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BÍOS-TECHNÉ. THE BIOTECHNOLOGICAL POLITICS OF THE BODY AND THE POLITICS OF LIFE

Abstract: Not so long ago Timothy Campbell noticed an actual and very important question that has not been discussed yet: "What does the opening to *bíos* as a political category that humanity shares tells us about the other development that so decidedly marks the current biopolitical moment, namely, biotechnology?" and continued with a remark, "indeed, missing is precisely a reflection on the role biotechnology plays for contemporary biopolitics." The aim of this paper is to call attention to the growing importance of biotechnology for power over life and body and analyze it as a contemporary biopolitical strategy. Thus biotechnology will be comprehended as a political technology investing in the body, improving its qualities, prolonging youth, taking care of health and reproduction. In such sense it preserves or protects life by helping to improve health, enriching the quality of life and enabling active aging. It intensifies techniques of biopolitics and anatomo-politics (detected by Foucault) and implicates specially derived politics, engineering-politics and regenerative-politics, which demonstrate that there is power over life and body in contemporaneity that is far exceeding the extensions and the technological possibilities of power from the biological modernity. In the growing interest in the biopolitical issues related to the development of life sciences, the field of genetics has attracted quite an attention, up to this moment, while even younger discipline of regenerative medicine has not been comprehensively discussed yet. The paper is focused especially on regenerative medicine as the knowledge-power opening a new horizon for bio-power.

Key words: bio-power, biopolitics, regenerative medicine, tissue engineering, anatomo-politics, regenerative-politics.

Bíos and zoē

Not so long ago Timothy Campbell (2008: xxxiii) noticed an actual and very important question that has not been discussed yet: "What does the opening to *bíos* as a political category that humanity shares tells us about the other

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development that so decidedly marks the current biopolitical moment, namely, biotechnology?" and continued with a remark, "indeed, missing is precisely a reflection on the role biotechnology plays for contemporary biopolitics." The aim of this paper is to call attention to the growing importance of biotechnology for power over life and body and analyze it as a contemporary biopolitical strategy. *Thus biotechnology has to be comprehended as a political technology investing in the body, improving its qualities, prolonging youth, taking care of health and reproduction.* In such sense it *preserves or protects life by helping to improve health, enriching the quality of life and enabling active aging.* It intensifies techniques of biopolitics and anatomo-politics (detected by Foucault) and implicates specially derived politics, engineering-politics and regenerative-politics, which demonstrate that there is power over life and body in contemporaneity that is far exceeding the extensions and the technological possibilities of power from the biological modernity. With the broadening of technological interventions into the field of "natural" and blurring the difference between the natural and the technological, the emergence and impregnation of biotechnology into the spheres of body and population is beginning a new chapter of bio-power, rather belonging to biotechnological postmodernity.[2] The importance of biotechnology for bio-power has recently started to be acknowledged in the lively debate on biopolitics: "The patenting of the human genome and the development of artificial intelligence; biotechnology and the harnessing of life's forces for work, trace a new cartography of bio-power. These strategies put in question the forms of life itself." (Lazzarato,http://cms.gold.ac.uk/media/lazzarato_biopolitics.pdf)

In the growing interest in the biopolitical issues related to the development of life sciences, the field of genetics has attracted quite an attention, up to this moment, while even younger discipline of regenerative medicine has not been comprehensively discussed yet. The paper will focus especially on regenerative medicine as the knowledge-power opening a new horizon for bio-power.

Michel Foucault recognized an important historical shift in the relations between the politics and life, which was located between the ancient era of the sovereign power and the modern era of *bio-power* "when the life of the species is wagered on its own political strategies" (Foucault 1978: 143). This moment is marked by the shift in the power relations. "For millennia, man remained what he was for Aristotle: a living animal with the additional capacity for a political existence; modern man is an animal whose politics

[2] If postmodernity would still be the proper term to use for denoting the era proceeding modernity in economic, social, cultural and thus structural terms, marked with some significant shifts comparing to modernity. However, it is not the aim of this paper to discuss the issues of postmodernity.

