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Dreams of Corporal Reprogramming (To technically subdue the catastrophe... to instigate it, perhaps?)

PAULA SIBILIA

The body of any thing whatever that takes nourishment constantly dies and is constantly renewed […] But if you restore as much is destroyed day by day, then as much of the life is renewed as is consumed, just as the flame of the candle is fed by the nourishment afforded by the liquid of this candle, which flame continually with a rapid supply restores to it from below as much as is consumed in dying above […] and the continuance of the smoke is equal to the continuance of the nourishment, and in the same instant all the flame is dead…
LEONARDO DA VINCI

Just as we routinely engage in sex today for its relational and sensual gratification, we will gain the opportunity to disconnect the eating of food from the function of delivering nutrients into the bloodstream. This technology should be reasonably mature by the 2020s. […] we will be able to eat whatever we want, whatever gives us pleasure and gastronomic fulfilment […] We will be able to accomplish this using special elimination nanobots that act like tiny garbage compactors. […]One might comment that we do obtain some pleasure from the elimination function, but I suspect that most people would be happy to do without it.
RAY KURTZWEIL

To state that we live in strange times does not say much, since all ages must have been, and probably always will be, strange, but maybe this historical moment has a peculiarity of its own. This present time seems to reconcile, as never before, euphoric celebrations of an allegedly triumphant happiness, and profoundly desolating visions of the near future. In so many ways, at the beginning of this second decade of the

twenty first century, the future seems closed or covered by a confusing cloud. A compact mist that only dissipates through well-lit cracks: those ascending the infinite staircase of technological advances, and those that crumble towards catastrophe. Yet, in neither of these paths do we seem the subjects of history; something curious happens, in dealing with the immediate heirs of this turbulent modernity. Contrary to what said lineage might suppose, disoriented and somewhat paralyzed, the inhabitants of this globalized planet feel these two forces as something foreign to our will and our actions, those real and effective and those considered possible or even thinkable.

Besides, both these vectors are related. The catastrophe, for example, seems propelled not only by the fabulous technical inventions of the last couple of centuries, but it also promises to be technologically controlled… or, at least it tries. Not only in what regards this great planetary cataclysm—starring the terrible ecological drama and a certain weariness in the ways of life associated with late capitalism—, but also those small everyday catastrophes that affect us individually: from diseases or any other type of psychophysical discomfort, up to the personal tragedy of aging and death. Indeed, none of this sounds novel; on the contrary, it seems inextricably linked to the very destiny of the human condition. Notwithstanding, certain elements taint this course with an air of novelty, outlining the current status of the very phenomena that inspired the title of this essay: dreams of corporal re-programing.

Technical interventions on organic matter: correction or programming

What are such mythical affairs about? In order to explain this, it is worth summoning a couple of images, representative of two rather different historical configurations. First, the silhouette of a tree whose trunk grows bent, warped, leaning over to one side. For this reason, said plant must be straightened with a stake or a sort of tutor that, in time, will force it to develop in ever-straighter forms. This method for intervening live matter has certain traits that associate it with the *mechanical* ideal; from a contemporary perspective one could say it uses an *analogical* technology, as opposed to the digital apparatuses that now reign among us. In brief, said onslaught reflects a will to sculpt, carve and mold an organism that has certain flexibility but which is, at once, hard, rigid and opaque. It is a form of matter that resists the action of these technical procedures intent on *normalizing* it by straightening. It is an arduous and slow method, somewhat brutish and cruel even, yet with uncertain results: it is not a hundred percent efficient strategy. Despite the care and the advances achieved throughout centuries of these aforementioned techniques, there are no guaranties that the plant will actually straighten out; nor can we establish when it will happen, or if it will happen at all.

The second image I would like to evoke, in contrast with the previous one, shows a seed whose genome of has been altered. Thus, turned into a transgenic organism, the plant this seed will give birth has been genetically projected as such. No only so it does not grow crooked or flawed, but also so it may posses certain specific characteristics, such as tolerance against herbicide, a certain size and colour, or certain types of nutrients in its composition. All this can be achieved by *programming* the genetic code of the said seed; the plant thereby develops these traits.

