sec and Bondy), and one of whom, 14, comes from Bouches-du-Rhône, were arrested on Monday morning. [...] The three young men, «who did not*

> *know each other», had «were baseds» on the internet site of the radio station Skyrock. [...]*

Given the look of their blogs while they still existed, the three young men seemed to be mere *lammers,* that is, not very advanced users who would generally use the web for little more than entertainment purposes. As the Spanish blogger Alejandro Rivero wrote back then, "their intention was to create tribute pages, and the fact that they were used to start demonstrations took them by surprise."

The fact that their blogs were hosted by Skyblog would seem to confirm this – Skyblog being a free blog service which is the French equivalent of MSN-Spaces, with a very similar user profile. A purely "peripheral blogosphere" – but massive. In fact, the Spanish-speaking peripheral blogosphere alone is estimated to comprise more than two million people.

Moreover, they did not know each other. Indeed, most probably they perceived others, if they had found them on the web, as competitors. Competition in distributed networks and, most importantly, in the framework of a nascent swarming, becomes cooperation. But this would obviously go beyond the three original nodes. As Alejandro Rivero pointed out,

> they have learnt fast this week, self-quoting and linking between pages in order to avoid both shutdowns and technical overloads, as the

comments they are receiving are now more than 2^14!

The proliferation of nodes (blogs) which are easily interconnected (through comments) generated a specific and distributed communication medium, a sub-blogosphere within Skyblog which very quickly became an entire information eco-system, despite its rough-hewn origins. It was a subsystem in which emulation and competition resulted in a cumulative (knowledge) optimum, reaching very quickly a critical mass of new involved blogs, and therefore laying the basis for a new form of social cooperation.

What is truly fascinating about this experience is the co-existence of elements that are structurally very advanced, very contemporary, characteristic of swarming (blogs, mobile phones, the rapid accumulation of technical knowledge by means of the mere spontaneous node interconnection), alongside rough-hewn intentions and a practically complete absence of power discourses and strategies (no demands were made other than for Sarkozy to apologise, although this one was repeatedly stated).

It was probably for these reasons, and because of the basic deficiencies generated by the education system, that the deliberative phase was extremely brief in the French case and soon evolved towards the technical accumulation of knowledge in the form of urban guerrillas. This was superposed to the coordination and organisation processes which were carried out mostly by means of mobile phones.

Back then, half the European media decided to draw paralellisms with the 1994 Los Angeles race riots. But it's the differences between both cases that are most interesting: not only the number of casualties (53 in LA as opposed to only one in the French street riots), but also their evolution and shape. In Los Angeles night and day were equally dangerous, and looting was constant. Even though both movements were put an end to by a mixture of police repression and internal exhaustion (the result of a lack of clear demands), the day/night and day-to-day cycle was completely different in both cases. In France we saw how spontaneous, localised violence could lead to the emergence of a collective consciousness of action, of group game/attack/competition not only in the suburbs, but between suburbs and between cities. The result was that the protests not only spread, but also reached a higher level of technical organisation. And all this happened only a couple of blocks away from home.

The French riots became a veritable national swarming and eventually deflated. They deflated because from the very beginning those involved were not empowered in a very specific way: they lacked the ability to express and articulate their needs under the form of proposals. However, they displayed an astonishing capacity (which bears no comparison to the American case) to develop “technical” guerrilla knowledge by sharing common experiences. It was amazing, the way in which mobile phone videos were taken of police strikes during the night and how they were commented on blogs the very next morning.

This too is characteristic of cyberthrongs: the division of the media employed at each stage of the movement (local radios, blogs and fora in the early deliberative phase which, in the French case and in the Spanish 13th March case, also ran parallel to the development of the protests). But maybe what traditional media found most striking about the protests was how many people they attracted – something that, given the capabilities and diffusion of the technical media employed, shouldn't really surprise us.

In the world of communications, text messages faithfully follow the logic of "epidemics".[1] The example closest to us, the Spanish Big Booze-Up, yielded some highly significant figures.

In 2006 there were 40,773,000 mobile phone users in Spain. 94% of them were younger than 35 and, in principle, susceptible to "infection". If at that time there were in Spain 14,286,049 people within the 14-35 range, we can assume that, to all intents and purposes, every young person susceptible of receiving the message and becoming "infected" had a mobile phone.

We know that on 17th March 2006 5,000 people attended the first local demonstration in Seville which gave rise to the movement. Given that, according to the Spanish National Employment Institute, 214,325 people in Seville then fell within the 14-35 range, participation

[1] For further discussion of the relationship between epidemics and the spread of messages through social networks, see the online appendix to this book: http://www.deugarte.com/gomi/historia_del_analisis_de_redes_sociales.pdf

would have reached 2.33% of young people. This, in our model, would be analogous to the initial population that becomes infected with a bacteria or virus at the beginning of an epidemic.

We can trace the evolution of the "booze-up epidemic" from here. Through other text-message chains, we know that the R parameter that measures the number of non-immune terminals – thus excluding receivers older than 35 and those already infected – to whom every individual will send a "successful" message lies between 7 and 10. The figure is relatively low given the structure of the Spanish social network, which is constituted of relatively isolated though widespread nets – clusters. This, however, is something that text messaging and the blogosphere are progressively changing.

But let us not fool ourselves: with such a value for R, an epidemic will spread very fast. To further our analogy with "real" epidemics, in AIDS R has a value of 2 to 5, in smallpox of 3 to 5, and in measles of 12 to 18 depending on the region and time.

On the other hand, the long period of "incubation"– that is, the time between the beginning of the text-message chains and the day of the protest – practically guaranteed that the chain reaction would "catch" and reach critical mass before the 17th March. The press had already foreseen it, claiming that protests had been organised in the ten main Spanish cities.

A measurement alternative to R, and probably more interesting from the point of view of text messaging epidemics, is the reiteration percentage. This would be the answer to the question: if I forward a message I've

received to my entire address list, how many of my contacts will receive it from me for the first time? This variable is obviously related to R, but has two advantages that make it more descriptive: it's dynamic – the percentage grows smaller as the epidemic spreads – and it bears a linear relation to the degree of clustering in Spanish society, which is probably the most sought-after and prized variable for those of us who dabble in social networks.

The premises of these models, derived from the classic SIR model, are very unrealistic when applied to social networks, as they take as their starting point the fact that contact between people is random: something that might be acceptable for aerially-transmitted diseases such as the flu, but which hardly works or accurately describes the transmission of information at work in networks.

After studying the data and the infectiousness hypotheses yielded by the first empirical results (i.e. the first booze-up parties), we estimated that more than 12 million text messages had been sent before the 17th March, and that they would have reached approximately a million and a half people. And that's without taking into account the effect of online fora, media, and chain emails.

