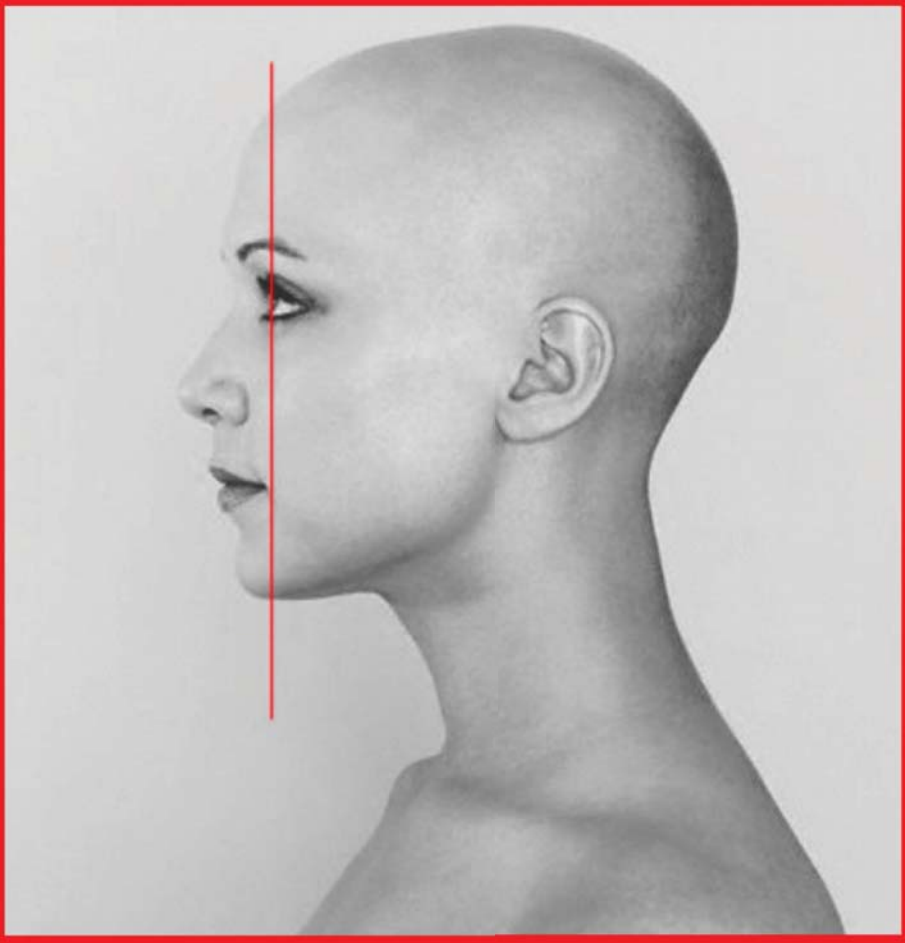
# ANTHROPOLOGICAL

## ~WRITINGS~



LUCIAN BLAGA

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LUCIAN BLAGA

# ANTHROPOLOGICAL ASPECTS

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# LUCIAN BLAGA AND THE PROBLEM OF ANTHROPOGENESIS

Surprisingly for his later evolution, Blaga is a thinker with a scientific background. He studied theology, as he confesses in Hronicul şi cîn-

the ages, biology and, naturally, as a result

from other works, mathematics and physics. However, his thinking took a completely different direction, ending up in metaphysics, without completely abandoning his initial orientation. This change of perspective, with particularly important consequences for his philosophical vision, was determined by numerous factors, from his early contact with Bergson's intuitionism — although he later broke away from the French thinker - to his adventure in theological studies during the First World War, which provided him with certain terms, later emptied of content and given other meanings in accordance with his own system, to the experience of ex-

pressurising, to which we must add the influence of Nietzsche and Freud. Not necessarily in the sense of adopting certain ideas, but in that of a direction of thought. The distancing from Nietzsche is permanent in all his works, although the urge towards cultural philosophy (even indirectly) and the creation of myths seem to come from him. Freud is often criticised, and still in rather harsh terms, but the idea of subconsciousness is also present in his works.

The concept remained, taking on a different meaning only in the philosophy of culture.

of culture.

We will not dwell on these details, which are so well known, but we will highlight the return, in the last part of his work, to the scientific training of his youth. Even if what prompted him to do so was related to the internal structure of his system, the works in which he discusses the stylistic significance of mathematics, or anthropogenesis, remain particularly important. Not only because they show us a Blaga who handles scientific data with the same ease as philosophical speculation, especially because, compelled by the "scientific spirit," the terminology is less metaphorical, the ideas are circumscribed with greater precision, often modified in a dialectical perspective, as we shall see. This is particularly true of The Experiment and the Mathematical Spirit, published in 1969, and the work now seeing the light of day for the first time, Anthropological Aspects, written immediately after the end of the last war.

Blaga's philosophical system is like a monumental building to which other wings have been added over time, as needed. Anyone who follows 's work as a thinker-poet in the direction of his philosophical creation will notice several stages: a preparatory one, partially forgotten by himself (his youthful considerations regarding Bergson, even the summary of his doctoral thesis, Culture and Knowledge, "Ardealul", Cluj, 1921), partially used in the volume Zări şi etape (Horizons and Stages), which was planned as early as 1945 and then printed in the "Minerva" collection in 1968, and another, of the system itself, unfolding like steps on a huge staircase.

The first "attempts" are part, as mentioned Blaga himself dismissed them, from the perspective of preparing his later systematic conception, considering them "nothing more than prefigurations, tentative steps, stages."[1] The volume is structured in such a way, with the selection of texts and modifications made (the old versions "suffering from certain editorial clumsiness" being revised and reduced), as to be in line with the perspectives of

1 Preface to the volume Zări şi etape, Editura pentru literatură, 1968, p. 7, written in Sibiu in September 1945.

The thinker was guided in Trilogies, although he had once stated once: "what he had only vaguely glimpsed as a revelation, la început, a came into being. 2• A necessary critical edition of these texts will show, in the future, to what extent a connection can be made between the early notes and the actual construction, "done slowly, little by little, and from several parts at once."

This preparatory phase could not be better characterised than by the words Blaga himself wrote about it: "In order to pull some reviewers out of their misguided perspective, the author of Via therefore makes confesses that, prior to the appearance of the dogmatic Eon, all the attempts to which he devoted his philosophical interest should be considered at most as a preparatory phase, and that in the fabric of those attempts he only incidentally included something of his more secret, more personal, more substantial concerns.

The studies and essays published often had an underlying message, which was fixed in the author's mind their initiatory purpose: they sought to ignite an intellectual fire, to educate a conscience, to create an atmosphere.

The next stage therefore begins with the dogmatic Eon (1931) and several moments corresponding to the central themes he addressed: knowledge, culture, values, cosmology. It was designed as a uni-

thought and expression, which could not be maintained until the very end for multiple reasons related to the evolution of the thinker himself, as well as the internal needs of the work. The trilogy of knowledge, which ended with Transcendental Censorship (1934), considered, much later, after 1944, that it was necessary to add a third volume, The Eternal Revolution, which was never published.

later, after 1944, that it was necessary to add a Introductory essay On Philosophical Consciousness. published by Facla Publishing House in 1974, and the supplement entitled Experience and the Mathematical Spirit. The trilogy was transformed into a pentalogy, as we can speak of the Tetralogy of Values, even if Blaga, for the sake of symmetry, gave the two works: On Thinking

2 Divine Differentials. The Foundation for Literature and Art, 1940, p. 5, in the Preface with the plan of the system.

3 Censorship transcendent, Publisher "The Romanian Book ", 1934, pp. 5-6.

gica şi Religion and spirit common title: Magical thinking and religion.

The thinker did not have or the time and, probably, the atmosphere necessary to complete the system according to plan1e desfăşurarea în mai multe Prefeţe la di- his volumes. Abandoning the planned pragmatic trilogy, he hastily concluded the cosmological trilogy with two works that belong to as well as those added to Trilogy of Knowledge, the last phase of his thinking. We must emphasise this last phase of Blaugian thinking (a moment, not qualitatively stylistically different from those of the writing of the first trilogies) to which The following works belong to him in the approximate order in which they were written: On Philosophical Consciousness, Anthropological Aspects, Experiment and Spirit. Mathematical and Historical Being (several chapters previous titles listed were published in the journal Saeculum). It should be noted that these belong to a different philosophical age and have different characteristics from the others.

