REVIEWS

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Some highlighting considerations on "body hacking"

Cyril Fiévet, *Body Hacking: pirater son corps et redéfinir l'humain*

Many of us are familiar with *Posthumanism* and *transhumanism*, both generally meaning the transformation of human nature and existence by technology. Katherine Hayles, Jeffrey Deitch and Francis Fukuyama have written extensively on the subject matter. But posthumanity has become a quotidian reality whose progress has also been driven by individuals through their social practices. Recently, Cyril Fiévet published the book *Body Hacking: pirater son corps et redéfinir l'humain* (Body Hacking: hack your body and redefine the human) whose approach relies essentially on the theme of technology and its intersection with society. His theoretical development is resulted from an empirical research on the emergence of a trend that he defines as «hacking the human». Currently, body, science and technology are experiencing a period of deep challenge, facing a new global connectivity that also creates new grounds for their associations. It is these new associations that Fiévet dissertates about. The book is divided into three chapters. In the first one, he tries to give us some sense of order by explaining certain terms. He starts by defining what "hacking" means within its cybernetics sense. A hacker is an individual who desires to control properly all of the cybernetics tools that one uses. This individual is passionate for computers and electronics, always searching to appropriate their ways of functioning. After extensive research, and once the hacker understand how these tools work, s/he does not hesitate to modify them according to her/his will, adapting their operations.

The hacker behavior is transposable to the human body, therefore it is defined as «body hacking». This is the second term that needs clarification. It is defined as a voluntary initiative carried out by individuals – called "body hackers" – who are willing to alter their bodies by developing functional and artificial components that will be linked to the body. The body hackers aim to transform their natural behavior by developing new physical senses. They think about the body as a flexible, transformable, improvable and augmentable entity. Although the addition of technological components in the human body is not a novelty in itself, the novelty resides in the emergence of a trend moving toward the body and electronic components' fusion for recreation and functional purposes.

Fiévet characterizes the body hacking as a hybrid tendency situated between the hacking – in the previously mentioned sense of the term, and the bio-hacking – which is, briefly, a tendency composed of amateurs interested in the learning about cell's functioning, DNA, and everything that is possible to do in terms of experimental biology and biotechnology. Notwithstanding, he affirms that this démarche is, in a certain measure, the continuation of other processes of body modification that currently are considered to be more acceptable, for instance, tattooing, piercing and also the "popular" esthetic surgery. It is also the prolongation of the medical domain, where the coexistence between mechanical pieces within the human body is an established reality. Especially remarkable is the conceptual move toward transhumanism, an intellectual and cultural movement composed of ideologists who seek to overcome human species' limitations by a cyber-humanity. Thinking in terms of augmented man, this current is audacious to the point of believing in humankind's immortality through technoscientific development. Fiévet places the body hackers as *ultra humanists*. According to the author, it means that they give more importance to the practices that can lead to human augmentation instead of prioritizing theoretical reflection as transhumanists do.

In the second chapter Fiévet moves toward real examples of human hacking. Considering multiple cases, it is elucidative and instructive in the richness of data he includes throughout this book. As we can see all through the illustrations, the body hackers have very different reasons to engage in their body modification démarche, nonetheless they have the same quest, that is, to work in the functional character of their

body through experiments associated to technology. He presents alongside of the book individuals whose postures vis-à-vis external technological components – or interacting ones – seem particularly meaningful to the performed body. The most significant body hacking case, according to Fiévet, concerns Dr. Kevin Warwick, a cybernetics professor at the University of Reading, England, and creator of the "Cyborg Project". He is auto-proclaimed to be the first cyborg of history, after having implanted a chip of RFID type (Radio-Frequency Identification) in his forearm. This implant allowed him to be recognized and to control equipment and certain environments of his workplace. The other phases of his project consisted of implanting a thumbnail grid with one hundred electrodes connected to the median nerve of his arm, enabling him to manage remote devices in extensive ways. Following the path of the English professor, Fiévet points to Amal Graafstra's experiment. He is a north-American entrepreneur and technology devotee. He also implanted electronic devices of RFID type under his skin. However, this situation does not consist of a scientific experience, but his motivation is the willingness to change his own body through the self-development of functional technology. As a demonstration that Graafstra wants to take a step forward in this direction, he published a book on RFID Toys, in which he describes how to make use of this type of technology in order to make daily life easier.