The end result was a general mobilisation, partly marred by the rain, of more than 100,000 people, and a change in the social perception of booze-up parties, which led the Granada Town Hall to provide special areas for this kind of meeting. By the way, this is yet another radical departure from previous movements. Because there is no institution – be it a party, trade union, collective, etc.

– in charge of the demonstrations, no agreements can be reached and no negotiations can be started.

As Manuel Castells pointed out in an excellent documentary about the 13-M cyberthrong produced by Manuel Campo Vidal, the nature of these movements is that of an “ethical revolt”: there's not even a minimal programme, but only the expression of very simple demands linked to the reactive nature of the movement.

The trigger in the Philippine case was the evidence of corruption within President Estrada's government. In the 13-M case, the trigger was the perception that the government was manipulating information related to the blame for the 11-M Madrid bombings. In the case of the French riots, the trigger was the statement made by the Minister of the Interior after the death of two suburban youths in a run-in with the police. In the case of the Spanish booze-up parties, the trigger was the defence of the public leisure space traditional in our culture against increasingly restrictive regulations.

The generic character of their demands, together with the impossibility of identifying these movements with specific organisations or leaders, has led the media to concoct a number of paranoid conspiracy theories.

However, the tendency for these movements is not for them to "crystallise". On the contrary, the key role in all of them is played by the mobile phone network, which is practically a replica of the real social network and the “peripheral blogosphere” whose expansion follows a similar route.

The deliberative origins of these movements can be subjected to the same kind of analysis that the physicist and network theorist Duncan Watts[2] has applied to static structuralism, which was based on the concept of centrality currently taught in our universities:

> Implicit in this approach [i.e. the centrality-based approach to networks] is the assumption that networks which seem to be distributed are not really so […] But what if there is no centre? What if there are many "centres", not necessarily coordinated or even "on the same side"? What if important innovations are not generated in the nucleus but in the periphery, where the information-managing capos are too busy to look? What if small events randomly echo through dark places and trigger, through chance encounters, a multitude of individual decisions, each one made without previous planning, which aggregate into an event which no one – not even the actors themselves – could have foreseen?
>
> In these cases, centrality in the network of individuals, and any centrality whatsoever, will tell us little about the result, because *the centre emerges as a consequence of the event itself.*

That is exactly what a cyberthrong is: *the culmination in a street protest of a process of social debate carried out through electronic communication and personal*

[2] Duncan Watts, *Six Degrees*, W. W. Norton & Company, 2003.

publication media, in which the divide between cyberactivists and protesters breaks down. It is the social network in its entirety that practises and increases cyberactivism, from the periphery towards the centre.

It is pointless to seek the origin and authorship of the rallies in a person or a group. There are constantly thousands of ongoing debates in the blogosphere, in which topics and solutions are proposed in the hope that they will crystallise into a generalised social mobilisation. The blogosphere, the new great medium of distributed communication, is both the author and origin of all these recent demonstrations.

That's why, if we define "influence" as the capability that a medium, group, or individual has to single-handedly modify the public agenda in a given area, it must be pointed out that no single blog is a medium – rather, the entire blogosphere is the medium.

One single blog, unlike a main newspaper, cannot modify the public agenda. However, the blogosphere – the great social network of people who communicate through blogs and other tools of electronic personal publishing – can, as was ultimately proved by cyberthrongs.

A Definition and Two Models of Cyberactivism

After all we have seen, we can now extract a definition of what cyberactivism really is, and what models can be given for it.

We could define "cyberactivism" as *any strategy that seeks to change the public agenda and include a new topic for social debate by spreading a certain message. This message is spread through a "word of mouth" process which is multiplied by electronic communication and personal publishing media.*

Cyberactivism is not a technique but a strategy. We engage in cyberactivism when we publish on the web – in a blog or a forum – in the hope that those who read our post will tell others about it, linking to our post in their own blogs or recommending it by other means. We also engage in cyberactivism when we send an email or text message to other people in the hope that it will be forwarded to other people in their address books.

That's why we are driven to cyberactivism. And really, we all are: the writer who wants to promote his book, the social activist who wants an invisible problem to turn into a social debate, the small company selling an innovative product which doesn't reach its potential clients, and the political activist who wants to defend her ideas.

A conclusion can be extracted from what we have seen so far: there are two basic models, two forms of strategy. The first one is the logic of campaigns: building a centre, proposing actions to be taken, and spreading the main

idea. The second one is to start a swarming, a distributed social debate the consequences of which will be, from the start, unpredictable.

As the "housing sit-ins" that took place in Spain in May 2006 proved, there is no middle way to success. Both strategies require very different forms of communication. In the logic of campaigns, as in traditional activism, a topic, an antagonist, a set of measures to demand, and a form of mobilisation are put forward. People are invited to join in, but not to plan the campaign.

In the logic of swarmings a topic is set in motion until it becomes sufficiently "heated up" in the deliberative process for it to spontaneously develop into a cyberthrong or a new social consensus. From the start, control over what forms the process will take at each stage and even the possibility of aborting it are given up. For if we try to centralise a distributed process, if we try to bring the debate process we have started under our tutelage, we will only inhibit it, and in the end will have no clear proposals people can adhere to.

Until now we have seen what political forms are taken by both strategies. In what follows, we will sketch out the kind of communication required by both of them, as well as the possible forms they can take in other domains, from business to the promotion of associational activities.

Cyberactivism for Daily-Life Activists

In the previous chapter we stated what the cyberactivist's mantra should be: discourse, tools, and visibility.

These are the three concepts that we must bear in mind whenever we want to communicate within a distributed network, to organise and open a process – the kind that can develop into a cyberthrong – or simply to set up something people can adhere to.

The main difference between both models is the presence or lack of a dynamising node throughout the entire process.

If we *only* wish to *initiate,* to jumpstart a debate process, we will have to argue, point out, write, and then promote what has been written. If at all possible, we should organise physical meetings and describe what others are doing, encouraging other people to write and express their opinions about the topic in question.

It's not easy to start such a process. The potted history of cyberthrongs we have just given shows that they arise as a response to traumatic events which have been mismanaged in social and informational terms by the authorities -- that is, when those events haven't been caused by the authorities themselves. Cyberthrongs are reactive. The less universal the perception is that the trigger of a cyberthrong must be an event that is "appalling" in some way, the slower the process will be,

and the less likely it will be that it will arise spontaneously, however much it is encouraged.

That's why the most usual model of cyberactivism is the one that seeks adhesion to a campaign whose aims and means have been previously strategically designed by an organising node.

In general, clarity and accesibility of information are vital for this kind of process. What is needed, above all, is *why*, *what*, and *of whom*: why mobilise, what demands must be made, and of whom they must be made.