places his existence as a living being in question"(ibid). To consider the semantics of the term biopolitics and the relation between life as a "natural" issue and the politics one needs to refer to the ancient Greek (in particular the Aristotelian) lexicon to find the etymological origin in the Gr. term *bíos* (βίος) however the ancient Greeks used two terms to denote life: "*zoē,* which expressed the simple fact of living common to all living beings (animals, men, or gods), and *bios,* which indicated the form or way of living proper to an individual or a group" (Agamben, 1998: 9). The present *zo* means "I am alive, I exist" and the past tense (usually the case with the second past tense) *ebion* (meaning "I lived my life in a specific way") is an ancient form, from which came into existence the later present tense *bioo*. "The past tense 'EBION' and the derivative noun 'BIOS' were constructed in order to indicate a new notion about life, a notion more concrete and specific: i.e., the constant purposive and therefore complete, unchangeable way of life, to live a life, as Aristotle says, in a concrete mental way (kata tina noun 1180a17 Nicomachean Ethics) 'BIOS is a moral action' (bios praxis estin 1254a7 Eudemian Ethics; 1333a31 Politics)" (Bakaoukas, http://ancient history.about.com/library/bl/uc_bakaoukas4a.htm). *Zoe* generally refers to the existence of a living being and *bíos* denotes qualified life. *Bios* is duration of *zoe* and means rational life, thus it cannot be subscribed to animals (Ibid). In the classical world of the ancient Greeks simple natural life is excluded from *pólis* ("to speak of a *zoē politikē* of the citizens of Athens would have made no sense") (Agamben 1998: 9). However Roberto Esposito relativizes the distinction between the two Greek terms denoting life for "every life is a form of life and every form refers to life" (Esposito 2008: 194). He notices an interesting oscillation in the semantics of the Greek lexicon, namely "biopolitics refers, if anything, to the dimension of *zōē*, which is to say to life in its simple biological capacity, more than it does to *bíos*, understood as 'qualified life' or 'form of life', or at least to the line of conjugation along which *bíos* is exposed to *zōē*, naturalizing *bíos* as well"(ibid). Furthermore he problematizes the concept of *zōē* and adds another term to the dualism of *bíos* and *zōē*: "*Zōē* itself can only be defined problematically: what, assuming it is even conceivable, is an absolutely natural life? It's even more the case today, when the human body appears to be increasingly challenged and also literally traversed by technology. Politics penetrates directly in life and life becomes other from itself. Thus, if a natural life doesn't exist that isn't at the same time technological as well; if the relation between *bíos* and *zōē* needs by now (or has always needed) to include in it a third correlated term, *technē* – then how do we hypothesize an exclusive relation between politics and life?" (ibid: 15).

The power to make live

Originating from the ancient Greek comprehension of life and the inclusion of the "natural" life in the political mechanisms (and the previous theories of biopolitics as well) Michel Foucault in the middle of the 1970s reproposed and redefined the concept of *biopolitics* in a much more complex sense than this was done before,[3] and outlined the difference between biopolitics as a politics in the name of life (politics of life) and bio-power as subjecting life to the command of politics (politics over life). *Bio-power* designates "what brought life and its mechanisms into the realm of explicit calculations and made knowledge-power an agent of transformation of human life" (Foucaut 1978: 143). In other words, bio-power means "a number of phenomena that seem to me to be quite significant, namely, the set of mechanisms through which the basic biological features of the human species

[3] Roberto Esposito has enlightened a brief genealogy of the concept of biopolitics before and after Foucault (Roberto Esposito, *Bíos. Biopolitics and Philosophy*, pp. 13–24) and has traced the first wave of early discussions in biopolitics from the beginning of the 20th century in Swedish (Rudolph Kjellén, 1905, 1916, 1920), German (Baron Jakob von Uexküll, 1920) and English (Morley Roberts, 1938) thought when it was mostly referred to geopolitics and used organistic, anthropological, and naturalistic approach, where "naturalization of politics" takes place in analogical understanding of the state with its tissues as an organic whole (Kjellén and von Uexküll) and where the comparison between the defensive apparatus of the state and the immunitary system was discussed (Roberts). These early approaches show that "a politics constructed directly on *bíos* always risks violently subjecting *bíos* to politics." (Ibid., p. 19) The second wave of interest (appeared in France in the 1960s) demonstrates the modification by the epochal defeat of Nazi biocracy and a necessity of a semantic reformulation, it is a neohumanistic one, but finally it results in weakening the specificity of the category, becoming rather a sort of "onto-politics". The third wave has taken place in the Anglo-Saxon world – and this is the one that is still ongoing. It emerged in the 1960s and was formally introduced in 1973 by International Political Science Association which opened a research site on biology and politics and it is marked by the foundation of the Association for Politics and the Life Sciences in 1983. This approach has a naturalistic character – its symptomatic value resides in the direct and insistent reference made to the sphere of nature as a privileged parameter of political determination. Esposito notices a considerable categorical shift with respect to the principal line of modern political philosophy: "While political philosophy presupposes nature as the problem to resolve (or the obstacle to overcome) through the constitution of the political order, American biopolitics sees in nature its same condition of existence: not only the genetic origin and the first material, but also the sole controlling reference. Politics is anything but able to dominate nature or 'conform' to its ends and so itself emerges 'informed' in such a way that it leaves no space for other constructive possibilities." (Ibid., p. 22)