The trilogies completed by 1944 (especially the first two, on knowledge and culture) are of exceptional artistic value. Their atmosphere brings a story and prophecy the magic of words being, along with other elements, decisive for the fate of his vision, as he himself confesses. A poetic cadence enlivens the ideas. Thought is bathed in the waters of the same artistic beauty in which rhythm and internal rhymes, metaphors in dreams and often revelatory, plastic images contribute to the expressiveness of the phrase. The metaphysical vision is like a hallucinatory p11ivelişti imbued with demonic li- . The words are loaded with poetic meanings, on how heavy the words are at the same time, phrases following one another like immense folds of mist and smoke through which only the shadow of light and the glimmer of the fountains of the sky can pass. Nevertheless, rationality and abstraction maintain the balance, ultimately resulting in philosophical prose of great literary value

It is true that other intonations and nuances can be observed even in the Trilogy of Values. The sonority is no longer the same, abstraction loses its purity from

knowledge and philosophy of culture, crystals no longer have the brilliance they once had, and theoretical applications are closer to rigorous, "scientific" prose than to "artistic" prose. A shift that will reach its peak
in his last works, which I have listed. As they were written at long intervals (between Eonul dogmatic and Despre conştiinţa filosofică, which precedes it, according to the new systematisation, there are almost two decades, and between Diferenţialele divine and As-pecte antropologice almost a decade), the differences in perspective are striking. It is not our intention to undertake a detailed investigation at this point, but a few observations are nevertheless necessary. One critic has singled out several fragments from the first period in which the poetic impulse is less restrained by the severe measure of reasoning and has unravelled them in verse
free, showing to what extent, in some respects, they are closer to poetry. At the same time, turning the coin over, he considers that "the true value of Blaga's works must be sought where the theorist, although still resorting to suggestion, appears in all his dry purity" 4•
If we were to choose a few lines from his latest works, we would realise how philosophical prose has evolved in this respect.

If we were to choose a few lines from his latest works, we would realise how philosophical prose evolves in this respect. However, a comparison of the titles is significant. From Eonul dogmatic, Cunoaşterea luciferică, Censura transcendentă, Spa-ţiul mioritic to o perioadă mai cumpănită : Artă şi
value, Science and creation, Religion and spirit, up to
scientific titles, Anthropological Aspects and Experiment and Mathematical Spirit. The phrase also tends towards greater predictability and firmness. The chiaroscuro is attenuated, the reasoning is severe, without the arabesques of yesteryear.

The essential thing, however, is not here, but in the scientific character of these works, as Blaga conceives scientific activity. Let us remember how
the distinction between metaphysics and science emerges from the dogmatic Eon. The latter has a rationalised field of application

Ion Negoiţescu, Poetry in Blaga's Philosophy in , vol.
Modern Writers, Publishing House for Literature, 1966, p. 182.

and reduction incessant of those unknown ("inistere1e"). In this sense, that part of philosophical speculation which seeks to rationalise reality can also be described in this way. Unlike metaphysics, which is a field where not everything is rational, encompassing contradiction and antinomy. And Blaga, as we know, has laboured along this path in most of his works. But when it came to applying theories related to the philosophy of culture to exact fields, the distinction between science and metaphysics, indicating two essentially different types of knowledge, could no longer be made. Even in Science and Creation, although

the emphasis on stylistic fields is constant, theorising on atomism, 'models of thought from qualitative mathematics to science as conceived by Plato or Aristotle',

is approached more from a scientific perspective

, thus contradicting the principle stated in knowledge. This is even more evident in The Experiment and the Mathematical Spirit or in Anthropological Aspects. In these works, the thinker did not

purrs towards the blue sky where only the stars can breathe", but, realising that a connection is needed between the blue and the clay from which we came, it detached itself, as much as necessary, from the void where the stars twinkle, in order to breathe in the fresh air of the surrounding realities. Here is a quote from The Experiment and the Mathematical Spirit: "As long as the human spirit ur-

only increases a contemplative knowledge of the work

— it was impossible to suppress his tendency to force the gates in order to conquer an "experimental" method. The experiment, as a method of research, will only emerge when the human spirit is oriented towards

towards forms of knowledge that offer possibilities for dominating nature. The development of the experimental method involves, din oapul locului, nu numai o

cognitive-theoretical attitude, ci and a practical attitude towards nature ... Thanks to the cognitive results obtained prac-

towards nature ... Thanks to the cognitive results obtained through experimental means it is proven indeed in clh'ip practice, that the human spirit can

to advance and dominate nature, and this in a progressive manner."

This latest period, let us call it scientific, of Lucian Blaga's thinking also includes Anthropological Aspects. Perhaps the new orientation and The characteristics outlined above entail a loss of unity in the system. The philosophical vision, on the other hand, gains in depth and becomes even more especially in truth.

The anthropogenic problem is raised late, although his entire philosophy revolves around the situation of man in the universe. He founded a philosophical anthropology rather than an abyssal noology, as he imagined, stolen by a terminology that did not serve him in always thought. He establishes the main ideas of this anthropology in all his works, whether in the direction of knowledge, culture or values, or in the cosmological direction. Man has, in his opinion, a "specific" and "privileged" situation in the world. Metaphorically , as can be seen from Noah's Ark, he is a "Sunday creature" or, as he expresses it in his philosophical works, born under "another sign", having a "other ·stea". In other words, man is a metaphorical animal creator of civilisation and culture. He is anchored, due to his need for absolute knowledge, in a ,horizon of the unknown, projects, again out of a need to reveal what is still hidden, fantastic myths and utilises a way of thinking in which magical tendencies are present alongside mythical ones, well understood in his "analytical" and "constructive" intelligence that characterises him. Science, artistic creation artistic creation, religion, philosophy are the result of "categories" or "stylistic" factors that determine certain forms, in time and place, collective or individual, attempting through metaphor to unravel certain things that are as yet unknown and hidden.

All these are discussed at length in his Trilogies published until 1947. However, they remain pure speculation, undoubtedly interesting, perhaps even true, in any case contained in poetic structures of great beauty. But they lacked a theoretical basis, a theory that would have given them a solid foundation.

The scientific melia, which the thinker, aware of this, and also criticised by the economy of the system, concludes in his work Anthropological Aspects, designed to be part of the Cosmological Trilogy, which opens with Divine Differentials, a work in which Blaga proposes a new "myth" of genesis, in his own words. The scientific perspective in Anthropological Aspects comes late, after the completion of the three trilogies (knowledge, culture, values), although it should naturally have been the starting point of the system. If he had done so, the development of his thought would probably have taken a different direction or, in any case, certain tendencies would have been attenuated. We might have had less poetry in his philosophy, but certainly more truth.

Attempts at philosophical anthropology were not lacking in our country and, independently of Blaga, although according to all the data we have, at approximately the same time, Mihai Ra1ea wrote Explicarea omului (The Explanation of Man), published by Cartea românească in 1946 and reprinted with a study by N. Tertulian in 1972 by Editura

"Minerva" in 1972 with a study by N. Tertulian, inaugurating the series of Writings. Here is the intention
As Ralea admits: "This study can also be seen as an attempt at philosophical anthropology. In recent years, numerous philosophers, from Max Scheler to A. Gehlen, have devoted themselves to the problem of man, creating, alongside the old physical anthropology, a philosophical one. Our monograph on man is also part of these trends. But what we wanted above all in this work is a study of the superstructure of human societies, of what constitutes the spiritual reality of man as manifested through morality, art, religion, etc." (p. 3). The emphasis is on the second trend, the book being more philosophy than anthropology. Nor did he intend to strike a balance between "physical" anthropology, which provides the necessary biological data, and philosophising on

their edge. Mihai Ralea insists especially on
superstructures, in seven complex chapters, preceded by three preparatory chapters, which are important for clarifying the structure, i.e. precisely the biological basis necessary

Blaga's attempt is also part of a philosophical anthropology [5], but it is more of an anthropogenesis (most of the chapters), with theorisation taking place mainly in the last chapters, when the connection with the whole system is established. In the thinker's intention, the balance between the two directions was achieved in a different way. If in Aspecte antropologice se insists s less on superstructures (which are nevertheless indicated) than on biological structures (with numerous suggestions and new perspectives), because the latter have been examined, debated and clarified in previous books, to which the author himself makes numerous references.