Apart from these two examples, there are many others concerning people who decided to make the same implants through self-surgery. There is a network set up by these body hackers, and it consists of websites, blogs, videos, and photos committed to this idea. Certainly there are many debates and strong opposition surrounding these procedures, and one of them refers to VeriChip polemics. In 2004 this American company received authorization from the Food and Drug Administration to commercialize the RFID chips to be implanted in humans. Various commercial establishments bought this technology to offer to their clients, for instance, the Baja Beach Club, a night club at Barcelona, Spain. If the debate around the VeriChip is less intense currently, the idea of using electronic devises under the skin is still alive. Although the RFID implants are the most common for a body hacking démarche, there are other implants which are very different in the technical aspects and in their purposes. For instance, there are magnetic implants which

have the shape of a metal disk and are inserted under the skin by a minor surgery. The implant is of neodymium, a rare-earth metal which is used usually in industry. The magnetic implants were developed in 2004 by Steve Haworth and Jesse Jarrell and became very popular in the media. The purpose is to make possible a reaction to the electromagnetic waves and fields, and create unusual sensations in the body of the person who carries it. It is still the augmentation of the human being with new functions and sensibilities.

Still in this second chapter, Fiévet mentions other examples of body hacking, such as the attempts linked to camera use as complementary to human vision and to the external prosthetics, which are designed to substitute amputated members. The later illustration is a way to enhance and to overcome a handicap. Coming to the sports scene, we have the example of the athlete Oscar Pistorius who has two prosthetic legs specially developed for running. Named "Blade Runner", the controversy around him was due to his desire for joining competitions with able-bodied athletes. But for many competitors, his prosthetics allowed him higher performance when compared to others without it. Jeff Skiba is another athlete of pentathlon and high jump who has four different prosthetics that can be used depending on the particular sport. He gained superior results compared to his competitors by reason of his prosthetics, and this created many complaints. Another illustration is Aimee Mullins, top-level athlete, actress, model, and speaker of TED. She lives her life with two prostheses, with seven different pairs, and has a special view of the condition of the amputee. The issue that Fiévet wants to raise with his examples is related to the fact that a disabled athlete can compete and even surpass the ability of athletes without disability. Through these examples, we add that what is socially perceived as a physical transgression of human or disability is presented as a way to be reconfigured through technologies, dismantling humanistic notions of normativity. Without addressing more scenarios, it is easy to admit that functions, capacities and the plurality of prosthetics can probably be used to overcome natural body members.

By reading this book, we can notice that the body hacking highlights a central issue related to technology and individuals in contemporary society. Their démarche shows the capacity of re-appropriation of the body individually, and the only boundary seems to be placed in the technoscientific progress and creativity. Body hacking practices introduce

new relations that aim to transform and redefine humanity, and to do so, many ontological concepts taken for granted in western society ought to be reconsidered. Fiévet maximizes body hacking possibilities by pointing out products that were designed to interact with the body, such as EPOC, iBrain, and MindWave − devices that could be carried over the head to read and decode the electrical impulses of the brain. These devices are the fruit of academic research whose goal was better understand brain functioning, and now they are commercially available. The existence of products in the market designated to impact brain functioning is in itself indicative of a positive tendency to body hacking. These new devices help people without scientific training to better understand the human body and consequently to appropriate it in the way they desire. And for some body hackers, this path is inscribed in an almost evolutionary process that is set by technological developments.

The body hacking tendency is also inscribed in extreme artistic steps, especially among "body artists" . Posthuman performances are critical frameworks that resist any assertion that the posthuman does not need a body. Feminists, body hackers, activists, re-embody and reclaim this new humanity though performance. Fiévet shows the particularity of a movement called "Body Hacktivism", created in France by the body modifier Lukas Zpira, who is well known in the world scene of extreme body modification. Zpira, together with other body artists, introduces another dimension for the body hacking (not ignoring or objecting embodiment) that is a political and activism dimension. Although they are in favor of human hacking, they have a critical regard of this technology's generalization and its misuse that could be employed against individual interests. In fact, they claim that individuals have the right to control their own bodies and to choose how to evolve.

The last representative and emblematic body hacker mentioned in this book is Lepht Anonym, an English woman who became strongly notorious in the web, due to her firm position as "extreme transhumanist", which means that she favors action over only theoretical thinking in relation to human augmentation. By means of her experiences she wants to show that the door to transcending "normal" human capabilities is in each person's hands. After spending years learning how to extend her own sensory

capabilities, she disrupts traditional constructions of "the human". Working in a practical way on the construction of a possible future, Lepht usually does not like to be described by pronouns such as "she" or "he". After all, posthumanism consists too in a non-binary present and future. The idea of a "cyborg feminism" is directly linked to the activist, researcher and writer Donna Haraway (1991), who chose these terms in the Seventies when she wrote *Simians, Cyborgs and Women*. In her perspective, feminism is not about the breakthrough over gender distinctions that usually tend to classify hierarchically people into limited roles, or relations in which women are masters of themselves, victims or alienated beings. For Haraway, posthuman feminism establishes categories of human agents that are heterogeneously multiplied, inhomogeneous and connected. As a consequence, taken for granted dichotomies of western world cannot be sustained. Posthumanist and transhumanist articulations of transcending biological gender both resonate with elements of feminism as well as draw on other schools of thought (postgenderism, a radical interpretation of the feminist critique of patriarchy and gender, is the most influential one). And Lepht Anonym associates to her body hacker speech a reappropriation from Haraway's discourse on cyborg feminism. Body hacking, cyborg, posthumanism, are other modes of unsettling the subject − such as feminist theory − whose new connections should be considered as useful for thinking possible futures. Posthuman future will mean post-anthropocentric humanity; it implies that biological gender distinctions will be ameliorated and even eroded. Consequently, individuals will be able to have access to all human potentials and experiences regardless of their born sex or assumed gender.