This, in turn, requires that a set of information components be taken care of:

- *Documents.* Information must be exhaustive from the start, all pros and cons must be gathered, and they must be made publicly available.
- *Discourse.* The reasons why anyone should act must be succintly stated. In many cases, the audience will be asked to react to something they probably know nothing about, and which, should they know about, they wouldn't care much about anyway. Time and chances to convince them will be limited, which means that messages must be extremely clear, and information transference must be maximised. Aims, means, and causes must be evident. If receivers are not clear about the message, they won't be able to *pass it on* or explain it to others, even if they wish to. Even if the message is short and clear, it must be nuanced enough that it doesn't turn into a pamphlet or a doomsday tirade.

Apocalyptic messages are a dangerous temptation. If they are well articulated, they can alarm others enough for them to become involved. But what if, for instance, we oppose a bill which is eventually passed? Most likely we won't find ourselves in an Orwellian society the day after the bill is passed, but it will be more difficult to attain our aims, and it will be more important than ever for us to make people react and express their opinions. If we had previously claimed that the only two options were (a) blocking the bill or (b) the end of the world, we will certainly lose what is most important for our cause: the participants' goodwill, their trust in the prospects which their own actions would lead to.

- *Choosing the ultimate target of the action.* Which institution can satisfy the demands made by the campaign? To whom will campaign members complain? Whom will we try to move with our arguments? What are we demanding of those we address?

  This is particularly important because we must always reach for attainable aims. *Asking for the impossible* would be a mockery of activists' efforts and would lead to later demoralisation.

  It may be that our only aim is to relay a message, to turn a story or slogan into a meme. There would be no *antagonist* in such a campaign. This would be a viral marketing campaign, the aim of which is simply for the receiver to pass the message on. But even in these campaigns something else will probably be requested of the receiver: that he or she take part in a

debate about a book – and thus read it or even buy it –, that he or she send a complaint letter to an institution or demonstrate in front of it, that he or she test a product or do research into climate change. What the specific task will be is not important – what matters is that the receiver be requested to do something attainable, explaining clearly that things can change contextually if many join in.

- *Tool design.* Tools are essential. Every person who comes into contact with the campaign must be able to reproduce it in his or her own cluster, his or her own social network, without resorting to any mediation. The main aim is to inform, to select a small number of links concerning "what this is about" and "why it matters to us". This can be extended to emails and text messages, electronically formatted signboards which people can download and print out, banners that can be added to blogs, etc.
  It's crucial that logos and materials should belong to the campaign, not to the group, company, or blog they are launched from. In this way we will make it easy for other nodes to take up the campaign as their own simply by copying and pasting the materials into their own blog or web, without having to provide references. If we really want to spread an idea, we shouldn't mind at all if this happens; on the contrary, there is no better sign that a distributed campaign is successful. What is more, motifs should be easily copied and customised according to individual interests: to be added, for instance, to the logo of a student society, trade union, neighbourhood

association, or roleplaying club. All sub-networks are of interest from the start: we shouldn't worry that many will subscribe to the campaign. The more customised communication becomes, the more reliable it will be.

- *Visibility.* We already have the main component to achieve visibility. We should also add a "counter", a website which keeps the tally of adherents or a diary of the spread of the campaign. A blog is usually a good solution. Nothing is more encouraging than watching a campaign grow from scratch.
  On the other hand, some nodes in the network may straddle the network and mainstream media: community and online radios, electronic newspapers, blogging journalists, etc. Sending them an email containing a short dossier and relevant documents can turn them into very active nodes which will open up new horizons and networks for our campaign.
  Also along these lines, we must encourage people to send opinion columns and letters to the press, particularly the local press, which is the one most read in Spain (as in many other countries). Dossiers (i.e. an email containing a list of links and a clear description of the campaign) can be sent to e-journalists and regular writers in the local press who are interested in the issue in question.
  In a classic campaign, the centre would make extensive use of its databases and would set up a rather impersonal mailing campaign targeted at people matching a certain profile. In the web, it is

activists themselves, the active agents in the campaign, who pass the information on to their contacts and close acquaintances. Many of them will certainly be able to send clippings to the local press or be interviewed on the local radio.

The aim is for every node to contribute something that will improve the visibility of the campaign. Thus every member will discover that his or her address book, acquaintances, and personal social network, when joining others', becomes part of a powerful means of communication, and a formidable tool for unmediated collective action.

Business as a Special Case

Businesses have had a rough landing onto the blogosphere. Indeed, when the *Sociedad de las Indias Electrónicas* started a blog, the *Bitácora de las Indias*, we were the only business blog in the world. During 2002 we acquired experience in the then nascent blogosphere, and saw the business/blog intersection with a mixture of optimism and defiance. Natalia Fernández, an Indias founding member, then claimed that

> the key to success lies in not providing boring links or commenting on irrelevant news: rather, it lies in writing clearly and explaining the experts' viewpoint in such a way that readers enjoy themselves and are aware that they have learnt something useful.

Listening to Natalia, however, leads to a malicious question: if blogs are an effective promotion system that has American experts leaping onto the bandwagon, why don't Spanish e-managers do the same? Are they afraid of not being of interest for the public?

The question is still relevant. The main player in the now-established business blogosphere is in fact the entrepreneur, not the business manager. Our idea then was that blogs could serve to establish a community between business, product, and users, which would generate an environment of community innovation and mutual trust.

Nowadays, almost four years later, well-known authors such as Susannah Gardner believe that the main advantages brought to business projects by blogs are those derived from “holding an open conversation between business and consumers”.

But the key question is still who writes the blog. In the case of the *Bitácora de las Indias,* as it was the business partners themselves -- together with the occasional collaborator -- who posted, the blog doubtlessly served to prove our competence and establish our company as a main player and pioneer in the field of social networks. But can this model be universalised? What happens when business partners or managers wish to use blogs in their projects without becoming bloggers themselves?

On the practical side, a demand has arisen for professionals who can create and dynamise specific institutional blogs, most of them related to events. We have tried this model ourselves, with results which allow us to make a sufficiently documented critique:

1. The temporary nature and often the lack of a “warm-up” period before the event are a handicap for this form of communication. Blogs are catalysts for a process of generation of trust concerning identity, and thus take their time – just as any kind of trust-based relationship – and a view to continuity, not a deadline. Even blogs are mere information channels, thus losing the network-generation power of blogs as a medium.
2. Institutional blogs – that is, those in which posts are not "authored", such as *ciberpunk.info* – are similar in

this respect. Even though permanence is guaranteed in these blogs by the institution itself, personal relationships are lost. Institutional blogs, whether they be business or association blogs, are really news and campaign channels: useful and generally very necessary tools, but limited ones.

