Welcome to Virtuality Pierre Levy



CONTEMPORARY VIRTUALISATION OF BODY

The virtualisation of bodies, information, communication, knowledge, economy and society that we experience today is a new step in humanity's continuous process of self-creation.

Now, I would like to explore some of these contemporary trends. In analyzing the virtualisation of the bodies, we will check and confirm that virtualisation is not a disappearing or dematerialising process. Remember that the virtualisation is an identity shift from a particular solution or activity to a more general problem, function or goal. In this case, the virtualisation process detaches some action or effect from one organ, some flesh and blood machinery and identifies a general function. Then, this isolated function can have hundreds of different actualisations and can combine with other actualisations of other functions. So, the body comes out of the body, it acquires new speeds, it pours itself into its outside and its outside into itself, it multiplies itself. This process is not at all a disembodiment but, on the contrary, is a complex re-embodiment, an heterogenesis of the body.

Let's take some functions to see how this works. For example, the function of perception is to draw the world here. The telephone, television and telemanipulations systems virtualise senses. Telecommunication systems organise the sharing of virtualised organs. When people are watching television, they are sharing the same common 'big-eye'. Thanks to photographs, cameras and recorders you can perceive someone else's sensations at some other moment in another place. The so-called virtual reality systems allow you to experience, in addition, a dynamic integration of different perceptual modalities.

The opposite function is the projection into the world, projection of action and projection of image. Projection of action is of course strongly related to machines, networks and weapons. In this case, many people can share the same big, virtual and deterritorialised arms. What we call telepresence is generally related to the projection of the body image. But in fact, it is more. The telephone is already a telepresence device. It does not carry an image or a representation of the voices, it carries the voices themselves. Virtual reality systems also carry more than just pictures as the clones, visible agents, or virtual puppets can affect other virtual puppets and visible agents.

What makes the body visible? Its surface: the hair, the skin, the sparkling of the eyes. Medical images make the internal body visible, without cutting the actual skin. X-rays, scanners, nuclear cameras, etc. virtualise the body surface.

Every new visualisation system adds a new skin, a new visible body. And from all these virtual skins you can reconstruct a 3D digital model of the body, and then a hard model. In the virtual realm, analyzing and rebuilding the body no longer implies pain and death. Of course, all these virtual skins and bodies have very important actual effects in medical diagnosis and surgery.

As for language, techniques and contracts, the virtualisation of the body allows detachments, travels and exchanges. Transplants organise the circulation of organs between human bodies, between living and dead people, but also between species. Implants and prosthesis make the frontier between the organic and the mineral realms (glasses, false teeth, silicon, pacemakers, aural implants. external fitters instead of functioning kidneys ...) permeable. Eyes, sperm, ovaries, embryos and, of course, blood are now socialised and preserved in special banks. The blood is a deterritorialised fluid that flows from body to body through a huge international economic, technical and medical network. Flesh and blood become externalised, public and shared. We can internalise these commodities when we need them (and if we can afford it). As we have shared common languages for a long time, a virtual, joint or common body is emerging. Every individual or personal body is the constituent part of a bigger hyperbody. The individual body itself is constantly modified by drugs and medicines, and the pharmaceutical industry finds new active molecules everyday. Finally, thanks to biotechnologies we can envisage actual species (and even the human race) as particular and maybe contingent cases in a much wider and unexplored virtual biological continuum.

Reproduction, immunity against diseases, regulation of the emotions, all these typically private performances are becoming public, exchangeable, and externalised capabilities. These functions increasingly run through external, complicated, economic and technological channels

Now, this virtualisation is not a disembodiment or a disincarnation but on the contrary, it is a reimbodiment or a reincarnation, a reinvention of the body. My personal body is a temporary actualisation of a huge social and hybrid hyperbody. The contemporary body is like a flame. Sometimes it is isolated, small and almost still. Sometimes it runs out of itself, launching some virtual arms far into the sky, into communication or medical networks, becoming public, sharing the blowing wind and the burning wood with other flames, mixing its light and heat with others' light and heat, then quickly returning to its quasi-private sphere, and finally dying.

VIRTUALISATION OF INFORMATION AND COMMUNICATION

The expression "virtual reality" sounds like an oxymoron, and this is why it generally provokes fascination. But we know, at this point, that virtuality, indeed, does not mean the imaginary. Strictly speaking, the virtual is not the opposite of the real but the opposite of the actual. In a technological vocabulary, however, virtuality generally refers to software and the digital part of the world.

An image, for example, will be called virtual if its origin is a digital description in a computer memory. Note that, to be perceived, the image has to appear on a screen, be printed on the paper, be flashed on a film, and that the binary code therefore has to be translated. If we want to maintain the parallel with the philosophical meaning, we should say that the image is virtual in the hard disk and actual on the screen. Virtualisation is digitalisation and actualisation is display. The image is even more virtual when its digital description is not a

stable deposit in the computer memory, but when it is calculated in real time by a program from a model with a flow of input data.