Anthropological Aspects is an integral part of the Cosmological Trilogy. Without the theorising and conclusions in this book, it is impossible to understand the situation of man in the cosmos, his birth, evolution and significance. It is Blaga's most scientific text, implying

[5] These important anthropologies, in no way inferior to foreign ones, the first of which, by Ralea, was also translated into French, were of no interest to our anthropologists or thinkers. Ralea's anthropology is carefully examined by N. Tertulian in his study Ralea — sociologist and philosopher (published in the volume Blleuri, E. p. I., 1968, with a few pages added under the title Mihai Ralea — the Thinker, as a Preface to Writings I), and is barely mentioned by Petru Anghel in Mihai Ralea and the vocation of the essay ("Cartea ro-mânească", 1973), Blaga's anthropology is only quoted by N. Tertulian, mentioned by Al. Tănase in Introduction to the Philosophy of Culture, Scientific Publishing House, 1968, and is the subject of a note in Ov. S. Crohmălniceanu's book, LuciQI Blaga, E. p. i„ 1963. For Marian Popa .other studies of interest -specious in which depth is coupled with aridity are courses On Philosophical Consciousness (1947), Anthropological Aspects ,pologlce (1948) and the posthumous volume Experimentul şi spiritul matematic (1969) (Dictionary of Contemporary Romanian Literature, Albatros Publishing House, 1971). Biologist T. Perseacă includes in the bibliography of Tratatul de biologie (1968) the work Şllinţă şi creaţie (Science and Creation), in which Blaga examines "stylistic" transformism. In Antropologia lilosolic (Philosophical Anthropology) by C. I. Gulian (1972), in Introducere 1n antropologie (Introduction to Anthropology) by Mileu-Maximilian (1967) as well as in (The Origin and Evolution of Man) by in his well-intentioned work Originea şi evoluţia (The Origin and Evolution of Man). man (1971) by Olga Necrasov, none are mentioned. Not even Ion Biberi, in Principles of Anthropological Psychology (1971), cites the two works. If Blaga's text Blaga's text could have escaped him, being only lithographed in 1948, certainly Ralea's book, at least the French edition, could not have been unknown ... ...

when scientific knowledge, as it is understood today, with special application to biology, genetics and anthropology. It is also, as we shall see, a key work for understanding Blaga's thinking and tracing its evolution. Certain terms, previously nebulous,
They are much more flexible, and the boundaries are clearer. In place of dogmatism and rigidity, flexibility and dialectical interpretation have taken their place, which cannot be overlooked. References to Marx and Engels, to Marcel Prenant, to some contemporary geneticists, emphasising the leap made by man from the "biological" to the "social", show at the same time a closeness to Marxism, in all
an attempt to appropriate certain ideas that had been completely foreign to him until then.

The precise aim of the work is stated by the thinker: "to solve the problem of anthropogenesis". The ideas in the book are directed in two directions: one bio-anthropological, in which the supporting points of the "physical" anthropology mentioned by Ralea (structure) are established, the second, philosophical, in which he discusses the characteristics of human beings, while also making the connection with "stylistic factors," with the "magical" and "mythical" tendency, that is, in his opinion, with the specificity of human spirituality, which creates civilisation and culture (in other words, he discusses the issue of
"superstructure", according to Ralrea's expression, benieifioia-
the use of precise, Marxist terminology, which Blaga lacked). Gîndi!t•Ofll.11 takes a scientific position from the outset: evolutionism. Even though he was aware of the shortcomings of classical evolutionism (also pointed out by the Marxist classics) or of
Lamarck's theoretical "fantasies", Blaga views the appearance and development of man from an evolutionary perspective. New research and trends in the revision of Darwinism cannot lead "to the abandonment of the perspective teol'etioe oa atare". Or, as more clearly stated :
"We appreciate the situation of anthropogenesis in the evolutionary framework as a valuable contribution to science." Moreover, he is against those who make humans, even biologically, an exception, because "any mind that has once assimilated the postulates of science is repulsed by digressions about the exceptional." It is worth noting

that this idea prevented Blaga from joining the "biological" movement, which led to the well-known exaggerations that the Romanian thinker himself condemned.

girl, very briefly, how Blaga sees anthropogenesis, demonstrating not only original thinking, but also the ability to develop new hypotheses [6]. Already in the chapters in which he examines the general biological foundations of anthropology (the transformist idea, the concept of the "human species"), he shows that he is not satisfied with the existing theories.

general foundations of anthropology (the idea of transformation, Darwinian evolutionism, the theory of mutations, Spencer's biological perspective), he lays the groundwork for his first theoretical elaborations, which will facilitate the opening of one of his most daring perspectives:

1. the need to distinguish between two types of progressive evolution, one along the lines of the increasing specialisation of certain organs, the other along the lines of higher-level organisation.

2. Life does not progress from maladjustment to adaptation, but rather "evolves either from a state of sufficient harmony with the environment to states of increasingly intimate adaptation (this process leads over time to a particular narrowing of the environmental horizon), or a state of sufficient harmony in relation to a certain environment, to a state of sufficient harmony in relation to a boundless environment or one of increased volume compared to the previous one".

To elucidate these ideas, which will serve him in developing his own theory, the thinker takes into consideration the research of naturalists on the relationship between living beings and their environments, especially that of Uexkill and his school. The conclusion is that the processes carried out along the lines of specialisation lead to particular compressions of the environment, those at the level characterised by a separation of the environment, a distinction favourable to Blagoi's hypotheses.

[6] "Anthropology works with noţi uni as de generale, pe such a broad field that a person with quick intuition and a habit of thinking can bring much more useful insights than a cautious scientist working within the confines of facts, that is, within the reach of his nose," says G. Călinescu quite rightly in UJysse, Editura pentru literatură, 1968 (p. 262), referring to H. Sanielevici's work, La vie des mamile1es.
nescu in UJysse, Editura pentru literatură, 1968 (p. 262), referring to H. Sanielevici's work La vie des mamile1es et des hommes fossiles.

The breaking point in relation to anthropogenesis, as seen by classical evolutionism. is the descent of man. not from an extinct anthropoid form, but from something completely different. The thinker states it bluntly: "We will have to get used to the idea that accepting evolutionism does not oblige us to unconditionally accept the theory that man descended from an anthropoid more or less similar to him."
current anthropoids. Science and philosophy are beginning to suspect that the question of human origins involves other perspectives as well." The new perspective and hypotheses put forward by Lucian Blaga stem from the study of the differences between humans and anthropoids (classical evolutionism only considered the similarities). The issue has been extensively addressed by anthropologist Klaatsch. and the problem of biological primitivism by Dutch physician Bolk. The Romanian thinker examines the results of the research. rejects the theories that he considers excessive, even "fantastical". and tries a new approach, starting from the observation that humans. like other living beings, must be conceived as the result of an evolution that could have taken place either gradually or through mutations. Based on these coordinates, he began the internal development of his doctrine.

Blaga imagines two types of evolution: one vertical, characterised by adaptive shyness and a tendency to form organic systems that are increasingly autonomous from cosmic conditions, and one horizontal, characterised by overt adaptation, marked adaptability. and specialisation of structures and forms. On this occasion, he enunciates the "hypothetical law of biological ceilings": "biological evolution through specialisation lowers the ceiling".
.possible vertical biological evolutions based on it – all the more so, the more advanced it is". The anthropologist supports the existence of an original primate (or, perhaps, a "pro-simian"), from which, through vertical evolution (radical mutations, while still preserving some primitive traits). humans are reached, and through horizontal evolution (specialisations. organically overcoming primitivism) we arrive at anthropoids. The hypothesis is supported not only by bioanthropological grounds, but also by a theory that humans are incapable of

quick intuition and habit of thinking, as he

argues. Most likely, by posing and resolving the controversial issue of anthropogenesis in this way, Blaga, like Teilhard de Chardin, independently
independently of him, links the emergence of the human phenomenon, on the one hand, but also its integration into the data of evolution, as scientific experience shows, on the other. In order to remain consistent at least with the principles
stated at the beginning of this work, if others, from previous trilogies, are noticeably different.