became the object of a political strategy, of a general strategy of power, or, in other words, how, starting from the eighteenth century, modern Western societies took on board the fundamental biological fact that human beings are a species" (Foucault 2009: 1). Foucault marks the beginning of the age of bio-power with the end of the sovereign power for which "[t]he sovereign exercised his right of life only by exercising his right to kill, or by refraining from killing; he evidenced his power over life only through the death he was capable of requiring. The right which was formulated as the 'power of life and death' was in reality the right to *take* life or *let* live" (Foucault 1978: 136). In the modern era of bio-power, the social body has got the right to ensure, maintain, or develop its life, "the ancient right to *take* life or *let* live was replaced by a power to *foster* life or *disallow* it to the point of death" (ibid: 138). If before the sovereign was the one who must be defended, now the wars are waged on behalf of the existence of everyone, the society is the one that must be defended; entire populations are mobilized for the purpose of wholesale slaughter, with the underlying tactics of battle: one has to be capable of killing in order to go on living. Thus the dream of modern powers is the genocide. Power is situated and exercised at the level of life, the species, the race, and the large-scale phenomena of population. "But this formidable power of death [demonstrated by the bloody wars since the nineteenth century] /…/ now presents itself as the counterpart of a power that exerts a positive influence on life, that endeavors to administer, optimize, and multiply it, subjecting it to precise controls and comprehensive regulations" (ibid:137).

According to Foucault this power *over* life has been one of the basic phenomena of the nineteenth century in the Western society and evolved two basic forms, but which constituted two poles of development linked together. The first of these to be formed emerged in the seventeenth and eighteenth century and is a disciplinary technology – Foucault calls it the *anatomo-politics of the human body*. It "centered on the body as a machine: its disciplining, the optimization of its capabilities, the extortion of its forces, the parallel increase of its usefulness and its docility, its integration into systems of efficient and economic controls"(ibid:139). The other pole emerged in the middle or the second half of the eighteenth century and "focused on the species body, the body imbued with the mechanics of life and serving as the basis of the biological processes: propagation, births and mortality, the level of health, life expectancy and longevity, with all the conditions that can cause these to vary"(ibid). The supervision of these was effected through an entire series of interventions and *regulatory controls*: this means the *biopolitics of the population*. These two technologies directed toward the performances of the body and with their attention of the processes of life – the highest function of this power over life "was perhaps no longer to kill, but to invest life through and through"(ibid). Both politics, anatomo-politics and bio-politics

were, according to Foucault, the techniques of power established in the course (anatomo-politics) and at the end (bio-politics) of the eighteenth century and they were present at every level of the social body and utilized by very diverse institutions such as family, army, schools, police, individual medicine and the administration of the collective bodies. There was a big difference between the era after the French Revolution in comparison to the ancient age, namely "death was ceasing to torment life so directly. But at the same time, the development of the different fields of knowledge concerned with life in general, the improvement of agricultural techniques, and the observations and measures relative to man's life and survival contributed to this relaxation: a relative control over life averted some of the imminent risks of death" (ibid:142). The new regime was rather supporting the affirmative politics of life and over life: "Power would no longer be dealing simply with legal subjects over whom the ultimate domination was death, but with living being, and the mastery it would be able to exercise over them would have to be applied at the level of life itself; it was the taking charge of life, more than the threat of death, that gave power its access even to the body."(ibid: 142-143). The political technologies that ensued, investing the body, health, modes of subsistence and habitation, living conditions, the whole space of existence only proliferated.