As the role played by blogs in the Colour Revolutions taught us, the power of blogs arises from their capacity to generate lifestyle stories, where projects (as mentioned in a previous chapter) are personally experienced as something joyful, creative, fun, and fulfilling, foreshadowing the way of life which is being fought for and the yearned-for freedom associated to it. People adhere to a way of life, or rather place a bet on life.

A blog earns our trust not only because of what it says, but also because it tells us about the writer's context, endowing it with humanity and logic in an evolution whereby both readers and bloggers become trustful of each other. Hence the biographical nature of blogs.

That's why we moved from a centralised model, the *Bitácora de las Indias* blog, to a de-centralised model of blogs written by partners who syndicate only a certain category of blogs but whose personal blogs have their own daily evolution, their own narrative of life.

But how can a large company make use of this experience? One of the most interesting examples is probably Microsoft's acquisition of Robert Scoble's blog. The Seattle company found a techie ally in Scoble,

something highly valuable for a giant which had always been despised by its natural referees.

By incorporating Scoble's blog to their communication strategy, Microsoft obtained something more than a mere node. Until then the model had been the "entrepreneur's blog", and the ruling paradigm had been the one that guides the owner of the Mavericks basketball team. But now new acquisitions were made with a view to gaining corporate knowledge about the art of blogging so that a new model could be created: that of company workers' blogs. This network was designed for promotion purposes not only through transparency, but as a kind of public intranet which later proved capable of encouraging informal communication and social knowledge within the company itself.

It was this kind of premises that led us to develop *feevy*, an automatic blog aggregator which is now used by thousands of blogs all over the world, and by hundreds of community aggregations such as the aggregation of Cadiz bloggers[3] or the aggregation of blogs written by University of San Francisco students and staff.[4]

This is currently what we consider the most advanced model for the promotion of companies within the blogosphere: a network of personal blogs written by company partners, workers, and even customers, by means of which the company and its project will appear as the result of the conjunction of a number of lives, characters, personalities, and dreams.

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[3] http://blogaditas.com/planet

[4] http://usfbloggers.com

Within this framework, corporate and campaign blogs can serve as anchoring points, as common references in a much wider thematic network. Of course, restricting automatic syndication to a specific post category can also impart the reader with a sense of "relevance" which will in turn provide a solid identity. The idea is for me to share my life and evolution in my blog; but on the *feevy* network embedded in my blog and in the aggregation of bloggers related to my company, only a part of that is shared with community members. And yet this model, one might say, is a long-term, corporate model, which cannot meet the expectations and demands of those companies that want to joint the blogosphere in order to make a specific event or campaign known to the public. It provides no solutions to the limitations of event blogs because it cannot replace them. What should you do when your own workers and partners cannot or will not create a blog network?

When we in the *Sociedad de las Indias* want to promote a product or an event in the blogosphere following the logic of net marketing (which is really nothing but a form of cyberactivism), we follow these guidelines:

1. We identify the blogs linked to the identities which are the target of the product. If we are planning a mid-term campaign, we will also include non-blogging agents who nonetheless are opinion leaders in those identity environments: frequent commentators, forum users, etc.
2. We analyse influence networks: applied network analysis enables us to know and predict how

messages and images will spread and be transmitted within a social network. This is crucial when it comes to "fine-tuning" blogosphere campaigns and predicting their reach.

3. We incorporate the analysed nodes to the project Public Relations. It's crucial for the placement of our product to invite interesting bloggers to presentations, press conferences, and demos, as well as sending them product samples, information dossiers, offers, etc.
4. We design specific campaigns using cyberactivist logic.

If there's something we have learnt in recent years, it's that there are no definitive models. The knowledge rank required to design a serious network marketing campaign is becoming increasingly complete, incorporating network analysis, public relations, and communication. But above all we cannot forget something which we already mentioned in our first post, back in 2002:

> The blogger phenomenon […] entails a civil recovery of electronic space after a barren period of commercial saturation. Moreover, it has revealed the long-term interests of the most stable section of web surfers: good contexts, fresh texts, and personal communication -- precisely what corporate sites don't offer.

Beyond good analysis and the use of the available tools of social collaboration to its full potential, companies will develop further reinforcing strategies and thus have further chances of success in their campaigns. Acting in the blogosphere, for companies as well, involves a different way of thinking.

The previous model projects the company and its immediate environment as a mosaic of blogs, discourses, and people. It endows the company with an image, a place and space of its own where social conversation can take place. It's a model based on the institutionalisation of company workers and collaborators: each one has his or her personal blog, and each one provides his or her contribution to the company's common discourse.

The obvious question is: how can a company create for itself a web image, based on the diversity of personal blogs, that has no internal communication policies which might keep workers from becoming 100% involved in the web development of their company?

Blogs create a personal discourse. A blog reveals in a dynamic way its author's identity, which appears as that which can be dimly seen through a continuous narrative of reflection and learning. But inasmuch as we write precisely about what we are learning – that is, about what we don't really know yet – personal identity appears as flux, not as stock.

What companies seek is for that knowledge stock to emerge, because that is the true core of its identity. In *El capitalismo que viene (The Coming Capitalism),*[5] Juan

[5] *El capitalismo que viene* (2004-2006), forthcoming, available as an e-book at http://juan.urrutiaelejalde.org/capitalismo/

Urrutia redefines contemporary business as a context in which stockholders, consumers, and workers will increasingly interact, and division of labour will become fuzzier and fuzzier. More and more, consumers are playing a key productive role, stockholders are turning into shareholders, and workers (and their respective talents) are changing jobs/companies/environments with increasing ease.

What remains then of the company? What common identity can be expected of something that seems increasingly volatile, an environment rather than an institution? What emerges is precisely the company as background, as a set of contexts and references – in brief, as an identity. The great opportunity afforded by this new framework, this capitalism coming to the new business, consists in bringing its collaborators (workers, shareholders, and consumers) together in a new way, a way which is deeper and more permanent, more explicit, more solid and trust-building than the mere business discourse or culture.

Let us take the previous model. We have a blogging company. Company bloggers, most of them company workers, have their own domains and blogs. They expand the company's social environment, its conversation span, inasmuch as they project its discourse. The company endows them, then, with a greater value the more powerful the corporate blogger's personal projection becomes. The company knows that blog ownership cannot be questioned if the authors' communication potential is not to be discouraged or inhibited. But the company also fears the

effect of the bloggers' departure, which, sooner or later, will be inevitable. What should be done? Build, in parallel, one more piece for the blogosphere, a piece which will materialise identity and bind, by means of an invisible link, the entire network that has been created.

The great blogosphere toolbox keeps a treasure trove of equal worth to that of blogs: contextopedias, encyclopaedic dictionaries linked to blogs or companies.