The fossils known at the time of Blaga's investigations are then examined, along with all the traces of human technology and culture that justify anthropologists in drawing
qualitative differences between anthropoids and humans. Neanderthal man left numerous traces on the basis of which the hypothesis was put forward, embraced by the author of Spațiul mioritic, of a "magical" way of thinking and technique, of "mythical" ideas about death, a a
":arts" with magical meanings [7], all proving since ancient times man's ability to create civilisation and culture. Blaga argues that the ice age found hominids ready for it,
otherwise they would not have survived. Regarding this preparation, he emphasises the higher-level structures: in material terms, the exo-developed brain
and, psychologically and spiritually. intelligence,
creative genius ontological specific

[7] "The spiritual life a of Neanderthals was still limited. It seems that they appear the first sketches of magic ( ... ) The first forms of belief in the existence of the soul also appear among Neanderthals. The first ritual burials take place
in caves, with the corpses placed in a crouched position, with their hands under their heads," as Mileu-Maximilian attests in his volume Introducere în antropologie (Introduction to Anthropology), p. 191. And further : "also during
this period, when the forces of production are poorly developed
, and man is overwhelmed by the forces of nature, religious ideas emerge.
religious ideas. This explains why the art that developed during this period has a magical significance (...) Clay bison have been discovered around which traces remain
traces left by the footsteps of primitive dancers, who hoped that in this way they would obtain better results in hunting. Drawings depicting animals pierced by spears or covered with wounds have the same meaning. Female figures also have a magical meaning
m a g ical meaning. It seems that they were the symbol
fertility. However, art also had aesthetic importance. Artists often engraved the objects they used most frequently" (p. 203).

only to humans and which are the boundless horizon of the known world and the horizon of the unknown. Magical art later led to a "joy of forms," to abstraction, in which Blaga sees, at least incipiently, some "stylistic" imprints. With this, he returned to the old theories regarding the odzonrbul mLsterelor (here, "the horizon of the unknown"), magical and mythical tendencies,
as well as the existence of stylistic factors. Man is only a historical being, the only permanently historical being.
rică, who eternally surpasses his creation, never surpassing his condition as creator. And if biological evolution has ceased, spiritual evolution certainly continues.
This connection that Lucian Blaga makes with the fundamental principles of the system is interesting.

This connection that Lucian Blaga makes with the fundamental principles of the system is interesting. If it were more emphatically formulated in Science and

Creation and Disappearance , it almost completely disappears in Experiment and
mathematical spirit (although he draws attention in a note to the philosophical aspects and consequences of the dual theory about the nature of light, referring to minus - cu-
debated in Luciferic Knowledge), in Anthropological Aspects the correlation is organic, and the transition almost imperceptible. Perhaps because of the place the work occupies in the structure of the system, perhaps for other external reasons. The fact is that, according to
the cosmological metaphor discussed in Diferențialele di-
comes, the problem of anthropogenesis follows. But the first volume of the trilogy was written with much
earlier and in all respects is part of the mo-
the second stage of constitution. Then, in this book, the thinker applies a method of knowledge highlighted in the first trilogy. Metaphysical creation corresponds to the ontological mode of man,
which will also be discussed in Anthropological Aspects. The assimilation of myth and metaphor in Differentials tends towards a singular explanation. The theoretical-constructive elaboration
eliminates any model, and the explanatory effort is complete.

Anthropological Aspects has a different tone. It is

From the first chapters, it is clear that there is a gap between the spirit of philosophy contaminated by poetry and the spirit of science constructed solely by thought. The latter prevailed, along the same lines of an explanatory effort, but

without explaining its uniqueness, which is contested here. This makes the work widely known as an unnecessary addition. The accents less marked by the initial tone of the Trilogies are attenuated by a certain wisdomage or experience. which leads to prudent theorising, balanced expressions, without stylistic excesses, but above all to precise scientific references, from which thoughtIn this rigorous perspective, his hypotheses and assumptions also fit in, as well as the conviction that pro-

The question remains "open" and is telling and quite unusual: "As regards the question of level evolution and evolution through specialisation, some biologists indicate it and we seek to define it more precisely, while others reject it outright.

and which we are seeking to define more precisely,

Almost — this is an open question from a scientific point of view. Throughout this study, we attempt to define and clarify the terms of the problem, as well as to provide some explanations and put forward some hypotheses in relation to it, without considering them to be exhaustive. We are certain that other researchers, today or tomorrow, will also have their say, correcting or completing what has been said so far about this very complex issue.

A rational brake removes imaginative exaggerations. The entire work, although having a different inner resonance — perhaps no less less captivating dedt

the others, but: belonging to a moment in which thought

At its peak, it opens up new perspectives and reaches new conclusions —— it attempts to reconcile the data provided by science with the hypotheses put forward by thought. Although Blaga had designed his models of thought in accordance with the needs of the system, he was guided by the data of experience and the results achieved by science, but here, in Aspects, the relationship is in favour of the latter.

the latter. That is why the new structure and the new orientation are not necessarily in contradiction with

not primary, but complementary, bringing what they lacked and thus providing them with a theoretical foundation. And if the distinction between morphological and existential modes was once merely a matter of logic, it now takes on its true meaning in a scientific context.

and existential modes was once mentioned, it now takes on its true meaning in a scientific context. This ontological mode, characterised by an existence in an boundless environment , in which

includes the concrete horizon of the given world, but also the unknown horizon as constitutive elements, which are necessary for the realisation of intelligence and creative genius.

tor. The former converts the data of the surrounding world into a system of concepts, the latter converts the horizon of the unknown into myths, magical powers, religious and metaphysical visions, scientific theories and artistic creations.

religious and metaphysical visions, scientific theories and artistic creations. And to these natural tendencies for

a creative being such as man, Blaga adds, pen-

Firstly, other essential features: the possibility of creating a language, which implies sociability, and "the living together of human individuals in society,

in an atmosphere of communicability, is generally the most powerful means of promoting human potential, since in this way, the progressive accumulation of all efforts becomes possible."

In concluding his considerations, the Romanian anthropologist harshly criticises the "biological" conception, of Nietzschean origin, of Arnold Gehlen's thinking (even if it was surpassed by the German theorist), and strongly rejects Bergson's position on instinct and intelligence, emphasising his point of view on Jung's theory of types, which is contrary to — or perhaps, more accurately, complementary to — his own theory of stylistic factors.

tici. Blaga's position remains strictly rational and strictly scientific, without the temptation of excessive theorising. He is familiar with the genetic research carried out up to that point. Even though he cautiously recalls the results reached by Weismann, Mendel and Morgan (while also making some references to Lysenko), he actually takes them into account. Their research has been confirmed and, as is well known, the exaggerations against Mendelian-Morganian genetics have been refuted.

ce recalls the truth of the words of conclusion of the Introduction to the study of experimental medicine of

8 "Admitting in a gratuitous manner that the function creates in a vertiginous organ, Lamarck also admits a supplementary ex-

, just as gratuitous: he asserts that the organs and qualities thus acquired by the living individual have the gift of being inherited

. Pure fantasy! All biological experiments almost 150 years have disproved this assertion," he writes in Science and Creation (1942 edition, p. 168).

C1aude Bernard, demanding the differentiation of scientific research from preconceived philosophical ideas.

Blaga's attitude in this regard, at least in this book, is exemplary. This explains why he keeps his distance from the conclusions reached by many naturalists and thinkers, unable to escape either the dangerous pitfalls that always lead to more or less fanciful constructions, or the relationship and correlation that Blaga believes exists between stylistic factors, theoretical ideas and directed observation, and whether he perceives the existence of stylistic factors, theoretical ideas and directed observation, and whether he perceives the existence of stylistic factors, theoretical ideas and directed observation, and whether he perceives the existence of stylistic factors, theoretical ideas and directed observation, and whether he perceives the existence of stylistic factors, theoretical ideas and directed observation, and whether he perceives the existence of stylistic factors, theoretical ideas and directed observation, and whether he perceives the existence of stylistic factors, theoretical ideas and directed observation, and whether he perceives the existence of stylistic factors, theoretical ideas and directed observation, and whether he perceives the existence of stylistic factors, theoretical ideas and directed observation, and whether he perceives the existence of stylistic factors, theoretical ideas and directed observation, and whether he perceives the existence of stylistic factors, theoretical ideas and directed observation, and whether he perceives the existence of stylistic factors, theoretical ideas and directed observation, and whether he perceives the existence of stylistic factors, theoretical ideas and directed observation, and whether he perceives thethat there are stylistic factors, theoretical ideas and directed observation, and if he places himself in an evolutionary perspective, he allows himself, within the broad limits of the current, to attempt a differentiation of both structure and superstructure between anthropoids and hominids. A specialised structure in the first case, another of high organisation in the second. And the superstructure, specific to the human , was a reason in plus to adopt the "hypothesis" of the two developments, with all their consequences. It follows, as is to be expected, that this "hypothesis-law" to be confirmed by further research. However, to date, apart from the spectacular advances in genetics[10], which seem to confirm Blaga's ideas, the anthropological results themselves have provided only a few details that do not alter the facts of the matter.