Foucault discussed the issues of biopolitics in several of his lectures and papers whereat it is interesting that his first utilization of the term appeared in the 1974's lecture where he emphasized the importance of biopolitics and recognized medicine as a biopolitical strategy: "for capitalist society it is the biopolitical that is important before everything else; the biological, the somatic, the corporeal. The body is a biopolitical reality; medicine is a biopolitical strategy"(quote in Esposito 2008: 27). The role of medicine and clinics is of great importance for Foucault's discussion on bio-power and biopolitics. He conducted a comprehensive research of the birth of the clinic from the middle of the eighteenth to the middle of the nineteenth century. With the coming of the Enlightenment death was entitled to the clear light of reason, and became an object and source of knowledge for the philosophical mind. With the inclusion of dissection rooms to the clinics in the middle of the eighteenth century, a new period for medicine had begun; the analysis was applied to the study of physiological phenomena. However there was a paradox in reading the symptoms from the anatomical perception: "A clinic of symptoms seeks the living body of the disease; anatomy provides it only with the corpse" (Foucault 2003: 135). In the eighteenth century pathological anatomy, the technique of the corpse gained, thanks to the organization of clinics, the possibility of the opening up a corpse immediately thus the latency period between the death and the autopsy reduced and the stage of pathological time and the first stage of cadaveric time almost coincided. The effects of organic decomposition were

therefore virtually suppressed thus: "Death is now no more than the vertical, absolutely thin line that joins, in dividing them, the series of symptoms and the series of lesions" (ibid: 141). In the late eighteenth century Xavier Bichat introduced a new paradigm into the medical thought with replacing the former nosology based upon the principle of localization (understanding the illness of the body on the basis of organic proximity) with the principle of isomorphism in tissues, based upon similarity and external adaptation of tissues, life characteristics and functions, and imposed a diagonal reading of the body carried out according to expanses of anatomical resemblances that "traverse the organs, envelop them, divide them, compose and decompose them, analyse them, and, at the same time, *bind them together*" (ibid: 129). Bichat as well recognized that when the pathological state is prolonged, the first tissues to be affected are those in which nutrition is most active (the mucous membranes), followed by the parenchyma of the organs, and, in the final stage, by the tendons and aponeuroses. Bichat recognized that disease may be referred to a process which "announces the coming of death"(ibid 141) – thus the disease indicates another process which is evolutionary, that is the "proximity of death; it designates, beneath the morbid process, the associated, but different process of 'mortification'"(ibid). Now death is not an instant event but should be comprehended as a process, Bichat acknowledged "the permeability of life by death" (Ibid:142). Foucault located an important shift in the comprehension of life related to the body marked by Bichat's contribution to the pathologic anatomy with his investigation of the body as a complex of tissues and his comprehension that the analysis of the disease can be carried out only from the point of view of death – "of the death which life, by definition, resists" (ibid: 144), whereas "[t]he morbid is the *rarefied* form of life, exhausted, working itself into the void of death" (ibid: 171). For Bichat "[d]eath is therefore multiple, and dispersed in time: it is not that absolute, privileged point at which time stops and moves back; like disease itself, it has a teeming presence that analysis may divide into time and space; gradually, here and there, each of the knots breaks, until organic life ceases, at least in its major forms, since long after the death of the individual, minuscule, partial deaths continue to dissociate the islets of life that still subsist" (ibid:142). Against the background of the "mortalism" vitalism appears with Bichat – he relativized the concept of death, volatilized it, distributed it throughout life in the form of separate, partial, progressive deaths, deaths that are so slow in occurring that they extend even beyond death itself, but "from this fact he formed an essential structure of medical thought and perception: that to which life is *opposed* and to which it is *exposed*; that in relation to which it is living *opposition*"(ibid 143-144). Foucault is convinced that the irreducibility of the living to the mechanical or chemical is of secondary importance in relation to the fundamental link between life and death.