But before we move on to the birth of contextopedias, let us ask ourselves: what does a company mean for its environment? Within the framework of the coming capitalism, the company is increasingly becoming a context, a set of concepts and pieces of knowledge, of established experience. Exactly what is made explicit in a contextopedia.

If the blogs written by company collaborators are the cavalry that spreads the company discourse and kick-starts its conversation, the corporate contextopedia (collectively created by all those who work in it) would be its identity, the conceptual common framework within which they develop their mission, discourse, and conversation.

This hybrid model of personal blogs and collective contextopedia has an additional advantage: if bloggers move to a different company, it's quite possible that they will still link to the definitions which they contributed to create, or maybe they will even quote them in their new work place.

Thus they will create not only the company network, but a coveted Holy Grail: leadership.

Contextopedias

Wiki, which means "quick" in Hawaiian, is the name given to an entire family of programmes and services used to write books in a collaborative way which can even be open to readers' contributions. Its name is derived from the first free programme that served this purpose: MediaWiki, which is used to build the world-famous Wikipedia.

In 2006, Rafael Estrella, a Spanish MP for Granada, launched a campaign that sought to double the number of entries in the Spanish Wikipedia. This led many bloggers to join the Wikipedia community and learn how to use a kind of software which until then was known but not very widely spread.

Given that this entailed a leap from the distributed, pluriarchic blogosphere to de-centralised, democratic Wikipedia, the cultural shock was swift to come.

The Spanish activist and blogger Enrique Gómez then wrote, summing up the debate:

> Rafa Estrella's campaign to double the number of Wikipedia entries could have been a great idea. And I said "could" because it no longer is a great idea. It has only taken a few attempts at participation in this project, following Rafa's proposal, for us all to realise how Wikipedia, and all e-tools created from a democratic, not a netocratic, point of view, work.

As Daniel Bellón said to me today in an email which I take the liberty of quoting here: "The issue at stake here, as always, is power: if someone has power, whether it be de-centralised or democratic or whatever, he will tend to use it, and it's quite possible that it will be the least scrupulous community members who will make use of it. This is practically a law of physics. That's why structures must be put in place that will make power as distributed as possible, and minimise the risk of short-circuit. In Wikipedia a number of people can short-circuit the whole thing. It is, or it was, only a matter of time for someone to come along and wield power arbitrarily."

Of course! This paragraph sums it all up beautifully. Democracy is not the best possible political system. It works, more or less, in environments where scarcity is the norm, because it makes possible a certain degree of control over those who try to make an abusive use of power. And despite that control we are surrounded by democrats who constantly make an abusive use of their positions. But the web is a different sort of environment, very different from a State or a town hall, and here we need not apply the same modes of government, because they are not necessary and have become obsolete for our space. We need no democracy in the web because pluriarchy, a kind of anarchy, works, and it works very well.

> And it does so because there is an abundance of resources which tends to infinity. We can create as many blogs, aggregators, collaborative environments, wikis, and fora as we like. What sense is there then in satisfying the wishes and commands of a few users who control a virtual community? [...]
>
> In the end, this campaign may well have backfired. It may well turn out to be harmful, and instead of attaining its commendable aim it may thwart the expectations of people who would otherwise have been willing to participate. But has it been harmful for everyone? No. For some denizens of the web, the whole process has been highly fruitful, because by way of it we have discovered contextopedias.

This debate started more or less at the same time in the United Status and in Europe, ignited by Jaron Lanier in the English-speaking world, and by Enrique Gómez and me in the Spanish-speaking world. As the quotation shows, in both linguistic domains, the debate quickly moved beyond the criticism of a particular way of handling Wikipedia and turned into a critique of the net topology underlying the whole project. It led to the realisation that there was a need to distribute what until then had been centralised by Wikipedia: contextual definition.

The direct precedent of contextopedias lies in those blogs that, like *Climate Change*, had already started to publish lists of definitions and research conclusions on the

front page or in annexes. Their aim was to define the identity and premises of a specific topic, with the explicit aim of avoiding keeping debates which were regarded as closed perpetually open.

A contextopedia is therefore a personal or corporate blog space which specialises in defining and expounding frequently used terms, conclusions which are seen as solid, and closed debates.

If contextopedias include things that are not under debate, it's precisely because it's contextual definitions that define identity. Two people may disagree about absolutely everything: but as long as they share the same context definitions, they will share a common identity and will understand that their debate is taking place within the framework of a similar view of the world, not within an antagonistic framework.

The network made up of all contextopedias, in all their different formats, would therefore be an expression of identity, a map of identities, and a form of distributed encyclopaedia, all at the same time. That germinal network would amount to the soul of the blogosphere.

The logic that would have many contextopedias rather than a single one (usually Wikipedia) is often criticised on the basis that it's more difficult and costly for users to find something when there is more than one place in which to look for it.

It's true that this cost has decreased since the creation of tools like *Google Coop*. Nowadays it's easy to build for oneself a mini-Google that will only search in specific

sites (for example, in a certain rank of related contextopedias or blogs).

It is true, however, that even if they are small, it's obvious that diversity entails certain costs. But the fact is that socially they are worth it.

My favourite example was recently given by the well-known essay writer Malcom Gladwell when he wrote about Howard Moskowitz in the *New Yorker*. Moskowitz had written his Harvard Ph.D. thesis on sensory psychology, more specifically about its application to find optimal flavours for the ready-meal market. His first customer, in the 70s, was Pepsi, who sought to find the perfect sweetness level for the new Pepsi Diet. Moskowitz developed and ran all kind of tests and trials all over the United Status in *focus groups* with all imaginable profiles. The results were a huge mess. There was no single taste profile, no sweetness values which satisfied the majority of possible consumers.

Moskowitz came to the conclusion that there was no single perfect Pepsi Diet, but many of them. And if this was the case with fizzy drinks, it would also be the case in other branches of the food industry. But it took the industry many years to listen to him.

> It may be hard today, fifteen years later—when every brand seems to come in multiple varieties—to appreciate how much of a breakthrough this was. In those years, people in the food industry carried around in their heads the notion of a platonic dish—the

> version of a dish that looked and tasted absolutely right.

In the same way, those who nowadays claim that Wikipedia is not one contextopedia among many but *the* encyclopaedia are led by the notion of an ideal encyclopaedia, as perfect as possible. The problem is that there is no such thing. The perfect encyclopaedia or the perfect news summary cannot be defined, in the same way as the perfect spaghetti sauce cannot be defined, simply because there are many tastes and values. The Enlightenment myth of a single reason, descended from the godhead, which can be reached through debate, simply doesn't work. There is no single common place, taste, or set of values which we all naturally converge upon the more we learn. We are all different from each other. Diversity exists and will always be there to remind us that Platonic universals will never exist, not even as limits.