Videogames, hyperdocuments, simulations and computer programs in general are virtual messages. Results, texts, aural, tactile or visual images can be computed according to an initial matrix (program, model) and a current interaction.

For the spectator, a lively cartoon seen on a cinema or television screen, is the same actual sequence of pictures either being calculated by a computer or being drawn by hand. Some special effects may signal the digital origin of the computer-made cartoon, but it does not change the nature of the relation with the picture. Only the team members who realised the cartoon were interacting with virtuality.

On the other hand, when playing with a video game, the player is directly confronted with the virtuality of the message. The same cassette contains (virtually!) an infinity of different games, an infinity of different picture sequences. The player will display (or actualise) only some of them. Interactivity is actualisation.

A virtual world emerges from the coupling of a living user in a dynamic situation with a digital model that can generate a huge quantity of different messages. Interacting with the digital model users explore and actualise a virtual world. When interactions can enrich or modify the model, the virtual world becomes a vector of collective intelligence and creation.

Networks of computers constitute the fresh infrastructure of a new universe of virtual information. These networks are spreading, their computing power is growing, their memory and transmission capacity is increasing, so that digital virtual worlds will probably develop in variety and expand in quantity.

Of course, we find that the virtualisation of information and communication by digital networks implies the same changes that we have already found in the other domains. Deterritorialisation is perhaps more obvious as, in cyberspace, every bit of information on the Net is virtually close to me and actually in my hands when I select or browse it, even if it is really (in the physical space) on another continent. This obvious form of exit from the classical geographical space is augmented by a deterritorialisation of the messages themselves. They are no more some kind of territories with an owner and boundaries but, thanks to the hyperlinks, to the sampling, to the plasticity of the digital information, they tend to join each other in a constantly dynamic, mixing, public and global flow. Hyperlinks between documents turn the inside outside and the outside inside.

One of the main effects of the virtualisation of messages is that every act of reading has become a potential act of writing. This occurs in a far more effective way than when we use normal interpretation procedures on static structures. If we define a hypertext as a space of possible reading trips, then a text appears as a particular actualisation of a hypertext. The navigator participates in the writing or at least in the editing of the text, because, in reading, he determines its final organisation (the "disposition" of the ancient rhetoric). A navigator can even become an author by doing more than choosing between different lines. The navigator can create new links. Some systems can record reading paths and reinforce or weaken links according to the way they are traveled by the navigator's community. Finally, readers cannot only modify links but also add or modify nodes (texts, images, etc.), connect hyperdocuments to others and thus participate in the global reorganisation of the digital information flow.

As I said earlier about language, technology and social institutions, collective intelligence begins with culture. But the digitalisation and virtualisation of information performs a new stage in the making of collective intelligence. Rather than using static records, we can now share constantly evolving dynamic memories in real time. We can share, trade and collectively refine simulations, which are externalised and exchangeable dynamic mental models. Expert systems allow a very easy and quick sharing and distribution of empirical knowledge. We can use computer supported cooperative work systems or computer supported cooperative learning networks. We can coordinate actions or competence among thousands of people without centre, without being obliged to plan or design every step in advance. We can communicate interactively "many to many" (and not only "one to many" as in the traditional mass media or "one to one" as in the traditional communication networks like postal services or telephone). Parallel with the growth of the distributed hyperbody, humankind can experience the fast growth and extension of a global hypercortex.

Indeed, these new forms of collective intelligence can be exploited in very positive ways in the fields of education, arts, organisation and politics. But no positive effect is guaranteed. Every hierarchical and static institution is threatened and will probably resist. New tools can also be exploited by a few persons, organisations or nations to increase their own power.

ECONOMY

Contemporary economy is an economy of deterritorialisation or virtualisation. The main sector of activity in the world is tourism: business trips, holidays, conferences, restaurants, hotels. Humanity has never devoted so many resources to eating, sleeping and living away from home. If you add the industries that manufacture vehicles (cars, lorries, trains, subways, boats, aircraft. etc.) and fuels for vehicles to tourism, you probably get more than half of the world's economic activity. Electronic and digital communication has not been a successful substitute for physical transportation. On the contrary, communication and transport are part of the same virtualisation wave. In addition to telecommunications and transport, you must count data-processing, media, education, training and many other sectors of the rising virtual economy.

Tourism, transport, communications, training and finance are special virtualising sectors of the economy. But all economic sectors depend today, upstream, on very particular economic goods that are information and knowledge. These new major resources are governed by two laws, which contradict classical economic concepts and reasoning. When you consume those goods you do not destroy them and when you give them to someone else you do not loose them. On the other hand, as you know very well, if you give a sack of wheat, a car or a work hour, you lose something. If you grind the wheat, drive the car, exploit some work, an irreversible process is performed: wear, expense, transformation, consumption.

