

CEREBRALIZING JUVENILIZATION AND CULTURAL ADJUSTMENT OF BASIC HUMAN BEHAVIORS

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JUVENILIZAREA CEREBRALIZANTĂ ȘI REGLAREA CULTURALĂ A COMPORTAMENTELOR UMANE DE BAZĂ

În această lucrare vor fi amintite principalele direcții cu privire la modul în care foetalizarea și implicit ideea unei juvenilități cerebrale au făcut ca ființa umană să fie înțeleasă ca un veritabil miracol, ce face excepție de la regula fundamentală a evoluției celorlalte specii care vizează adaptarea la mediu prin specializare și selecție naturală. Astfel, evoluția prin elemente culturale și artificiale face ca, în cazul omului, să discutăm de o evoluție prin desprindere de mediul natural, cu mari implicații, mai ales de ordin filosofic.

Introduction

One hundred years ago, Lodewijk Bolk (1866-1930), a Dutch anatomist, tried to explain human morphology and physiology by proposing a revolutionary theory at that time as he renounced the idea of evolution through natural selection and adaptation to the environment. He stated that internal factors of our nature, such as changes in the endocrine system, directly determine our cultural behaviour and place us in a specific niche of survival, strictly reserved for man. Trying to explain this strange situation, which points to man as an anomaly in relation to the law of environmental specialization, Bolk developed the foetalization theory in the study *On the Problem of Anthropogenesis* (1926): “*In a certain sense, man can be defined as a primate fetus that has become capable of reproduction, a monkey fetus matured as such*” [1]. The Dutch anatomist states that the essential somatic properties of man, which distinguish him from all other animals, would be permanent fetal features, resulting from stagnation in his ontogenetic development, but a stagnation that was not determined by external causes, belonging to the spectrum of adaptive reasons, but a consequence of internal causes. He defines the foetalization process as a progressive retardation

of the morphological features of our ancestors, caused by changes in the functioning of the endocrine system [1].

The concrete elements through which the cultural implications of foetalization can be captured

Once the Ariadne thread has been found, other correlations can be identified between the morphological changes of the human body as a result of the foetalization process and their enormous impact on cultural behavior.

Starting from these fetal elements discovered by Bolk [1], their consequences can be traced culturally. Thus one can better understand why man is a creature created from nature for culture. The central position of the occipital great hole dictates bipedal walking in Bolk's vision and not the other way around. The persistence of the cranial suture during the first 18 months of life ensures the possibility of increasing the size of the brain for a longer period, even in extrauterine life. The relatively large weight of the human brain is directly correlated with the power of information storage. Human orthognathism and placement of the jaws under the cranial cavity offers the possibility of articulated language, but also the development of the brain. The particular conformation of the skeleton of the hand and the foot, with the thumb opposing the hand, but not opposable for the feet, ensures the technical abilities of the upper limbs and bipedal walking for the lower limbs. The special shape of the female pelvis facilitates the easy birth of a child with a more developed head. The ventrally oriented position of the genital slit in women, together with bipedalism, determines the frontal reproduction and the visual attraction of the partners, which has great psychological implications on human sexuality. Certain fetal elements of the female genital tract make it possible for human sexuality to be not only strictly reproductive, but one accompanied by pleasure, with the aim of achieving a long-term united couple due to the phenomenon of falling in love, which Edgar Morin saw as a kind of "possession by image", and Ioan Petru Culianu as a "fantastic infection" in the imaginative apparatus.

Bolk's theory has revolutionized our thinking about man, showing us how a change of program that takes place inside, at the level of the body, has allowed the soul greater independence, and a greater power to detach from the telluric state.

It is as if there is a "program" in which a demiurge conceives a particular organism for a niche of its own survival, in which it must develop a certain

behavior that is predetermined by its nature. From this point of view, as Jacob von Uexküll also demonstrates, in his famous book *Mondes animaux et monde humain*, the survival niche of the human being, by not involving highly specialized elements, has the most open range. Thus, Uexküll would find that man is a radical exception in relation to the entire evolution of species. If in the case of all species there is a horizontal evolution, by specialization and adaptation to the environment, in the case of man we can speak of a vertical evolution, by specialization and detachment from the natural environment, the man elaborating, through his culture, his own artificial environment.

Man – a being in search of its own nature

The human world is under the impact of culture. The human being sees and understands the meaning and significance of symbols. Taking into consideration these data, one of the first anthropologists to come up with a theory about the position of man in the world was Arnold Gehlen. He took over part of von Uexküll's biological ideas and in 1940 published the study *Der Mensch. Seine Natur und seine Stellung in der Welt (Man. Its nature and position in the world)*, in which he presents the human being as being burdened with the deficiencies of its constitution (absence of instinct, openness to the world and non-specialization), defects that expose man very early to a wave of stimuli, and he wonders how he can survive, despite all weaknesses. Gehlen takes Nietzsche's statement that man would be *the still unstable animal*, but at the same time he offers the solution of the survival of such a being in the world of his existence: *the man must relieve himself, that is, he must transform the defective conditions of his existence, through his own forces, in opportunities favorable to his life* [2]. The direction of this cultural or technical evolution was accompanied by the complex process of foetalization or cerebralizing juvenilization that the anatomist Lodewijk Bolk had discovered. Current theories establish a close connection between a special biological fundamental constitution of man and its openness to the world.