The first customer whom Moskowitz convinced was Campbell, the food company, who were seeking to adapt their spaghetti sauces. Here epistemology entailed market quotas. Moskowitz completely revolutionised the industry, supermarket shelves, and above all sales. Prego, Campbell’s spaghetti sauce, comes today in 23 combinations:

> they had been striving for the platonic spaghetti sauce, and the platonic spaghetti sauce was thin and blended because that's the way they thought it was done in

Italy. Cooking, on the industrial level, was consumed with the search for human universals.

Web 2.0: An Awkward Truth

By now everyone knows the concept of Web 2.0 as defined by Tim O'Reilly. O'Reilly managed to compress into a slogan what economists had been theorising on the grounds of web tendencies: the end of the old producer/consumer divide, and the re-conceptualisation of business entailed by that.[6]

The concept of Web 2.0 provides an answer to the question *Who makes the content?* And it is indeed the case that in this sense Web 2.0 is an alternative to the notion of a corporate, aggregator-based web which held sway at the time of the dotcom boom. And yet the web, like any other social space, is not based on the production of information but on its distribution, or rather on the power to establish filters upon the selection of information. Beneath every informational architectural a power structure lies hidden.

In the dotcom web the power to choose what was produced and what was selected was basically one and the same, and decisions were taken by the same agents. The

[6] Cf. Juan Urrutia, *El capitalismo que viene*.

corporate author, the macro-aggregator, selected and produced its own contents in a very similar way to that in which the old de-centralised media broadcast worked.

Web 2.0 involves the separation between information production and information distribution. Production is atomised and carried out by users. But the main question – the power to filter – remains open, and the label "2.0" conceals power distributions, antagonistic social models.

The emergence of the blogosphere brought about the final death of the dotcom system, based on aggregators and content purveyors, which replicated, in an electronic form, the 20th-century de-centralised media environment. The distributed structure of the blogosphere made it impossible to impose external filters. The establishment of the public agenda was laid open to the public, and the consequences for traditional power structures became evident.

In the blogosphere social model, the filtering power lies with the user. The distributed nature of the web allows every user to "upload whatever he likes", as he is the owner and guarantee of his own node. In this way, the structure of the way guarantees that everybody can also select whatever they wish.

An interesting variation on this logic of abundance is mumi logic. Web mumis, like Flickr or YouTube, provide free tools for users, and generate in their own servers social spaces similar to those generated by distributed networks. By giving up from the start the power to select, these mumis allow anyone to upload anything; and, more importantly, they allow anyone to access anything, which gives users the power of selection.

Essentially, mumis generate great repositories from what is provided by users themselves, and every user effects his or her own selection. The system generates a number of outputs which is in principle as large as the number of users.

However, the notion of Web 2.0 conceals a number of applications and services which follow exactly the opposite logic. Instead of generating abundance (more outputs than inputs, on a massive scale), they generate scarcity by creating a single, one-size-fits-all output for all users based on the many inputs provided by these users.

The logic is that anyone can upload anything, but the result offered is one-size-fits-all. Classic examples are Wikipedia or *digg* and its clones (like its Spanish version, *meneame*).

But why one single output? *Del.icio.us, reddit friends,* and *rojo* prove that collective selection can be as abundant and diverse as personal selection if users are allowed to choose their own selection group, to create their own community to do the job.

That is, it seems logical that I should be more interested in the daily news selection made by some of my friends than in the global result of a vote among those who dropped by – or who permanently lurk in – *dig*. Likewise, when I look something up in Wikipedia, I'd rather read articles which have been edited by people I trust, as opposed to articles edited by certain biased groups of experts and institutions. I'd rather have my own customised version of Wikipedia, guaranteed by people whose opinions I trust, not by a group whose point of view I don't necessarily share. Or I could even have both

versions, and handpick myself among the different options.

Another way of understanding the dichotomy between the two models covered by the Web 2.0 label is to pay attention to the narratives of which they are manifestations.

The modern, democratic model of Wikipedia and *digg* generates a single, one-size-fits-all output using more or less complex decision systems. They seek a Platonic universal: one output, one truth, one result from all and for all. Wikipedia is not presented as the product of a community that is writing *an* encyclopaedia, but *the* encyclopaedia of the century. *Digg* doesn't offer its results as the result of the vote and tastes of its user community, but as the aggregate that represents the tastes of web users.

The fact that Wikipedia and *digg* and their respective clones yield one single aggregate result by means of a deliberative system or a vote system changes nothing. The point of a power system is not *how*, but *what for*, and if the answer to *what for* is to produce one single social result which is the same for all, it won't be the user who sets and/or chooses the filters that generate the results he or she will read, not will the user be the one who defines his or her community – rather, it will be the community in charge that defines what the user is given to read and what not.

By contrast, the post-modern, pluriarchic model of mumis and distributed networks generates a number of outputs which in principle equals that of users. For ever user there is a result chosen by that user, or generated from the choices of someone handpicked by that user. The

intention is not to represent all users, and therefore no attempts are made to overlook or subsume any viewpoints within an aggregation.

In the end, the same question arises: who selects the information I get? Web 2.0 cannot – or will not – give an answer to this question, possibly because for some people this remains an awkward truth.

Participative Oligarchies in Web 2.0

One of the more frustrating phenomena in the Web 2.0 experience is the clash between new users attracted to its participative discourse and the power networks constituted by other users. In 2006 and 2007 there were frequent outcries against the latter kind of groups in Wikipedia (the so-called *bureaucrats* or *librarians*) and *digg*, where influential members of the community even offered their decision power to marketing agencies in order to spread pieces of news and promote websites.

This phenomenon has been intensely discussed in the blogosphere, giving rise to endless debates and equally endless moral convolutions.

However, the formation of participative oligarchies is an inevitable and necessary result of the conjunction of network effects and 2.0 logic.

The typical example of a network effect is the telephone or the fax machine. It has almost become a cliché that, for the third user of the telephone line, gaining access to the network meant being able to speak to two other people. But for the fourth, it meant being able to speak to three other people, and so on. By the network effect, the more members a network has, the more valuable it will be for a non-member to join it, and the less value will he or she add to the network by joining it.

In communication networks such as the telephone or fax, this will not affect, in principle, my way of joining the network: the fact that there are more fax users will not make me decide to only receive faxes and feel lazy about sending them. This is the case with all networks generated

by one-to-one communication technologies.

Let us now add 2.0 logic to the network effect. One way of understanding Wikipedia and *digg* is that they are attempts to collectively build a finite repository common to all users. How do network effects affect incentives for individuals?

Let us take as an example 11870, a common repository of Spanish restaurants and small businesses. I have been using it for some time now, but I haven't signed up as a user yet. Its main usefulness for me is being able to send the phone numbers and location maps for the restaurants where we will be meeting to my friends and customers.