This shift in the comprehension of death and life in biological modernity was however not accidental – Foucault acknowledges that it was not epidemics that were the issue at the end of the eighteenth century anymore, but "endemics, or in other words, the form, nature, extension, duration and intensity of the illnesses prevalent in a population" (Foucault 2003: 243). These were the illnesses that were difficult to eradicate and that had become the permanent factors which sapped the population's strength, shortened the working week, wasted energy, and cost money (in a sense they led to a fall in production and because treating them was expensive) – thus these were the phenomena affecting a population. Therefore death was no longer something that suddenly swooped down on life as in an epidemic, but became something permanent, something that slips into life, perpetually gnaws at it, diminishes it and weakens it (ibid: 224). This problem is a biopolitical one and it became an important issue in the time of industrialization (in the early nineteenth century) with the problem of aging, when the individuals fall out of the field of capacity, of activity. Here lies the significance of medicine for bio-power, since bio-power "is continuous, scientific, and it is the power to make live" (ibid: 247). The "power is decreasingly the power to take life, and increasingly the right to intervene to make live"(ibid: 248).

Intervention for the sake of "making live" has gained tremendous extensions with the raise of biotechnology in the last half of the century, which is as well bringing the focus to *technological* intervention and thus to the *"artificiality"* of life. With the transformation of medicine into biomedicine, a hybrid between biology and medicine, which has become a practice of engineering, living organisms can no longer be perceived as self-contained and delimited bodies but rather as constructs composed of heterogeneous and exchangeable elements (e.g., organs, tissues, DNA). Involvement of technologic manipulation of the body in medicine has only been growing since the middle of the twentieth century and today biotechnology has become a significant supporting technology of medicine. The questions concerning the "natural foundations" of life and how these can be distinguished from "artificial" forms of life have become topical because of bioscientific discoveries and technological innovations (Lemke 2011: 27). The ancient relation between "natural" life and politics that has become an issue of contemporary philosophy of biopolitics has become complex if one considers how the political is encompassing sets of problems that were once understood as natural and self-evident facts but that are now open to technological or scientific intervention. Within the "technocratic biopolitics" as called by Thomas Lemke the growing significance of genetic and reproductive technologies raised concerns about the regulation and control of scientific progress. The results of biological and medical research and their practical applications demonstrated how contingent and fragile the boundary between nature and culture is, but this intensified political and legal efforts to

reestablish that boundary. It was deemed necessary to regulate which procedures were acceptable and under what conditions (ibid: 26).

Auto-regenerative body and life

With the turn of the millennium an important shift takes place within life sciences: from genetics – the paradigm that was significantly marked by the digital age – towards the paradigm of regeneration – which was since the beginning tightly linked to the applications in medicine. It denotes an important alteration of the perception of life and body. Today, one of the central orientations of life sciences is towards the manipulation with body's own cells for composition or regeneration of tissues or other bodily parts, with special, increasingly stronger interest for stem cells. Tissue engineering and new comprehensions of stem cells thus present new hope in the last decade, similar to the expectations ascribed to genetic engineering in the last decades of the twentieth century, but nevertheless, perhaps rather realistic or less utopian and exaggerating in comparison to the early reactions when the field was only arising.[4] Primarily, tissue engineering emerged as a response to transplantation problems, mainly in association with the response of the immune system, which meant the rejection of allogenic tissue. Engineering and cell cultivation in the laboratory for the purpose of transplantation were responsible for the establishment of a new expression called regenerative medicine. Tissue engineering is a technology of in vitro tissue manipulation, which nowadays mainly uses stem cells in artificially created support systems that are set up for the execution of specific biological functions, particularly for the repair or replacement of parts of the tissue (like skin, cartilage, bone). Stem cell is a non-differentiated cell, which has the ability of self-regeneration, during which two daughter cells are created – the first one is identical to the original but the other one is partially differentiated and more specialised. Somatic stem cells are located throughout the whole adult human being even though they are very rare and are momentarily hard to seize because they are lodged in tissue niches, while embryonic stem cells are found only in the embryo. Scientists assume that less differentiated cells are also present in the tissue. Stem cells enable several new ways of treatment. Today, the expression "advanced therapy" is well-established in the EU medical legislation (the EU Act (ES) number 1394/2007 of the European parliament

[4] Herbert Gottweis reviews the reception of life sciences in the last decades of the twentieth century: (1.) the 70s present the phase of hopes and fears, (2.) the 80s the phase of exaggerations and (3.) the 90s the fantasies being overtaken by contradictionary realities. Herbert Gottweis (1999).