The distance between the technological strategies hereby used on these two vegetables could sum up the history of technical interventions on organic matter, whether human or otherwise. At least until now. Both literally and metaphorically, these two images synthetize the "evolution" of the ways technology is used to alter life. Both condense the history of how various invented modes of knowledge and tools have been implemented throughout millennia, for the purpose of transforming living organisms in relation to ever-changing human goals. Within this set of technically intervened beings we find, of course, the living bodies of men and women. Yet, it is important to consider the usage of the term "evolution" within this context, since between the former and latter examples mentioned we are dealing with a mere accumulation of achievements, gradually heading towards an ever-increasing technical perfection; we are dealing with a true collapse: an historical rupture manifest both in technological and biological terms.

This radical cut occurs due to the fact that the matter constituting each one of these living organisms is different. For each particular organism, its materiality is thought of as being different and, besides, is manipulated in different ways. The first plant is shaped or "corrected" from the *outside-in*: its external wrapping or shell is pressed through rugged mechanical and analogical methods. The second plant, on the other hand, can be projected from the *inside-out*: its internal nucleus is programmed, using rather sophisticated biotechnological methods inspired by information technologies. It can be asserted that these latter procedures are closer to the digital universe than to the analogue one; they point to a *reprogramming* of something considered imperfect by nature, instead of an attempt at *correcting* certain deviations.

If it were possible to apply the classic metaphor of the machine—a rather fertile rhetorical figure as fertile in the western tradition, quite active throughout the modern era—to both these plants, the first of these would be an old industrial artifact. In other words, pure *hardware* built with gears, levers, pulleys and screws, as a set of pieces assembled to form an indivisible unity, whose complex machinery is animated by a mysterious vital energy. The second plant, instead, would be another

kind of apparatus: a machine whose *hardware*—understood as the body's organs or materiality—is directed by a sort of *software* comparable to an computer program. So its body and its life are commanded by the instructions that configure its genetic code. It would not be an overstatement to say that DNA functions, here, as a sort of operating system, governing not only this particular seed and the plant it will bring about, but also all other vegetables and all the animals currently alive or that have ever lived on the Earth; including, of course, man.

For these reasons, this flaming vision of the world implies another logic for life itself: a new *bio*logy, which is *bio*technology as much as *bio*politics. This new cosmological tale—to use an expression dear to anthropologists—, this explanation of the world, typical of our tribe, is becoming evermore hegemonic in the globalized western culture of the twenty first century. And, according to its narratives, the four chemical letters that compose the "alphabet of life" constitute a new language: these four signs compose the DNA, a code whose infinite combinations in helicoidally ordered instructions result in the enormous diversity of terrestrial life forms. It is the same language, composed by these four single letters, that is in charge of codifying the "essence" of every living being: from the fruit fly to the oak or the firefly, from the dove and the crow, up to the orchid and the weed. Or well a dog, a cactus, a butterfly, a bacterium, an elephant, a mosquito, a lettuce: the enumeration could well be infinite, for it comprises every single living being. Their bodies and their lives are programmed with this same language, composed of those four letters: A, C, G and T.

So, for example, the difference between a chimpanzee and a human being has already been quantified in these terms, and the scientists responsible for this study assure that the difference resides in less than two percent of said genomes. It is not merely a matter of minimal discrepancies; besides, measured this way, the differences between both types of being are solely *quantitative*: they refer to a major or minor complexity, a major or minor amount of genetic information. For this, it is worthwhile to pause and review the peculiarities of each of these cosmological tales, and to think about what the panorama would have been like before this informatics reformulation of life and nature. If man and the chimpanzee were observed as two mechanic mammals through the old scope, for example, they would be seen as two rather similar machines, but irreducibly different in several ways. On the one hand, we would have the monkey; and, on the other hand, man or woman; that is to say, two types of beings with *qualitative* differences inexorable between themselves.

Currently these other mathematical comparisons—such as, eventually, their combinations and genetic information exchanges—, can be carried out between

any two living beings, and the results always throw a merely numerical difference: a problem of quantity and organization of the same information. The differences between humans and cows, for example, ranges barely about twenty percent of their genetic makeup. Less than the discrepancy between the genome of a man and that of a mouse, by the way, even though the informatics diversity between corn and a human being is also less than that between two types of bacteria. Despite all these disparities and arithmetic curiosities, every case concerns the same basic type of information, ordered in various ways and in different doses.