We might wonder whether it is possible to link the fossil remains of Australopithecus — of which Blaga was unaware and whose systematic research is more recent — to the original primate or prosimians imagined by Blaga, from which the two evolutions began, given the situation of[11]. Unfortunately, interpretations are

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[9] Science and Creation p. 171; Divine Differentials, passim.

[10] Any treatise by on genetics provides the necessary data . Pen-

For historical background, see Arnold Ravin, The Evolution of Genetics, 1969, and for its prospects, Fr. Jacob, The Logic of Life, 1970. See also Andre Lwoff, Biological Order, Jean Piaget, Cognition and Biology, J. Monod, The Human Brain, 1970.

Biological Order, Jean Piaget, Cognition and Biology, J. Monod, Chance and Necessity, etc. Among the first studies in Romania, see Ion Biberi's book, Introduction to the Study of Heredity, 1946.

and Necessity, etc. Among the first studies in Romania, see Ion Biberi's book, Introduction to the Study of Heredity, 1946.

[11] S. A. Barnett, "Instinct" and "intelligence", 1967, p. 298 sq. Regarding the "pebble culture" of Australopithecus, the Romanian school of anthropology has made important contributions (cf. Introduction to Anthropology).

For the time being contradictory. We must not then make abstract from certain excesses of :oel or even falsifications [12]. The problem remains as Blaga states, "... The power he proposes must be revisited in the future in light of the research that will be conducted to confirm it.

What we must remember above all from Blagia's anthropological considerations are not only a certain caution towards older statements in the Trilogies, but above all a greater flexibility of thought, a relativism, we might say, even some changes in perspective that do not necessarily relate only to the metamorphosis of certain terms. Stylistic "categories" now appear as simple stylistic "factors," with any Blagian exegete being able to see the nuance. Even if both terms were used before, now only the latter appears. And if in his early works the "stylistic categories" were static and metaphysical, having also a fatal character, in this work the "stylistic factors" are historical and dynamic. Specific only to humans they have a modelling tendency, they vary from era to era, from one historical place to another, from one community to another, even from one individual to another. They are therefore

nd form a stylistic field, making humans an eminently historical species. [13]

Metaphors and poetic expressions are conspicuously absent. Man is no longer a "Sunday creature", or if he is, he remains under a different zodiac sign with a different star, thanks to his own creations. At the same time, man is reserved the place he actually occupies on the biological ladder.

: a being belonging to an evolutionary lineage, a

[12] "Piltdown is a fraud (. . .) The skull is authentic (. . . ) but the mandible is not (. . . ) the teeth are also a fraud. It is difficult to say who the forger was and why he introduced a recent mandible alongside a fossil skull," Introduction to Anthropology, p. 154.

[13] At this point, Blaga's proximity to contemporary, dynamic positions is evident. Marxism emphasises the historical character of man, making praxis, alongside ontology and dialectics, one of the main directions of theorising. The anthropological problem is extremely complex, with research continuing to elucidate its multiple aspects. But apart from the evolutionary position, a long-recognised scientific fact, the others are to be viewed in the light of future discoveries.

hominid on the same line, up to a point, with anthropoids. from which it is then separated by successive leaps. especially the leap from biological to social — leading to the domination of nature – the superstructure specific only to it,
resulting in characteristic creations of civilisation and culture. The distinction between civilisation and culture is no longer as emphatically expressed as it once was. Similarly, in relation to magical thinking, the complex theorising found in other works is simplified, with plausible explanations.

Undoubtedly, although mentioned, the factors of labour and society are insufficiently analysed. It is true that Blaga promises to remedy this in Ființa istorică (Historical Being):

"We will address these conditions of history in a future study (which concludes the Cosmological Trilogy, n.n.), understanding history as a dimension in which productivity, labour, and human creation unfold."

history, understood as a dimension in which productivity, work, and human creation unfold." Nevertheless, Anthropological Aspects brings the reader closer than the other books in the series to the truth that the poet-philosopher sought in all directions and seems not to have found

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In the work now being published, he could have the satisfaction of having captured it, at least partially and with its relative character, which he had not taken into account before. Science and philosophy intertwined in his synthesis
Anthropogenetics shows this reality more than anywhere else in the system. Rationality and scientific thinking, some dialectical elements, receive greater weight than the other side of the balance where creative imagination
and poetic thinking. approaching that balance and that unity of consciousness in its functional fullness. Blaga's philosophical anthropology', whether pri-
In general, given the special nature of human birth and evolution in the cosmos, it remains an endeavour that primarily calls for a constructive dialogue with anthropologists: and thinkers, in perspective
of so many new discoveries and new ideas that have emerged
when Maga was putting forward his bold hypotheses and
systematised his theories.

ION MAXIM

## NOTE ON THE EDITION

This edition aims to show readers how Lucian Blaga continued his planned Cosmological Trilogy.

In the two parts of the system published in 1940, and 1942, the title of this work did not appear, as at that time it was only a "project". It was not until 1947 that – although the material was updated in de- much, as can be seen from a reference — due to the needs of the system, but also to his teaching obligations, the thinker begins to write the text we have heard here: form, because Blaga always read his lessons. We note that most of his books, which make up the Trilogies, were originally lectures given to students by the chair of the Department of Philosophy of Culture. We therefore reproduce in its entirety the text of this course given by Lucian Blaga in the academic year 1947/1948 at the Faculty of Philosophy of the University of Cluj and lithographed in 1949.

We therefore reproduce in its entirety the text of this course given by Lucian Blaga in the academic year 1947/1948 at the Faculty of Philosophy of the University of Cluj and lithographed in 1948, under the auspices of the Union National Union of Students in Romania — Cluj Student Centre. He remained almost unknown, and researchers, with a few exceptions who mention him in passing, do not even refer to him.

The errors pointed out by the author in the "errata" of the lithographed text have been corrected. Others, of minor importance, have been tacitly corrected. In transcribing the text, the spelling rules in force were applied, retaining only a few peculiarities, some common to other volumes published recently, others specific to the issue under discussion. Thus, from the first category, philosophy, there are etc., from the second, ceilings, in the case of the "law hypothesis" proposed by Blaga o proposes, nouns ending in -une, the term ingeniu, in the sense also used by Tudor Vianu in Postume.

I. M.

## Introductory words.
## Lamarck and the idea of transformation

The intention with which we begin these anthropological considerations is to draw readers' attention to some pal problems, which scientists and philosophers from other countries are currently debating with increasing interest, and which, at least for the passions they arouse, deserve to be better known in our country as well. Many of these issues are still open, which means they are still open to new efforts to clarify them. In the discussions we wish to establish, we will sometimes intervene with novel solutions, without claiming, however, that this will lead to their resolution. opens up a field of research over which we would like to hover, a spirit free of any dogmatic assumptions.

The most general theoretical framework in which we are determined to view the emergence of man is provided by the doctrine of transformationism. Placing ourselves in such a theoretical perspective, it is appropriate to draw attention from the outset to the course of action to be followed. By adopting the transformist point of view, we understand that we must do so as freely as possible from the specific forms in which this idea appeared and, above all, as far as possible from the additional hypotheses that are not always appropriate, in the company of which the idea has asserted its rights as a theoretical postulate for some two hundred years now. We emphasise, however, that without accepting this theoretical postulate, no progress can be made on the issues raised in connection with the essence and origin of hum .

The best way to clarify in advance the theoretical framework in which we understand ourselves to be situated is to show how the idea of transformationism arose. This will show how necessary it is to distinguish between an idea and an argument, between an idea and its historically conditioned form between an idea and the accessory hypotheses that may reinforce or compromise it.

Transformism was first supported in the form of "evolutionism" (through slow stages) in the work " " (The Origin of Species) by Charles Darwin, and then in the form of "mutationism".