Users like me will only be motivated to add content if our usual or favourite restaurants are not included in the repository. But as members of the *active* community include their own favourites, it's more likely that any restaurant where I wish to have lunch with my friends will have already been included. Thus, the more contents are already included in the repository, the less incentive I will have to join the ranks of content creators.

Put more broadly: network effects tend to increase at a higher than proportional rate the percentage of passive users as the value of the community and its service rises.

Or, put differently, the logic of incentives in Web 2.0 inevitably leads to the formation of relatively stable participative oligarchies.

The bias that this may generate in a restaurant repository need not be too dramatic. Maybe the participative oligarchy in 11870 have a taste for *nouvelle cuisine* or prefer menus including sushi, but this won't be relevant for me or for most users, who are really just

looking for a geolocated address and telephone book.

But what happens when the service is an essentially ideological one, when we are talking about the hierarchisation of values and narratives – as in an encyclopaedia – or about selecting the most important daily news?

That's where Web 2.0 utterly founders. Not only are the public encouraged to accept a supposedly democratic filter regardless of their own preferences, but what's more that filter will necessarily reflect the biases reflecting the identity of the most influential small group of users, the participative oligarchy that will irremediably appear as a consequence of the logic inherent to the service. And sooner or later, new users who try to include new contents in the common repository will realise that they are *de facto* being imposed an editorial line, and therefore a form of ideological control.

Whither Web 2.1?

In mid-2006 a new kind of web service – and therefore a new kind of blogosphere interrelation – appeared, which starts to look like it will overcome the ambiguities of Web 2.0.

It basically amounts to a strengthening of the distributed services previously developed by means of services and software which can be aggregated, transformed, redistributed and spread by users through their personal networks and blogs.

Web 2.1 is the *bricoleur*'s network, made up by users who create and publish by recycling over and over the materials in their respective networks.

The origin of this trend lies in the emergence of services such as Jumpcut and Picnik. In fact, a comparison between Youtube and Jumpcut, or between using Flickr and Picasa Web Albums from their own respective interfaces and doing so from Picnik allows us to clearly see the shifting trends in web logic.

Whereas Youtube generates a network to share audiovisual contents, Jumpcut both generates a network and provides the tools to create those contents. Whereas only allow users to share pictures, Picnik turns the public repository into a resource for users' creations.

Jumpcut provides every user with an interface from which to edit videos online, allowing users to upload up to 100 Mbs' worth of pictures, music, and clips. Moreover, not only can users watch other users' videos, but also edit

them, cut them, and use their soundtracks. Every user, from the same interface, can use other users' materials to make his or her own video. In the same way, Picnic provides a retouch and photomontage interface based on Flickr and Picasa Web Albums

But Web 2.1 is not only limited to audiovisual creation. There are also new services for the syndication of blog contents, such as *feevy* and *mugshot*, which

1. *Aggregate Web 2.0 distributed services.* In the case of *feevy*, every user aggregates the blogs, *delicious* links, *twitters*, pictures and clips of the people or networks he or she wishes to add. In *mugshot* every user aggregates other users, and by so doing aggregates other users' updates in every service the user has signed up for (i.e. if one of my friends is listening to a new song on *lastfm,* that song will show up on my *mugshot*, even if I don't care much for his music tastes).
2. *Help to make the web more distributed.* Both services generate abundance; every user chooses what to get. Moreover, both services encourage the user to make public those results in his or her blog, or, in the case of *mugshot*, his or her user page. In this way, blogs are increasingly becoming less focused on the blogger him or herself, and more of a link in a social network defined by the user. We are moving from the *egoisle*-blog to the blog as node, distributing information from its virtual social environment.

3. *Use RSS and Atom as its technological basis.* XML is increasingly proving to be the digital blood of the web, the basis technology for sharing and integrating all kind of contents in the general information flow within the blogosphere.

At first sight *mugshot* appears to be the direct descendant of desktop widgets and Twitter's older stepbrother. Basically, it aggregates the customisations made by the user in the most common distributed services (his or her *del.icio.us* favourites, blog posts, latest songs on *lastfm*, Picasa and Flickr albums). Other users are notified about updates by three means: through the user's own *mugshot* page (using Twitter, for example), through the user's desktop widgets (such as Google Desktop Gadgets) and through a widget on the user's own blog (such as *feevy*).

mugshot was developed by Red Hat, and *feevy* was developed by the Sociedad de las Indias – two companies which have nothing to do with each other except for their support of free software. The point isn't that both companies use free and/or open licenses: the maintenance costs for these systems is minimal, as few users will install a *feevy* or a *mugshot* server in their computers. But their use of free software is highly significant. Why? Because the next stage in the development of the web will be one of pure digital bricolage. And in such an environment, companies familiar with the *bricoleur* culture will have a head start.

In fact, what is most interesting about these services is that they turn the principle of hacker ethics – the logic and practice of digital *bricolage* – into the foundations of a

collaborative environment in which all users share and edit their own and others' contents. That's why they generate abundance: every user creates his or her own synthesis, his or her own *bricolage* to obtain a customised output to which he or she contributes. That's why these services require non-restrictive modes of intellectual property, if not being directly in the public domain.

The coming world of Web 2.1 is definitely a world in what has been described in this book will become increasingly materialised for individuals and networks.

It is true that, at first, these tools will only be used to their full capacity by a netocracy of *bricoleurs.* In fact, certain services, like Picnik, are based on previous 2.0 services. Other services, like Jumpcut, are only attractive for clip authors who upload their own materials, but not for those who record television broadcasts, for instance.

In the next stage in web development, activists and netocrats, will become 2.1, while a large sector of web users – what Alexander Bard called the *consumeriat* – will remain in 2.0 with all its ambiguities.

Think Different

Looking back on everything we have expounded so far, it might be a good idea to go over half a dozen ideas again. It may seem reiterative, or too many ideas for such a short book, but their relevance should not be ignored:

1. The world, impelled by technological change, is changing the structure of the network through whcich information is transmitted.
2. The structure of information – and therefore of power – took until recently a "de-centralised" form, with "hierarchical" powers and institutions and individuals with "filtering powers". But technologies like the internet are impelling it to take an increasingly "distributed" form in which anyone can potentially find, recognise, and communicate with anyone else.
3. This distributed world is creating a means of communication in its own image: the blogosphere, the set of online tools for personal publishing and communication.
4. As a whole, this mode of communication can, in increasingly larger parts of the world and not precisely in the most spectacular manner in developed countries, change the public agenda and turn questions which traditional media filter or do not take up at all into topics for social debate. A blog is not a medium, but the set of all blogs is.