Life as information and a reprogrammable nature

Due to this basic equivalence, according to these new cosmological narrations leaning on truths of an evidently scientific sustenance, the codes of different species could combine and recombine in an infinite series of possible mixes. And this multiple mixture would allow for a total reprogramming of life: of any life form, even those yet inexistent or even unthinkable, or those that have been extinct for over millions of years. Therefore, it is not about a mere anthropological rupture, or concerning only the human species, but a genuine biological reformulation that entails all animal and vegetable species, even those nowadays considered chimeric. Besides, these transformations come accompanied by a series of convulsions in all realms, with serious impacts at the epistemological level: a mutation capable of *informatizing* or *digitalizing* nature, turning life into malleable information.

Before this mutation, which has lead to the current historical crossroads, was unleashed, opening the evolutionary horizon in an unforeseen way, the combinatory possibilities between diverse species of living beings was rather limited. Whether they come about naturally or randomly, or produced artificially by the humble deeds of techno-science, all these mixes had a basic requisite in order to occur: the living organisms involved in these transactions had to be sexually "compatible". This means that their corporal carcasses had to be capable of mechanically exchanging genetic material amongst themselves. For the atoms that configure matter are much less ductile than the bits composing the information: those carnal particles, less docile and flexible than the data flux, were considered much harder and rigid in that new form of chemically decomposing organic material to the point of making it almost immaterial, ethereal, volatile and ubiquitous. So it is about two types of very different forms of materiality: that of the crooked plant to be mechanically straightened out, on the one hand; and, on the other, that of the biotechnologically programmed seed.

So, before—when we only had access to the old mechanic and analogic methods—, a donkey and a mare could bring a mule into the world, for example, or an orange and a lemon could produce a new citric fruit. But it would not have been possible to combine, in that coarse "analogic" way, the material makeup of soy and salmon or squid, for example, or the physical substance of a rabbit with that of a medusa or a firefly, or well the ingredients of a human being with those of a pig or a flower. For these bodies, comprised in the mechanic and analogic code, were incompatible, and back then it was not about digitally operated information exchanges, as is now the case. Notwithstanding, this has been going on for millennia now, given that the new informatic-based biotechnological methods are rather recent: they emerged a few decades ago, with their fabulous schemes for recombining genes, designing transgenic organisms and carrying out the most audacious cloning experiments.

Despite its short trajectory, these unsettling innovations might be starting a new chapter in the history of humanity, such as the relation between technology and living matter. For this reason the images of those two emblematic plants—one whose deviations are straightened out with mechanic instruments, and the other genetically programmed to be a certain way—are so eloquent, for in the distance, between both examples the history of this relation is put together, placing in evidence the complex links that ties technology to organic bodies. If these two images synthetize the itinerary said relationship has coursed until today, the abyss that separates both examples is comparable to a crack dividing two universes or two different epistemological regimes, as well as two clearly distinguishable anthropological and biological blocks. In one of them, old-fashioned mechanical and *analogical* methods, used exclusively up until recently, reign; while on the other, it is the domain of new incipient procedures: bio-informatic methods that increasingly resort to *digital* logic to achieve their ambitious goals.

In virtue of such intense transformation, there are those who uphold that the possibilities developing with the advent of these tools could, perhaps, bring about a new type of humanity, launching a type of human being that would be more fitting with this brand-new *reprogramable* nature. Consequently, a humanity and a biosphere redefined as post-organic or post-biological would emerge, one compatible with a world that is becoming post-natural and even post-human. If these diagnostics are correct, one could suppose that the consequences of such a mutation are immense. Among other reasons, because the analogical methods that attempted to industriously sculpt human matter—and the organic matter that composes all other life forms—were much less efficient than these new procedures. Besides,

they functioned according to another logic, not only *techno*logical and *epistemo*logical but also *bio*logical and *anthropo*logical.

This ancient organic matter comprised the crooked plant and was, mostly, compatible with the mechanical and analogical tools of the already aging modern times, yet it was rigid, opaque and resistant to technical penetration, and, above all, mysterious. It kept, deep in its carnal entrails, the enigma of its workings: the secret of life belonged to it entirely, and it was believed to be an unsolvable mystery, one bound to remain mute for all eternity. Now, for a change, the new organic matter—constituted by that reprogrammed seed, to adopt a certain form—is much more flexible than its predecessor. Particularly because it is governed by enigmatic codes now being deciphered; and the great dream of the techno-scientific project is that this type of biological universal *software*—the operative system that commands all life forms—will become transparent and, moreover, will be comfortably compatible with our electronic artifacts. It yearns, then, for living matter to soon become entirely malleable, programmable and reprogrammable at will.