The zoologist Adolf Portman drew attention, since 1944, to the fact that man is different from animals because some evolutionary stages, established by the laws of nature, take place in the womb in case of mammals, but, in the case of humans, these phases occur in a so-called "first extrauterine year", i.e. outside the womb. This coming into the world too early

for independent survival creates a visible gap between the demands of the environment and the possibilities of the child, creating the need for the help of education and allowing the child to establish a very early contact with the various phenomena of the world.

Edgar Morin, speaking of the same process of *juvenilization*, considers that *this corresponds to an ontogenetic slowdown that is to an extension of the biological period of childhood and adolescence, and even to an ontogenetic failure, in this case the incomplete substitution of the adult traits for the juvenile ones* [3]. The direct corollary – cerebralization – favored learning skills. The learning of the language by the *sapiens* child can only be achieved during a period of plasticity, which ends at the age of seven, which shows us that, for the socio-cultural complexity, a long childhood is absolutely necessary.

The human brain – an organ with a still unfulfilled potential

Long-term childhood has the effect of massive cerebralization, enlargement of the brain, not only quantitative, but also qualitative. Recent research has provided clear evidence. *The brain of a new – born chimpanzee already has 70% of the adult size, the rest of 30% is quickly realized in the first six months of life. Our species, by contrast, has a brain that is only 23% of its final adult size. Rapid growth continues for another six years after birth and the entire process does not end until around the twenty-third year of life* [4].

Numerous embryonic features, considered non-specialized qualities of the monkey – hunter (*long and thin neck, flattened face, small size and delayed eruption of teeth, absence of strong eyebrow twitching and lack of ability to rotate the big toe*) [4], represented the evolutionary leap he needed. From a single leap in the direction of neoteny, foetalization, the monkey – hunter could acquire both the brain he needed and the body to fit a technical animal, dependent on the artifacts he is continually perfecting. This road has the effect of constantly changing man; he is not finalized, he lives in an infinitely open world, where the second nature is culture, in all its forms.

Neoteny brings a great advantage to the human being: the brain, which is still imperfect, evolves continuously and this fact leads to the possibility that the adult, even after childhood and youth, can acquire new adaptations, new strategies, and new skills [4]. Of course, this process had already begun in the anthropoids, but in the case of hominization, it will continue under socio-cultural pressure. The cultural program could not be installed if there was no process of neoteny.

Through neoteny, man is freed from specialized characters, related to an adaptation to a particular environment. However, the quite unfinished generalized characters remain (*pentadactile limbs, still very complete dentition, quadritubercular molars, non-specialized digestive tract*) [3]. Genetics, in turn, gives us evidence in this regard. Our genome is extremely simplified compared to the animal one, precisely because we lack the genes specific to the adaptive structures in the environment.

Human culture under the ideal of androgyny

Foetalization thus determines the growth of offspring, nutrition, sexuality and aggression. The dependence of the children on the parents is continually prolonged; the sexuality becomes one that tends to increasingly blur the differences between the sexes, imposing the ideal of androgyny, and the aggression lacking specific means of inhibition and being highly technical, has evolved towards the intra-specific killing, which cannot be adjusted only by cultural means. In all vital activities, from feeding, sexuality and aggression, man has built a true culture that he inherits, but also that he develops from generation to generation.

In the *foetalization* process we find the explanation for all our excesses. Being deprived of a control device, which could have resulted in the process of specialization through adaptation to the environment, we had to adjust our different instincts (aggression, sexuality and nurturing) by cultural factors, which, however, can often lead us to excesses, such as intra-specific mass killing through ritual practices, which take the form of refined sacrificial techniques to which orgies of all kinds can be added, as those practiced in Ancient Rome, ending by frightening even Emperor Augustus, who was forced to pass laws to temper the upsurge of promiscuity. In this context of the decaying empire, Christian morality appears, establishing a cult of the holy family and returning, somehow, to the Aristotelian idea of the *Politics* treatise, which argues that family is the foundation of society and, in general, of humanity.

Due to the culture and especially to the development of an extraordinary power of the imaginative faculty, of what Aristotle called *fantasia*, man becomes the only animal that can process the past experience for the future. The human brain has this unique and miraculous ability to perceive the future, which, for him, becomes as real as the past or present. The human being can dream with open eyes, and can elaborate images and ideas that do not have a correspondent in the immediate reality. He is a visi-

onary, able, not infrequently, to put his projections into practice. Culture, the universe of artefacts, is the product of these *memories from the future*. We create a strange relationship, in which we do not know who is made for whom: *man for culture*, the latter developing through man to artificial intelligence, or *culture for man*, because it would in fact be subject only to the interests and especially to the human will.

Conclusion

Due to his creative power, man is always subjected to great risks, which involve ups and downs; he must realize that all his creations are ambivalent, and can be put into the service of both life and death. From the processing of the stone to the mastery of nuclear energy, it remains the same mystery of creation, which transforms the human being into the only living being who must take responsibility for his actions and pay at great cost that astral moment when he “*defied the miracle of the world*”.

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ASPECTE BIOETICE ÎN TERAPIA ARSURILOR

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BIOETHICAL ISSUES IN BURN CARE

Due to the new biomedical technologies, important therapeutic advances have been made in the care of burn victims. Medical systems are engaged in ongoing debates on the financing of health care and the responsibility of