"evolutionism" (through slow stages), and then in the form of "mutationism". The term "evolution" first appears in Nicolaus Cusanus, the great medieval thinker who, although still constrained on all sides by a theological vision, was ahead of so many modern scientific ideas. The term by "evolution" has 1a Cusanus the meaning "Unfolding" through which something is made explicit, understood as the "realisation" of latent possibilities inherent in being in general. Thus, according to Cusanus' assessment, the "line" would be the evolution of the "point," and the "world" would be nothing more and nothing less than the evolution of a God or a God made explicit. The meaning given here to the term "evolution" still contains some remnants of ancient philosophy. Later, in Leibnitz's philosophy, the same term, existing in the same way between an ancient and a modern meaning, appears frequently and means, above all, the realisation of the latent possibilities stored ab initio in the being of the monads that make up the world.

In a sense closer to that given to it today, the idea of evolution was supported throughout the 18th century, sporadically, in notes and random considerations by various naturalists and philosophers. The naturalist Maillet (1735) attributed to organic life a plastic modifiability, thanks to which it could take any form, adapting to external conditions. The idea would find its greatest promotion in the plant kingdom, through Buffon's natural science considerations. Transmutationism is then, at least in principle, glimpsed as a mode of existence by Kant. Herder applies the idea to the history of humanity, and Goethe supports it, with determination, with the caveat that only within certain limits, biologically speaking. Erasmus Darwin. Charles' grandfather, outlines an evolutionary concept in his work "Zoonomi1a", published in 1794. The idea

was developed but for the first time in "Theoph.e" by Lamarck in 1801, and amplified by the same author in "Philosophia Zoologica", published in 1809. Charles Darwin mentions in the definitive edition of his famous work "The Origin of Species" thirty-four precursors, all of whom had enunciated transformism.

We need to agree on Lamarck's contribution to the development of the evolutionary concept, given that his merits are still hotly debated among specialists. Currently, this author is considered the founder of evolutionism, but from a "scientific" point of view, the French naturalist remains a rather problematic figure. Not long ago, one of his biographers, who also happened to be an excellent scientist, sought to shed light, with extensive references to texts, on the theorist's fanciful ideas and often hasty hypotheses. Lamarck. 's work of a scientific nature by Lamarck, which was exceptionally good, was quickly forgotten, without ever having been popular, and today there are few who still study it at its sources. The naturalist approached sectors of nature in his laboratory research, dealing with chemistry, botany, zoology and meteorology. Living a long life, Lamarck was able to gather a vast amount of valuable observational material. On a theoretical level, however, Lamarck often indulged in completely confusing improvisations. In his theoretical thinking Lamarck betrays a conformation that places him in close proximity to the Romantics. In his way of "constructing", he closely resembles Schelling, his younger contemporary, who in his philosophy of nature offered, alongside some profound insights, just as many examples of outdated hypotheses. We cannot overlook the fact that, at a time when modern chemistry was laying its foundations, Lamarck was determined to profess, at all costs, ideas of medieval or even ancient origin in the same field. Around 1820, Lamarck was still stubbornly defending a chemical concept that did not admit the elements of nature known to antiquity, namely water, air, earth, fire, and especially fire. Lamarck took a hostile attitude

1 Tschulok S, Lamarck, ed. Niehans, Zurich, 1937.

towards the new ideas of modern chemistry, called at that time "pneumatics", and he spoke of oxygen, nitrogen, hydrogen etc. Oxygen and nitrogen were, in Lamarck's opinion, nothing more and nothing less than sickly inventions of the pneumatic imagination. The French naturalist doubted the existence of oxygen and insisted on believing in all sorts of "fluids," as many forms of Fire, attributing to them an overwhelming role in the production of the phenomena of life and nature in general. Lamarck was undoubtedly gifted with a very lively constructive intelligence, .with an intelligence that was triggered too quickly, however, somewhat at the first contact with the material of observation. Lamarck theorises passionately on the basis of insufficient observation. Incomplete observation was, however, for his way of thinking

"teoTetiza" o condition optimal, after how very just

notes the biographer we are referring to. To give an example, we recall that Lamarck, starting from a correct but incomplete observation, such as that sugar, oils, ammonia, resins are produced in nature only in the body of plants, dares to make the leap to a theoretical statement, as general as it is gratuitous, according to which odce combination chemical could only take place in living bodies. Only living beings would have, according to Lamarck, f1acultate1a de ia constrînge "·elemeirutel·e" na.burii in combinations, o:i1re, in iond, never agree with these elements. When living beings die,

the elements of nature will seek to escape from the state of

constraint in which "vi1a&#xFFFD;a" brought them. Was this an idea not lacking in ingenuity, but which once formulated as such should have been immediately subjected to empirical control. But Lamarck, seduced by the ingenuity of his idea, does not proceed to verify it through experience. Instead, he continued to invent, staying on the same path, sheltered by a constructive logic, free from any control. He eventually came to the conclusion that all minerals and metals found in nature were nothing more than the waste products and decomposition of organic beings. With such "theories," presented boldly and with ease dogmatically, we naturally in the vicinity of that kind of theories of which the romantic German naturalists of the same era were guilty.

In public opinion, Lamarck is generally regarded as a great revolutionary in the field of science, because he is one of the most courageous precursors. e.i evolutionism. For some of his ideas, Lamarck can undoubtedly be considered a revolutionary, but at the same time, he was incredibly outdated in so many other ideas, even in comparison with the scientists of his time. The "elements" of the pre-Socratics appeared almost fifty years after the discovery of oxygen, consisting of tuie o culpă pentru aa!fe anev oie se v,or găsi drcum-st,ante atenuante. În opera sa „Originea speciilor" Ch. Darwin se exprimă şidespre Lamarck, dar într-o scrisoare adre1sată marelui geolog Lyell (1 863) acelaşi Darwin scria următoarel1e : „Adesea vă referiți to my mind as a modification of Lamarck's theory of evolution and progress. If that is your opinion, there is nothing more to say, but I do not think that is the case. Plato, Buffon, my grandfather before Lamarck, and others have clearly expressed the opinion that if species were not created one by one, then they must descend from other species, and for my part I see no other common ground between Lamarck's work "The Origin of Species" and Lamarck. I believe that this way of presenting the case is harmful, because . . . it leads me to form ideas about a book which, after two careful readings, I consider lamentable and from which I have gained nothing. I remember my surprise very well.

The severity of Darwin's verdict is understandable when you know the ideas that Lamarck also supports in "Philosophy Zoological" regarding the role of fluids (forms of Fire) in the processes of transformation of life. But despite this condemnation, we must do justice to Lamarck, if not for anything else, at least for the idea of transformation in general. Obviously, the idea of evolution appears in Lamarck as an almost gratuitous statement, not supported by scientific arguments or sufficient material. 's idea of evolution, if it had been based solely on Lamarck's arguments and material, would have been compromised. However 'a1ces1t,ea, Lamarck's exceptional merit in developing concepts about life cannot be disputed.

'And here is why not. We believe that the evolutionary idea, with its inherent possibilities of anticipation, could only take shape decât in the mind of a person of romantic disposition. However strange our statement may seem, the summary material and limited observations constituted a condition without which it would have been difficult to reach the evolutionary concept at that stage of scientific development. Only in a romantic spirit, still unburdened by the ballast of empiricism, could such a new perspective be conceived, which unleashed the possibility of clarifying the observational material gathered up to that point and, more importantly, the material that would be gathered from then on. A Darwin who was incomparably more scientific, very controlled, inductive, almost possessed by the demons of observation, would not have been able to formulate on his own an idea as horizon-broadening as that of transformation. Darwin's good fortune was to have inherited the idea of from predecessors eminently constructive and from he took it up, seeking to substantiate it empirically. Lamarck's scientific shortcomings and "irresponsibility" stem, conversely, from his very spontaneity of thought. Such a deficiency should not be condemned simply, because it was partly due to it that the conditions were created for the doctrine of transformation to be conceived and articulated. A broader and more diverse initial body of observational material would have increased the difficulties of theorising and would probably have closed the way, thwarting the overall vision. The French idea was therefore, in its structure, a huge anticipation that could only take shape in a certain mind, through its very orientation and habits. It was capable of great discoveries, but also of great errors.

In our bio-anthropological considerations we will maintain within the general framework of the transformist idea , which we consider to be far from having exhausted its possibilities of understanding in relation to the facts of empiricism. Naturally, we will not confuse the transformist idea with its very diverse theoretical accessories as if opinions about the evolution of life forms were, trednd from Lamarck to Darwin, from Bergson to La Dacque, from Spencer to De Vrie or from Vialleten to Marcel Prenant, always the same.