From the mechanization to the digitalization of bodies

In view of these reflections, it is worth emphasizing the initial suspicion this text was born from: it is very difficult to determine if all this implies a possible solution for the catastrophe that nowadays ensues in the horizon, or if, on the contrary, it is merely another of its causes. We still lack firm answers for this distress, but there is something whereby there is no place for doubt: the consequences that said reformulation of life will bring about are undeniable, for the human species as much as for the entire biosphere, even though these effects are still incalculable or even unimaginable. It is also true that art has much to say about this, and that an effort is already being made through a variety of layouts and tones, even though more could be done towards refining those questions that bring about such perplexity and confusion.

We can rely on the certainty that we are hereby dealing with a new metaphorical field a swell comparable to the mechanistic alluvium that impetuously transformed the world from the end of the seventeenth century/beginnings of the eighteenth, producing an epistemological commotion whose repercussions extend well into our days. This historical project had, as one of its main goals, the ambitious proposal of *mechanizing* human bodies and nature all in all. But a new set of computing metaphors grow overlapping its predecessor, pushing it with the purpose of replacing it with a new web of images and tales, as it threatens to impose its own order and laws in the universe in general, as among all living beings and particularly the

human organism. Instead of trying to mechanize all these entities, this new metaphorical substratum points towards *digitalizing* them.

This is not happening just now in the domain of genetics, as might seem according to the attempt made to sum it up in the preceding pages, but it expands throughout all the "sciences of life" in all their more contemporary versions. In this sense, neurosciences constitute another thriving vector: the intense media exposure of their research and discoveries tends to show how, nowadays, the mysteries of the brain are deciphered in pixelated images that project their colorful reports on computer screens. By allowing the digitalization—that is to say, the conversion into bytes—of the "mental contents" and the "genetic load" of each individual, thanks to the processing of all this data by means of electronic artifacts now available or in swift development, it is thought that we could soon overcome some of the most persistent biological limitations of the human organism. Certain weaknesses or restrictions binding this coarse material body in all its analogical rigidity, could be removed—in this sense, comparable to that old plant previously mentioned, bitterly crooked, in its imperfect nature, and that, by such motive, is presented as deficient and, now, obsolete.

It is believed that that body can be "improved" or reprogrammed through technical means. Not only in the most banal and evident sense of embellishment or rejuvenation of the physical appearance, though this is a fundamental and highly insidious component in contemporary moral. Besides, it is thought it could possibly go much further. It is believed that soon, for example, preserving cerebral information could be possible—or, in other versions of this same tale, genetic information—, and then transferring this "essential" data into another corporal support: a clone, perhaps, or some technically perfected successor for the ancient human body.

Of course, this compatibility between the human body and information artifacts is not only explored in the scientific field: both philosophical reflection and mediatic/artistic productions are also quite fertile. The examples are many and rather heterogeneous, but the difference between the universe and those shiny *digitalized* seems to be rather clear—even for being touched-up with the *PhotoShop*'s increasingly popular "software scalpel"—and those other human organisms that were dreamt of as more mechanical or *mechanizable,* in their planning of an epiphany-ridden progress as one of promethean modernity's worst nightmares. A world and a type of body, these latter we have already begun to abandon, over the last couple decades. It is about the historical rupture, marked by a transformation in the techniques we use to alter living matter, but also in what they imply on the conceptual or epistemological level. This metamorphosis marks, even, the very definition of the

human condition: it is changing how we think about what it means to be human; that is to say what are the meanings and implications of being and being *in* the world the way we are, or how we could be and be *in* the world.

A computer compatible body and soul

To delve deeper into this paradigm break's diverse meanders, another comparison proves worthwhile. In this case, opposing the human genome or the genetic code of each individual—in other words, that which ciphers our essence, according to the more common definitions of our era, not only as a biological species, but also as singular subjects—with other more outdated entelechies, such as the soul or the spirit, or even consciousness, mind or each subject's mental phenomena. All these entelechies are obscure and hermetic, with traits that could now only be described as "analogical." Not only because we are dealing with entities that are opaque, murky, nebulous and highly difficult to define and conceptualize, or even to capture a visual image of, or any other form of objectification for that matter. Besides, and above all, because they uphold an unappealable resistance to the onslaught of the new technical arsenal, whose lineage is informatic, and with which our bodies are ever more compatible. These entities are elusive: they would never allow themselves to be penetrated by the informatic and digital paraphernalia now intent on deciphering our essences, and whose code is considered to be found rooted in the carnal depths of each being.