5. Cyberactivism is a strategy for the creation of temporary alliances of individuals who, using tools from that network, generate a critical mass of information and debate which will make that debate transcend the boundaries of the blogosphere and move into the "real world"; or which will perceptibly modify the behaviour of a large number of people.
6. In such a world, everyone – businesses, social activists, and, in general, anyone who wishes to spread an idea as widely as possible – are driven to cyberactivism. That is, they are driven to communicate, bearing in mind the way in which people will relay their ideas to others who in turn will will do the same in a chain as long as possible.

All this involves thinking about social relationships, about the dialectics of conversing with others in a completely different mode – a mode in which there is an indeterminate number of active agents, positions, and identities. Living and communicating within a network involves first accepting and living in diversity.

In a sense to reach the network is to be an explorer in a new world which cannot be approached from the logic of conquest, exploitation, or occupation. That's why my favourite myth of all created by Hakim Bey is the myth of Croatan. In his most influential book, *The Temporary Autonomous Zone*, Bey wrote:

> We were taught in elementary school that the first settlements in Roanoke failed; the colonists disappeared, leaving behind them only the cryptic

message "Gone To Croatan." Later reports of "grey-eyed Indians" were dismissed as legend. What really happened, the textbook implied, was that the Indians massacred the defenseless settlers. However, "Croatan" was not some Eldorado; it was the name of a neighboring tribe of friendly Indians. Apparently the settlement was simply moved back from the coast into the Great Dismal Swamp and absorbed into the tribe. And the grey-eyed Indians were real – they're *still there*, and they still call themselves Croatans.

So – the very first colony in the New World chose to renounce its contract with Prospero (Dee/Raleigh/Empire) and go over to the Wild Men with Caliban. They dropped out. They became "Indians," "went native," opted for chaos over the appalling miseries of serfing for the plutocrats and intellectuals of London.

The power of the myth lies in the profound subversion it effects upon the notion of "us", the very concept of subject on which we have been defined. In the narrative of the colonisation and conquest of America, the Indian represents the objectivity of the other, the purposeless human, as opposed to the white, European "us", arriving with a purpose summed up in words like *conquest, occupy,* and *obtain.*

Conquest and occupation of the territory to obtain natural riches through colonisation. Conquest of woman, who is taken when man obtains sex from her in the male

chauvinistic narrative of heterosexual relationships. And also in the narrative of media action, occupying social spaces, obtaining exclusives. Or that of business: conquering markets, obtaining niches, snatching customers, obtaining benefits. Business subject, objective public.

It's always a language that emphasises what is privative, proprietary, the subject (I vs. us) as master in a sadistic relationship in which the aim sought is for the other to beg for precisely what is demanded of him or her and what the other is symbolically or effectively deprived of: territory, nature, sexuality, information/source, desire…

Conquest, epic; ultimately, the denial of the other, who has been turned into a mere thing. The myth of Croatan is so subversive and appeals to us on such a deep level because it evokes enjoyment, song, and bliss. As Bey reminds us:

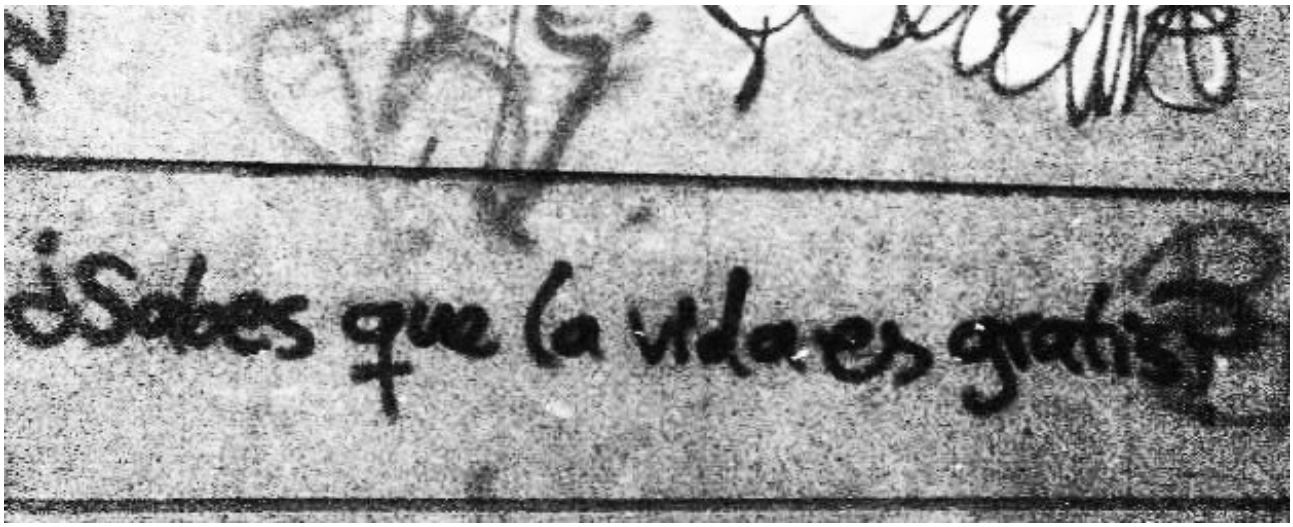
> Becoming "wild" is always an erotic act, an act of nakedness.

What lies beneath Bey's apparently erudite discourse is a promise of liberation. We are fascinated by the tale because we sense that conceptualising the other as an object is the source of our own constrictions, our own self-denial, the void that lurks beneath the shell of the hyper-defined identitarian self. But in the same way the loss of the proprietary, exclusive illusion also makes us feel too close to the vertigo inherent to the most intimate kind of

self-questioning: which brings about chaos, intermingling, the loss of a clear origin, the end of a world arranged in terms of objectives.

Purpose no longer pre-exists our own existence: it's no longer defined, no longer the criterion for the truth of social action. Because in a Croatanic world, a world in which the borders between subject and object are porous, where there is no other but, stripped of the conqueror’s raiment of prefabricated subjectivity, naked again, where we all are other, is a world in which purpose disappears as the active purpose of action.

And it’s a world where abundance is unrestrainable thanks to gift economy, the gratuitous gesture, love of beauty. Having gone beyond the epic, it’s easy to define Croatan from ubuntu ethic, even if we don't deny its conflicts and don't even dream of it as the New Jerusalem. It’s easy to go from being competent by depriving others to being competent by empowering them: from the chieftain’s epic to the mumi’s lyric. Because, as a graffiti I came across in Madrid said:



Do you know that life is free?

Don’t think that this is a communitarian utopia. It’s simply a consequence of the coming capitalism, a world in which the borders between subjects and objects, between producers and consumers, between companies and public become fuzzy, in which purposes become vague and diluted. And so the world of self-assured conquerors gives way to a future of cartographers of quicksand.