and board) which divides advanced therapies into gene therapy, somatic cell therapy and tissue engineering. Advanced therapy uses principles of self-regeneration in tissue injury as well as in treatment of cancer. Eugene Thacker points to the new comprehension of a body introduced with regenerative medicine: "Tissue engineering is able to produce a vision of the regenerative body, a body always potentially in excess of itself" (Thacker). According to Thacker because of the idea of regeneration the economy of the body parts (transplantations, xeno-transplantations) has been replaced with the economy of auto-regeneration (regeneration of tissues from one's own cells) which is cyclic and proliferative (produces a great number of parts = tissues with division of cells) (ibid: 182). Options that are thus open promise salvation of several health problems (degenerative illnesses, cancer etc.), transformation of a body, and improvement of life quality and "rejuvenation" – what actually means prolongation of life and active age of social subject. Although they have both been prolonging since ever, the possibility of auto-regeneration, intensified by biotechnology, is the one that displaces the boundary of life beyond the traditionally attained ones, and that is with working "from within", or better – with the body itself –, instead of manipulating the body and life "from outside" (with the help of mechanical or chemical intervention).

It could also be claimed that the function of stem cells in the organism testifies about a very important function in the body, which is *vitalization*, thus with acknowledging this function of the stem cells, the recognition of the process of mortification in the body with illness (by Bichat) is getting a supplementary recognition with an opposing process, which is a process of "*vivification*". This is the process that testifies about *life as the one opposing death* as noticed by Foucault. The process of vivification with stem cells as defying the natural process of mortification in the organism is assuring a constant resistance to threats of illnesses and thus death. This issue could be linked to the notion of immunity as the ability to preserve and protect life, which is in the focus of the contemporary debate on biopolitics. For nearly two thousand years immunity has served almost exclusively political and juridical ends (a legal concept invented in ancient Rome) and only in the 1880s and 1890s biomedicine acknowledged a new vital function, "immunity-as-defense" (Cohen 2009). However with the help of biotechnology the body's immanent function of immunity has already been and will be even more intensified, thus regenerative medicine as an intervention technology optimizing the body is introducing a new vision of the body – a self-improving body, which is a self-excessive body. Foucault already analyzed some level of the technological intervention in life, combining the regulatory technology of life and the disciplinary technology of the body, and examined the example of the death of Franco, who was kept alive after he died, to present how the two systems of power met: that of sovereignty over death,

and that of the regularization of life, and noticed: "And thanks to a power that is not simply scientific prowess, but the actual exercise of the political bio-power established in the eighteenth century, we have become so good at keeping people alive that we've succeeded in keeping them alive when, in biological terms, they should have been dead long ago" (Foucault 2003: 248). Today, however, the technological possibilities to regulate life and discipline the body reach far beyond the abilities of his time. The power-to-make-live is now thanks to the attainments of regenerative medicine exceeding the limits of the "natural" life and body, much more than this was enabled by the introduction of medicine and pharmacy. The biological concepts of life and body need to be transposed, they are now both significantly traversed by technology. Ultimately the idea of regeneration of the body is generating a utopian vision of immortal active life and body enabled with a reinforced constant process of vitalization victoriously defeating the natural process of mortification.

With the transformation of medical knowledge and technical possibilities there is a shift taking place, yet very slowly, which is related to the above described one – it is a shift from a mechanical paradigm to the paradigm of the (auto)regenerative body. The function of (auto)regeneration ought to be recognized as the essential function of the body and life, which already itself opposes the Cartesian notion of the objective body and thus the modern medical thought, but which has even its especially explicit functional derivation in the potential of advanced therapy with stem cells. The modern medicine and biology operated with a concept of an organism as composed of mechanical parts – human body was thus understood as a kind of complex machinery – this corresponded with the Cartesian causal comprehension of the body, in detection of local defects and offer of direct pointed treatment. Thus medical treatment was conducted on the basis of elimination or exchange of the damaged parts. In aesthetic surgery the body was as well transformed mechanically, with direct plastic interventions in the body and with insertions from artificial materials. Recent acknowledgements demonstrate that such methods are obsolete because we collaterally damage the healthy parts of an organism, thus the advanced therapy suggests the use of body's own matter, which should be implanted to improve the quality of body's immanent auto-regeneration. Advanced therapy thus no longer suggests mechanical or chemical repair of the body, but develops options of stimulating the auto-regenerative body. It is no longer appropriate to speak of *anatomo-clinical medicine* as Foucault was referring to the eighteenth and especially nineteenth century, since the paradigm of medicine has been crucially supported by chemical intervention with pharmacy and since the second half of the twentieth century also with biotechnology. Biotechnology, combining biology with technology, has been established as a techno-science,

techno-knowledge. Additionally, in our era, when engineering is a highly advocated branch, even medicine, supported by biotechnology and its engineering principles, has become a sort of engineering.