For said reasons, those mysterious entities that now seem antiquated, these heavily analogic inventions of antiquity—the soul, the spirit, the psyche, the unconscious—, are different not only from the recorded instructions in the genetic code, but also from the pixelated information that transits through the cerebral circuits, which can also be read and deciphered by our machines. All these entelechies remit us to another universe, taking us back to a previous cosmology, a biological and anthropological redefinition that accompanies the most recent technological and epistemological leaps. Suffice it to remember how enigmatic subjective essences should be interrogated and interpreted by methods that did not necessarily demand a technological mediation, but an entire set of slow, harsh and painful ritual procedures. And, above all, these methods were uncertain and fallible: they were considered "subjective," lacking in the magical objectivity that envelops techno-science. They were barely efficient—uncertain, precarious, imperfect—, among them stood psychoanalysis and its affiliated therapies, for example, but also other typical tools of historical contexts, like the intimate journal, introspection and diverse forms of intimist confession.

Instead, the renewed substances that compose our essence are biological, and this is true for genes and DNA as for biochemical brain fluids, hormones, enzymes, proteins and neurotransmitter, all composing the bodies, articulating subjectivities. This detail is not a minor one: the new entities are carnal. They are inscribed in the organism, even when in the metaphorical crystallizations disseminating everywhere they are thought of as basically immaterial, as is they where mere informatic instructions or something comparable to computer *software*. Nonetheless, all of them are incarnations of the organic material in the most diverse formats. Besides, they are—or soon try to be seen as—entirely decipherable, through a very efficient arsenal, fruit of the marriage between computer sciences and the new sciences of life. DNA sequencers are a good example: devices capable of reading the genetic codes of any specimen originated from an organic molecule. Or the artifacts of magnetic resonance, PET-Scans and computed tomography: machines capable of photographing in eye-catching images of brain scans.

Thanks to this compatibility between living organisms and the brand-new electronic tools, all the vital information that defines the "essence" of human beings could be digitalized. Such data is not only decipherable, because what is intended is not only that it be read to be de-codified: the most fervently pursued objective consists of altering this vital information. To program, deprogram and reprogram it according to a copious menu of human desires, objectives and wills, and no longer according to uncontrollable divine designations or the inscrutable randomness of nature. This is quite different from what it initially set out to do—and, specially, different to what they effectively managed to consummate—, that ancient art of mechanically modeling, rectifying, chiseling and correcting the brute, harsh and mute matter that up until recently composed human bodies and nature in general.

Biologize, pathologize and medicate

There are many techno-scientific projects and initiatives currently dreaming with *reprogramming* certain human traits, those of each individual in particular and those of the species as a whole. In order to carry out such a project, these initiatives tend to *biologize* certain behaviors and dispositions, offering anatomical and physiological explanations for these. Besides, in the same gesture they tend to *pathologize* them, cataloging them as abnormal and unwanted traits, defining these as attributes ascribed to the lineage of diseases. It is increasingly habitual to come across genetic or neurologic origins postulated for certain traits, such as a predisposition towards violence, for example, or for the tendency to commit crimes. And to solve these "faults of character," to repair these errors, inscribed in the genes or in the subject's brain chemistry, they tend to *medicate*. To prevent someone with these genetic of neurochemical tendencies to actually become a delinquent or a danger, they intend for methods capable of deactivating these fateful biological propensities.

These methods strive on exerting, on these flawed individuals, a sort of technical and preventive normalization, a project supported on new techno-scientific tools: on those instruments compatible with the human body intent on *digitalizing* its informatic essence, to then be able to reprogram it. In fact, this type of proposal tends to be presented as the only way to pacify—and, hence, control—certain types of particularly unmanageable, or "twisted," bodies. As if pressing the *Delete* key on a computer keyboard could suffice to erase that carnally ingrained disagreeable technical problem; and, who knows, maybe in time, and with the improvement of tools, eventually trying to extirpate it from the human species. In such cases, the preferred metaphor is that of the computer or any similar apparatus; even, why not, some of the informatics circuits that compose the human body, specially in their medullar incarnations, such as the genetic code or the central nervous system.