What we accept from Lamarck's theory of transformation is not only the idea of transformation itself, as a form of thinking that proves its fertility at every step. There are elements in his theory which, subject to adjustments imposed by more recent research, are susceptible to effective evaluation within the theoretical framework in which the investigations we are considering are placed. Thus, Lamarck deserves credit for having identified certain factors or conditions of itransformation of living beings . There are also some erroneous opinions about Lamarck's ideas in this regard. When discussing Lamarck's theory, the emphasis is placed onthe factor that the naturalist himself considered secondary in his "Zoological Philosophy": the influence that the environment and changes in living conditions have on organisms, the role of function, exercise or disuse in the creation, strengthening or disappearance of an organ. It is appropriate to re-establish the true face of Lamarck's opinions. Above the moment called "environmental influence" and above the moment called "function", to which he attributed such importance for the transformation of life, Lamarck also admitted another factor of evolution on which the popularisers of his ideas did not focus.the importance of transformation of life, Lamarck also admitted another factor of evolution that the popularisers of his ideas did not dough enough. This factor would be a kind of tendency towards self-improvement of life. It is true that Lamarck himself dwells so much in his considerations on the influence of the environment and on the role that function would play in the promotion of organs that the reader is ultimately left with the impression that these would constitute, in the naturalist's opinion, the main factor of evolution. And by "Lamarckism" naturalists, especially , understand this aspect of the theory. However, Lamarck argued in terms that leave no doubt as to the meaning he attributed to evolution, that:

the main factor would be the tendency towards perfection1

life expectancy. It is true that what Lamarck states about the tendency towards perfection remains very vague, never going beyond the realm of the nebulous. Lamarck's thinking, in this regard as in others, is not without ambiguities, which are th the examples he uses to illustrate his intentions. Thus, Lamarck cites the same example both to highlight the influence of the environment and to illustrate the tendency of life to adapt its organisations tot mai desă-

These are ambiguous symptoms of an imprecise understanding or a difficult area of research. As can be seen from his works, Lamarck, like other naturalists of his time, was constantly preoccupied with the idea of a hierarchical scale of living beings, whose levels would be determined by the increasingly sophisticated organisations of living beings. Unfortunately, in Lamarck's works we find no useful indications, let alone criteria that could in any way guide us as to what the term "perfection" might mean. The question of the tendency towards perfection attributed to life remains with him is influenced by considerations of an obviously theological origin. One thing appears, however

From the naturalist's texts. Unlike other cer-

Like his predecessors, Lamarck attempts to explain the scale of supposed perfections through evolutionary descent. Lamarck imagines the biological situation as follows: life evolves due to an intrinsic factor towards increasingly perfect systems, but in this ascent it is constantly hindered by the influence of the environment, which leads to various deviations from the plan of nature. It is not difficult to see that Lamarck modifies, through this theory, in a very original way, and without realising it, the old Aristotelian theory of entelechy, in the sense that entelechy is no longer put to work in the individual organism. And just as Aristotle spoke of certain deviations of the organism from the plan of entelechy, attributing them to the individual organism, he also spoke of certain deviations from the plan of nature, attributing them to the environment. And just as Aristotle spoke of certain deviations of the individual organism from the plan of entelechy, attributing these imperfections to a resistance that opposes the entelechy striving to realise itself in it, so Lamarck speaks of continuous struggles of living forms throughout the evolution of species.to oppose the entelechy that strives to realise itself in it, so Lamarck speaks of continuous deviations of living forms throughout the evolution of species from the plan of perfection pursued by nature. Lamarck attributes these deviations to the influence of the environment on organic life.

This parallel, which we have decided to draw between Lamarck's theory and Aristotle's, greatly facilitates, we believe, the understanding of the rather unclear thinking of the French naturalist, if indeed this was his thinking. In the light of this theory, organisms have two kinds of particularities: some are due to the tendency towards perfection,

and others resulting from environmental influences. Let us disregard Lamarck's theory and pause for a moment to consider the distinction he makes between the two types of characteristics generally attributed to living beings, and ask ourselves whether this distinction has any empirical basis. Our impression is that we are indeed dealing here with the first outline of a distinction that is currently quite common in biology. We refer to the distinction that a number of naturalists make between the particularities of organisation of life and the particularities of adaptation of the latter. Here is a circumstance that invites us to appreciate more favourably the scientific activity of Lamarck. That Lamarck is still very uncertain when he exemplifies the two kinds of particularities is very true. The naturalist has received many criticisms for this, but they are not always fully justified. We maintain that the difficulty lies in the very nature of the particularities in question. For the two types of characteristics never seem to be found in nature in their pure form. Organisms manifest only characteristics in which organisation and adaptation interfere in varying proportions. There is no organisation without adaptation, nor adaptation without the substrate of that organisation. This does not mean that, theoretically and analytically, the distinction in question is not possible. The ambiguities and inaccuracies to which Lamarck succumbs, when first attempting the operation, can be explained in part by a factual state of nature and only secondarily by the researcher's analytical insufficiency.

About the trend of "perfection" attributed by Lamarck to life as a whole and throughout its evolution, we learn little from his works. This is not surprising, given the metaphysical nature of this tendency. However, Lamarck shares much more with us about this second factor which, in his opinion, would modify organisms at every step. How does Lamarck imagine the influence of the environment on living beings, or how does he imagine the second factor which, although secondary, according to his own understanding, ultimately occupies the first and most emphasised place in his works?

Namely, changes in the external conditions of life of these beings awaken in them certain needs

Consequently, these needs lead to functional changes in the body, and functional changes, whether positive or negative, give rise to the creation, promotion or disappearance of organs. As for secretory functions, which act as a reinforced function leading to the growth of the organism, Lamarck resorts to the concept of "fluids," which would determine the plasticity of organisms. In a previous work

In Zoological Philosophy, which nevertheless clearly states the evolutionary thesis, Lamarck interprets in a transformist sense the multiple relationship between function, organ and environment, as follows: "The bird, which necessity guides to the water in search of food, spreads its toes when it wants to beat the water in order to swim. The skin connecting the toes at the root acquires, due to this constant repeated spreading of the toes, the habit of stretching. This is how, over time, the broad membranes that currently connect the toes of ducks and geese, etc., were formed. The same efforts to swim, that is, to push the water forward and to move, have also widened the skin between the toes of frogs, sea turtles, otters, and beavers.

And further: "The bird, on the contrary, whose way of life accustoms it to perch on trees and which descends from individuals who have all acquired this habit, necessarily has longer toes than the water animals we mentioned earlier: its claws have lengthened over time, becoming sharp and curved so that they can grip the branches on which the animal often rests." "It is also understandable how the shore bird, which does not swim happily but must approach the water to find its prey, is forced to stand constantly in the mud. This bird, which wants to avoid its body sinking into the water, makes every effort to stretch and extend its legs."

These efforts by animals would be successful thanks to mysterious "fluids" which, according to Lamarck, would shape them from within. I have deliberately quoted some texts from the French naturalist so that we can get a better idea of how he approached and resolved the issue of transformism. A lot of time has passed since Lamarck, and biological experience has enriched enormously. The theory has de-

It has become more refined and complex, so much so that today these texts have an air of art-talk about them. One might say that we are faced with prescriptive texts, in which fantasy is as present as it is in myths.

Lamarck was still moving very uncertainly through the thickets of transformationism, and this is clearly seen in some of his views on the migration of birds and
mammals. According to his opinion, birds are descended from turtles, and "amphibious" mammals (sk I), which
would be the original ones, such as the seal and the sea lion, would derive from crocodiles. Anyone can see how easily they could have been compromised by such a concrete application
concrete terms, the transformist conception. That many of the observations and arguments on which Lamarck based his transformist conception are erroneous or flimsy is self-evident today, but this does not yet prove anything against the conception as such. Subsequent research has greatly enriched the observations and decisively corrected the arguments, so that the idea has gained full legitimacy.