The body hacking for Lepht is not opposed to the transhumanism, but its logical continuity. However, it is an underground trajectory that does not require scientific admission or any obligatory technical qualification. In Lepht Anonym's perspective, the body hacking is fed by the ambitions of transhumanism that are willing to want to act now and reject technical procedures which are expensive, and not easily accessible to anyone. We have witnessed that human beings and technological elements are merging together and it seems to be noting out of the extraordinary. However, the body hackers do not want to wait for the advent of proven solutions to improve the human, and are not even interested in joining discussions on the topic. Their desire consists of testing on

themselves certain things which are real, for the body hacking could be defined as inscribed in the concrete and in the action.

The connections discussed above seem promising and in the third and final chapter of this book, Fiévet raises imperative questions. Through this road composed of individuals engaged in hacking the body, it is possible to visualize that the way for human augmentation is opened and growing. He encourages society as a whole to question the direction of this démarche and what is to come in the short and long term. In which way will the world evolve if more and more individuals are (re)appropriating their bodies to the point of modifying their contours and functions? What implications would it bring to the social plan? How would it be possible to complete the project of freeing ourselves from patriarchy and the constraints of binary gender? How should society react in the face of these transformations? How can individual freedom be reconciled with moral and ethical obligations? And finally, how will we define these "new human"? Without a doubt, the addition of technological internal and external components to human body will modify greatly our perception of the world and how we interact in it. From the original sense of the term cyborg (cybernetic organism) passing through scientific fiction, a shift has happened between the primary sense of the term and contemporary reality. The body hacking is inscribed between fiction, at one side, and science fact at the other. It is fed by an imagery of cyborgs and encouraged by the technoscience progress. As Fiévet shows throughout the book, if we put aside the amateur field of body hackers and look at research projects conducted by important universities, we can better observe how certain technological advances can be a source of inspiration to body hackers of all ages. Beyond that, in these laboratories, science has already overtaken fiction.

Finally, the hacking of human body has been described in this book in two directions. One comes from the "high", from the scientific and medical discourse; and the other comes from the basis, individuals who decided to undertake scientific experiments. However, these arrangements are complementary and intertwined. For the body hackers, science shows the route and legitimizes their actions. The opposite way is also possible. For instance, some scientific researches that are being conducted by a British University were inspired from uncountable experiments carried out by individuals. The fact is that

both movements end up converging, even if they take different roads to explore the field of possibilities.

As far as we know, rational and technical scientific "progress" isn't always linear and transcends laboratory's influence. It touches society's core, every layer disparately, unconventionally. Plus, there is a multiplicity of dimensions whose breadth must be considered- which sometimes are overlooked- especially its implications into individual and social existence. Human mechanization, inorganic and organic bodies associated sets up rational and fruitful social readings inspired by the success of the biotechnical and technoscientific imaginary. Innovations emerged from these domains opens a commonplace for experimentations, including in individual level. Consequently, it's gradually noticeable uncontrollable effects related to the transfiguration of human species forward an unknown, but much speculated future.

Posthuman phenomenon has multiple forms. Many dimensions must be considered as a whole. It has been challenging fixed notion of human, body/technology boundaries, worries concerning monitoring, tracking, possible sensory substitution, ultrasonic sensors capable of converting distance into sensation, improvement of communication skills, multidimensional thinking, and remote operation just to mention. Nonetheless, the common denominator is still cognitive and biological enhancement. The previous paradigm is, at least, elucidation of the fact that contemporary human body is produced through a variety of techniques axed in individual liberalism ideology and rational choice. Being investigated, imagined, dreamt, accurately reassembled and controlled in research laboratories, body malleability lays down space for human creativity and ambitions. With one thing in mind: nothing concerning human body production can be left to chance. It is irrefutable that western society opens a big space for experiments, establishing a tight connection between democracy and experiences, due to the fact that laboratory culture is straightly linked to military and political innovation.

This book highlights a central issue related to the intersection between technoscience and individuals and some creative practices that make this relation explicit with very recent posthuman illustrations. The body hacking is an "experiential space" that relates to diverse discourses, interests, and practices that are lived with enthusiasm by the body hackers. These practices open new spaces for studies about contemporary forms of body

modification. We have to face an important issue. For the first time in history, there is a trend toward personal body modification that can expand natural bodily functions. This theme has many implications in the political, ethical, philosophical or sociological domain. It challenges society to consider the fundamental philosophical debate: the essence of the human and, ultimately, what the limits are.

References

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