For, as we have seen, the mechanic metaphors, as well as the traditional analogical methods are now obsolete. And we find in this set not only the disciplines that adjusted the corporal cogs and gears alongside the antique work code, but also the fine arts and the literary culture. In other words, all those old modeling and goldsmithing techniques, both in biological and anthropological terms, literally and metaphorically. These methods were applied from the outside in, and the tried to penetrate—whether sweetly or violently—into the human matter to straighten, discipline and normalize it. A process that used to be difficult, parsimonious and painstaking, and whose efficiency offered no guarantees, was unforeseen and was far from being total.

Today, for a change, resorting to other tactics and strategies would seem more adequate: more precise procedures, capable of operating a true *reprogramming,* through more efficient and clean techniques than those rustic analogical methods of the industrial era. These new techno-scientific formulae practiced in these cutting edge projects, bring with them the promise of deactivating criminal predispositions, for example, through reprogramming potentially "flawed" subjects at their very inner nuclei, where their bodies are commanded. In other words, by altering their informatic essence they intend to rewrite it with better handwriting. This explains the intense search currently going on, looking for entelechies such as the "criminality gene" or "the neurotransmitters that induce violence," or a host of equally dangerous enzymes and hormones. What is sought after is some sort of technical procedure enabling a deactivation and reprogramming of such fatal destinies inscribed in the flesh, whether it be in the genetic code or in the neuronal network.

There is more to this: these new procedures are also highly inclusive, given that they are not limited to focusing on particularly difficult cases, indocile or twisted bodies that ought be corrected because they are "flawed." On the contrary, their main motto is prevention; not all subjects exhibit obvious and flagrant flaws in their codes, such as the propensity to commit crimes or contract a certain illness. It is worth clarifying, on purpose, that in this new scheme diseases are interpreted as errors inscribed in the vital informatics codes, even though theses dysfunctions are potentially corrigible through technical interventions. In any case, if well we do not all have these terrible defects written into our cells, it is undeniable that we all have certain propensities. Absolutely all human beings have some propensity towards illness and death; in larger or smaller doses, depending on variables and factors that ideally could also be measured, evaluated, quantified, foreseen and completely prevented. This means that, just like our machines, we are condemned to obsolescence. Notwithstanding, for this very reason, we should fight, without rest, against the (¿still?) inevitable culmination of a downfall already set in motion long ago. To obey certain mandates it is necessary to carry out all the necessary improvements and constantly recycle: it is as such that the *upgrade* and *update* tyranny operates; we now live under its constant pressure, not only in what refers to our machines but also to our bodies.

For such motives now all human beings must redefine themselves as virtually ill and, therefore, as perpetual consumers of healthcare products and services. Within this new context, the illness is made endemic: it becomes a trait inherent to the human species. It has become mandatory to pay medical companies a monthly fee: the triumph of prepaid medical systems confirms that we are all asymptomatic carriers of illness and death, in higher or lesser degree, even though we are currently not showing an symptoms of these dysfunctions. Hence we are always prone to the risk of becoming ill or dying, we thereby find it necessary to maintain unceasing self-awareness, pursuing the dream of exercising complete and constant control over one's own corporal destiny. One must know what the individual biological tendencies show in order to attempt preventing the irrevocable fatality of its verdicts. At least to keep it as far away as possible, to delay it consummation, which—for now—strikes as inevitable.

A new world project: the triumph of technology

One of the more curious aspects of this new world vision is how, in its great transformation of vital logics, instead of freeing us from our human finitude we can become some sort of self-controlled slaves, enslaved to the imperatives of health, youth and eternal life. Anyways, and however it may be, the emergence of something new alongside this set of techno-scientific explanations and solutions is undeniable; something evolved from the fertile fields of computer sciences and the new sciences of life, and has proven applicable to the human body as to nature in general. A new dream is being configured with this whirlwind: a paradigmatic shift, or the implantation of a new "regime of knowledge-power," to make use of a prolific expression coined by Michel Foucault. An historical project that derives from these metaphors, interlaced to its new truths, yet all the while contributing to reinforce and reproduce them. Only within this new context is it possible to comprehend the unexpected prospect of *reprogramming* organic life and, particularly, the growing aspiration for reconfigure one's own body as if dealing with post-organic, post-biologic or even post-human entities.