The theory and practice of economy are mainly based on the postulate of the scarcity of goods. The scarcity itself is based on the destructive character of consumption as well as on the exclusive nature of transfer and acquisition. Information and knowledge are not ruled by these principles, so they are probably the origin of another form of wealth. We can envisage the emergence of an economy of abundance, whose concepts and practice would be completely different from the conventional economy. In fact, we already live under this new regime, but we continue to use the inadequate tools of the scarcity economy.

EVENTS AND INFORMATION: THE MOEBIUS RING

An event is an actualisation. On the other hand, the production and the distribution of messages about it constitutes a virtualisation of this event The message is provided with all the attributes that we have associated until now with the virtualisation: detachment from a particular moment and place, shift to the public and heterogenesis. Indeed, messages that virtualise the event are, at the same time, its prolongation. They participate in its performance, in its determination process. They are part of it. Because of the media and its effects, the result of an election, for example, reverberates in some manner in the financial markets of a foreign country, and provokes further political or military events here and there. Thanks to the information about the event (thanks to its virtualisation) the event continues to actualise itself in other particular times and places. Very often, this actualisation takes the form of production of messages and information, that is to say micro-virtualisations. Once again, we meet our usual theme of the Moebius ring: the message about the event is at the same time a sequence of the event. The map (the message) is part of the land (the event) and the territory is often mainly built from an addition, a dynamic articulation, an expanding system of maps. In other words, events and information are involved in a dynamic of actualisation (territorialisation, performance here and now, particular solution) and of virtualisation (deterritorialisation, detachment from here and now, sharing, making common, an upstream movement towards the problems). Events and information about events exchange their identities and their functions at each step of the dialectic of human signification processes.

CONCLUSION: TOWARD AN AESTHETIC OF HOSPITALITY

Virtuality is not at all what television tells us. It is not an imaginary or false world. On the contrary, virtualisation is the very dynamics of our common real world, it is precisely what makes the world common and shared. Virtuality is not the kingdom of lies but the very dimension through which truth and lies can exist. There is no true or false among ants or fishes or wolves: only lures and tracks. Animals have no propositional thinking. Truth and falsehood exist only through language. Truth and falsehood relate to articulated statements, and every statement assumes (being explicit or not) a question. Interrogation is a strange mental tension, unknown among animals. This active hollow, this seminal vacuum is the very essence of the virtual. I make the hypothesis that each jump into a new mode of virtualisation, each widening of the field of problems, opens new spaces to the truth (and, of course, also to the lies). I mean the logical truth, which is completely dependent on language and writing (two great virtualisation instruments), but I mean also other forms of truth, possibly more essential, those expressed by poetry, art, religion, philosophy, science, technology and also by people, by each of us in our everyday life. One of the most interesting ways opened to contemporary artistic research is probably the discovery and the exploration of new kinds of truth brought by the dynamics of virtualisation.

Why may art step into the virtualisation dynamics? It can be that actualisation sometimes transforms into realisation, heterogenesis can degenerate into alienation, the invention of a new speed can fall into simple acceleration, virtualisation often turns to the disqualification of the actual, putting things in common, which is the virtualisation move par excellence often falls into confiscation and exclusion.

In this vision, the role of art would be to play the virtual against the possible, the event against the substance. Art would use the universe of things and all its resources for the purpose of a collective and inventive activity: asking new questions and inventing replies.

Art, and also philosophy, politics and (why not?) technology can oppose a re-qualifying, inclusive and hospitable virtualisation to the perverted, disqualifying and excluding

virtualisation. The strength and the speed of the contemporary virtualisation trend is so high that it often banishes or expels people from their own knowledge, identities, jobs, countries ... People are forced to become nomads, nomads of the inside, so to say. In response to this situation, resisting the virtualisation would probably be a bad move. We should rather try to accompany it, give it sense, and invent a new art of hospitality. The higher nomads' ethics can become a new aesthetic dimension, at this moment of great deterritorialisation.

Listen to what could be the sensible message of this art, of this philosophy, of this politics: human beings, people from here and everywhere, you who are caught in this great movement of deterritorialisation, you who are grafted onto the pulsing new hyperbody of humanity, you who think dispersed among the hypercortex of nations, you who are caught in this immense event of the world that never stops returning to itself and recreating itself again, you who are launched toward the virtual, you who are taken in this enormous jump that our species accomplishes nowadays upstream in the flow of being, yes, in the very heart of this strange whirlwind, you are at home. Welcome to the human race's new house. Welcome to virtualisation.