Foucault considered about the emerging institutionalization of medicine in the normalizing society, when power took possession of life or at least took life under its care in the nineteenth century, at the time "medicine becomes a political intervention-technique with specific power-effects. Medicine is a power-knowledge that can be applied to both the body and the population, both the organism and biological processes, and it will therefore have both disciplinary effects and regulatory effects" (Foucault 2003: 252). The role anatomo-clinical medicine gained for bio-power has only been intensified with the emergence of biotechnology, which instantly became the supporting technology of the so-called anatomo-politics of the human body, or rather the regenerative-politics of the human body, as well as of the biopolitics of the population. Especially regenerative medicine is focused toward the performances of the body, with optimization of its capabilities, the extortion of its forces, the increase of usefulness, and also to the processes of life, with improving the level of health, life expectancy and longevity. Regenerative medicine must therefore be acknowledged as one of the leading technologies of contemporary bio-power. The political role of regenerative medicine is crucial in slowing down the process of aging, assuring the quality of life, active aging, and instant regeneration. Last but not least all these mottos are represented in popular culture. The cultural tendency to youth and the need to form one's own aesthetics of the body according to the cultural standards is growing and here regenerative medicine is offering novel options and promising solutions for sustainable corrections of the body. Regenerative medicine certainly contributes not only to the politics of the body but also to the politics of life. Regenerative medicine as well as the other branches of biotechnology supporting biomedicine, significantly consolidate the power to make live, established within the emerging normalizing society observed by Foucault, which now even more than ever testify that life and death are not natural or immediate phenomena which would fall outside the field of power, but are decisively subjected to the mechanisms, techniques, and technologies of power.

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BÍOS-TECHNÉ. BIOTEHNOLOŠKE POLITIKE TELA I POLITIKE ŽIVOTA

Nedavno je Timoti Kembel (Timothy Campbell) ukazao na aktuelno i veoma važno pitanje o kojem se još uvek nije raspravljalo: "Šta nam otvaranje *biosa* kao političke kategorije koju deli čovečanstvo govori o jednom drugom razvoju koji tako jasno obeležava sadašnji biopolitički trenutak, naime o biotehnologiji?", i nastavio sa primedbom, "zaista, ono što nedostaje jeste upravo razmatranje uloge koju biotehnologija igra u savremenim biopolitikama." Cilj ovog rada jeste da ukaže na rastući značaj biotehnologije kao moći nad životom i telom i da je analizira kao savremenu biopolitičku strategiju. Tako će biotehnologija biti shvaćena kao politička tehnologija ulaganja u telo, poboljšanja njegovih kvaliteta, produžavanja mladosti, brige o zdravlju i reprodukciji. U tom smislu ona čuva ili štiti život time što pomaže unapređenje zdravlja, obogaćuje kvalitet života i omogućava aktivno starenje. Ona pojačava tehnike biopolitika i anatomo-politika (koje je uočio Fuko) i uključuje posebno izvedene politike, politike inženjeringa i regenerativne politike koje pokazuju da u sadašnjosti postoji moć nad životom i telom koja u mnogome prevazilazi "produžetke" i tehnološke mogućnosti moći iz vremena biološke modernosti. Sa porastom interesa za biopolitička pitanja koja su povezana sa razvojem nauka o životu polje genetike je sve do ovog trenutka privlačilo pažnju, dok o mlađim disciplinama regenerativne medicine još uvek nije sveobuhvatno raspravljano. U radu će posebna pažnja biti usmerena na regenerativnu medicinu kao znanje-moć koja otvara novi horizont za bio-moć.

Ključne reči: bio-moć, biopolitike, regenerativna medicina, inženjering tkiva, anatomo-politike, regenerativne politike

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