This new ambition is presented more as a technological project than a humanistic one; more technical than political, cultural, social or economic. And more digital than analogic: a plan sustained on an epistemological basis of extreme scientificism, or a "techno-scientificist myth" that boasts more objectivity, efficiency and truth than all other possible or even imaginable cosmologies. But what is most important, perhaps, is how this metaphorical reductionism—a physicalist simplification, which is no less *real* for being a metaphor—ends up depoliticizing and dissocializing the conflict when these are, instead, biologized and medically diagnosed. For according to its explanations, the origin of all evil and suffering that now afflicts us, seems to be individual: mere programming flaws in a particular human organism. It is believed that the specific nature of that living being has a flaw, it registers an programming error within its biological constitution, an imperfection that can eventually be corrected through the valuable aid of technology. But these are always technical explanations and corrective interventions carried out on individual organisms: a merely medical problem, and no longer a political, social, cultural, moral or ethic one. As is well known, technology does not seek to elucidate a meaning or enunciate grand questions; instead, what it intends is the production of certain effects; its goal is to be more efficient with its specific purposes: preventing and controlling certain concrete and restricted phenomena.

It is curious that all this happens at a historical moment when, in many ways, the end of Nature seems to have been declared. Or, at least, that old ecosystem that functioned mechanically has been superseded: a biosphere that was harsh, opaque, mysterious and, also, arduously resistant to technical penetration. This nature now finds itself invaded by a sort of universal techno-scientific laboratory, its walls have blew up and, then, its field of experimentation went on to cover the globe's entire

surface. This collapse is confirmed not only in the drama of environmental pollution and the fears unleashed by global warming or by other such threats, but also in the suspicion awoken by transgenic experiences or those of plant and animal cloning, among other controversial matters practiced in the open. The old Nature, which once knew how to be overbearing and almighty—in its brute force as in its infinite wisdom and inimitable beauty—, suddenly shows itself faint: it is worn out and needs intensive care so as not to extinguish itself definitively. It now demands its preservation in specially protected reservoirs in order to survive, demanding the urgent realization of conservation programs and, even, "revitalization" ones.

For all these reasons it is so troubling that precisely now, when large part of the recently considered of a cultural, political or social origin, today are considered as having a natural or biological roots. Even when they are processed through the metaphor of immaterial *software*, associated with digitalizable information based on the instructions of the genetic code or the pixels of neurochemical flows, it is considered that their biological root is found deep in the entrails of each individual organism or that of the species as a whole. "This condition is motivated by a genetic predisposition," we now hear or read everywhere, "said trait is the fruit of a neurological deficiency." And the prescription to solve all these inconveniences affecting contemporary bodies and subjectivities, the key that will allegedly solve said problems, is also not cultural, political or social. The solution tends to be technical: frequently medical or programming based, indeed, because its lineage is *biotechnical.*

We can then conclude that this mutation we are currently going through is technological as much as it is biological and anthropological. Because in its avalanche it drags the very definition of the human being, reformulating, in passing, nature and the entirety of life under the digitalizing impulse. It is up to us to discover, as Giles Deleuze would say, "what we are used for" or to what historical project we are incited to serve when we accept an apparently ineluctable destiny: of becoming perfectly compatible with the efficient instrumental of contemporary techno-science and with that post-organic universe so many promises seem to sell and that must, at very least, bring about some healthy sense of mistrust on our behalf.

Among these suspicions, one stands out and restates its defiance: is this part of the catastrophe or is it the outline of a possible solution? Even though some aspects of this grand project rouse a certain apprehension, one cannot forget that their agenda also promises the virtual "resuscitation" of animals and vegetables now becoming extinct, for example, through the regeneration of their DNA in laboratory specimens. Or the possibility of ending with malnutrition, thanks to the inclusion of transgenic foods in a new generation of public policies; or that of controlling and appeasing the brutality of natural randomness, with human purpose until obtaining, who knows, immortality. It is probable that, this is still, at this point in time, something impossible to span with thought alone, but at its heart a certain assurance peeps out: whether it takes on the face of the catastrophe or that of redemption depends, in large measure, on all of us. Sure, as already out of date subjects of history, maybe, or of its more recent incarnations in renewed silhouettes, but it is not only about the technocrats and the scientists that have guided us to this point, but also—and perhaps, above all—, it is about the philosophers and artists that dare to ponder, question, and actively participate.

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