## Darwin and natural selection

In the preliminary operation of establishing the theoretical framework in which we will carry out our bio-anthropological considerations, we will also take into account several other ideas besides the idea of transformationism, which we have discussed so far. One of these ideas, which became particularly prominent in the second half of the last century, is that of "natural selection." The naturalist and thinker who made extensive use of this factor, attributing to it the power of principle, on which he based the very origin of species, is Charles Darwin. However, this idea was not entirely new at the time when it was developed "theoretical". Not far from Darwin himself, a series of predecessors suspected or stated this aspect in clear terms. Thus, according to Darwin's interpretation of an Aristotelian text, namely a passage from Physical aus1cuHia1tdones (lib. II, chap. VIII, para. 2), the first author in whom the idea of natural selection can be found, at least in embryonic form, would be the Greek philosopher. Aristotle speaks, in the indicated paragraph, about wholes composed of parts that seem to be made for a purpose, since the real relationship between these parts may be only accidental. In other words, he is talking about certain finalisms in nature that would come into being by chance. But Aristotle, it must be said, does not become a precursor of Darwin through an excess of zeal on the part of the latter in his interpretation, for the Aristotelian idea has only marginal importance for the Greek philosopher and th s remain without consequences for his biology. Moreover, sticking to

Taking into account Aristotle's entelechial biology, we must note that the idea in question encompasses the philosopher's entire "finalist" orientation. However, the idea of natural selection actually appeared in antiquity, but in the work of a philosopher prior to Aristotle, from whom the Stagirite undoubtedly borrowed the idea for a speculation that did not really have a place in his system. We are referring to Empedocles. He argued that nature randomly produces all kinds of "organs" that try to live in se-

par1ație: eyes, JJàsuri, hearts, .st1om acurii, etc. In ïsolation, a1oesrt:e 01rgianie does not resist c:O!Il:diții.lor rna·turale. Org1a-

They manage to preserve themselves only when they happen to combine in the form of complex organisms. Nature would therefore make a selection among its products, preserving those that are able to cope with external conditions and exterminating those that are not. Darwin does not mention Empedocles among his predecessors, although he seems to us to be the only thinker of antiquity who advocated, in a naive but fairly coherent way

in its logical articulations, gave selection nia1turiale. In

orke ca"Z the idea of a1pail"e before Darwin, and sometimes even under the name of "natural selection". Thus at dodorul

W. C. Wells, in 1813. Protagonist of the idea becomes however '

Ch. Darwin. deserves full credit for the scientific development and amplification of the idea. In modern times, the idea of natural selection has been reached not through speculation, as in antiquity, but through empirical and logical means,

starting from 'observations related to selection

Artificial selection is known as a method used by vegetable growers and animal breeders in domestic settings. Based on thousands of years of experience, farmers and breeders know how to obtain new varieties by accumulating variations conditioned by the selection of individuals for reproduction according to precise criteria. Obviously, artificial selection is carried out in accordance with the specific interests of growers and breeders who seek to enhance certain characteristics that plants and animals possess, either generally or accidentally. The benefit of artificial selection is usually for humans, not for the breeds that result from the application of the process. Through the artificial selection of individuals intended for reproduction, se reaches variants with particularities tot

more pronounced on certain lines. This results in cattle with longer horns, cows that produce more milk, pigs with a greater predisposition to fattening, roosters with more impressive combs, pigeons with more balanced crops, wheat that produces more and larger grains, and roses that are more voluminous. Darwin would try to argue that nature works according to a similar principle, with the difference that it does not select individuals according to criteria that benefit humans, but according to criteria that take into account, if one may say so, exclusively the advantage of the individuals as such, in their struggle for existence in natural environmental conditions. Let us suppose that an individual...
The bird comes into being, being accidentally endowed with a greater so cold , due to the fact that it develops more abundant feathers. The individual will prove to be better equipped to face the winter weather, which decimates birds.

The individual will therefore have a greater chance of survival

and, consequently, to reproduce. Among the offspring of this individual, there will

again be examples
under the same ratio and even more advantageous. J,ocul se ' repetă. Aceşrti indivizi vor înfrunta mai esne
the vicissitudes of winter, thus having the chance to perpetuate themselves, while less well-equipped individuals will fall victim to the rigours of existence. It is therefore fair to say that nature makes a selection, accumulating variations in certain directions, which will result in variants and races with characteristics that are more useful to themselves, even if they were those of individuals or genera. The idea

natural selection developed even and only Îl ,aoeste
Several of its joints present a rather illogical profile, which is difficult to avoid, and its relevance may multiply the arguments in its favour.

in its favour. In all these calculations, shall be taken into account.
astonishment and the fact that, in its struggle for existence, a being asserts itself not only in relation to physical conditions, but also in relation to other beings. Example: the wild rabbit, inhabiting snowy regions, stands out all the more from its many enemies, from foxes to humans, because its colour deviates more insistently from the white of the snow.
snow. To the same extent, enemies decimate the species. The chances of escaping unnoticed, and therefore reaching the reproductive stage, are greater for hares whose colour is closer to that of the snow. Example 1.1Il is eloquent

and cannot be refuted. Nature makes a selection in the sense of accumulating variations along the lines of particular characteristics that are useful to beings in the struggle for existence.

From such simple observations in essence, but at the same time rooted in the same strict logic.From this idea, Darwin proceeded to develop the entire theory of the descent of species based on the principle of natural selection (complemented by that of sexual selection). Let us noté that natural selection, in order to produce the results it is capable of, requires, according to Darwin's own conception, geological time scales. The variations that nature accumulates would be so small that they would not lead to new species except over hundreds of thousands or millions of years.

Numaidedt after the appearance of the epoch-making works about

"Either the species originated through natural selection" Various objections were raised to Darwin regarding the formulation of the basic principle of . One of the most ridiculous objections is that Darwin simply transposes onto nature a process that implies the existence of intentions and conscious criteria, which are obviously present in the concept called "artificial selection". Hence the conclusion that the principle of natural selection is "unscientific". In later editions of his work, Darwin does not miss the opportunity to set the record straight. This response is worth highlighting because it testifies to the methodological lucidity of Darwin, who is often reproached precisely sub •acest raport un anume sim-

pllism dogmatk. I1ată ce 1spune Darwin: „In sențml

Literally speaking, there is no doubt that the term natural selection is erroneous; but who has ever criticised chemists for using the term elective affinity when talking about various elements? And yet, strictly speaking, it cannot be said that acid chooses the base with which it prefers to combine. It has been said that I speak of natural selection as if it were an active or divine power; but who criticises an author when he speaks of attraction or gravity as directing the movements of the planets? Everyone knows what these metaphorical expressions mean and imply, and that they are necessary for the clarity of the discussion. It is also very difficult to avoid personifying nature, but by nature I mean only the action of corn-

combined and complex results of a large number of natural laws" [1].

Darwin was well aware that he was using some metaphorical expressions, inevitable in any discussion, and he perfectly highlighted his self-critical attitude, of which era în stare, dnd indioa acest metaforism ca o custom in chemistry and physics. It is evident that any criticism of Darwin on this point does not touch on the substance of the issue, since any such reproach concerns only conceptual and theoretical aspects, which are scientifically neutral.

However, this was neither the only nor the most serious of the attacks that the theory of natural selection had to endure. Other critics attempted to get closer to the heart of the matter. Some argue that, according to Darwin, natural selection itself produces the variability of life, speciHor, raselor. O impresie netă că Darwin .ar supports this, as can be seen from many of his statements and from the title of his book. However, this impression becomes false when we compare it with some clarifications provided by Darwin himself in order to dispel any possible doubts. The great naturalist acknowledges, cel at least when when he decides on precise formulations, that natural selection does not entail variability, but it implies the preservation of variations produced accidentally, when they are useful to the individual in the conditions of existence in which it is placed" [2].

It is a fact however that Darwin approfondit inde-aj uns·aoeiastă la1tiură a teodei, lăsî1nd-·o î:nconjura!l:ă de o •eamă de afirmații, ce pair mai mult tatonări decât certainties. Sometimes Darwin seems to clarify for himself that the variability of life and species is not a result, but rather an implication of the principle of natural selection. When he seems to argue the contrary, we should remember that Darwin explains variability through the principle of natural selection only to the extent that selection leads to a cumulation of variations pe same line. Moreover, once, putting

1 Ch. Darwin, L'origine des especes, definitive edition, Paris, Schlei-cher-Freres, p. 87.
2 Ch. Darwin, op. cit., p. 86.

The matter itself is variable, and Darwin clearly states: "Our ignorance of the laws of variation is profound. We cannot even once in a hundred cases claim to indicate the causes of any variation."[1].

Looking more closely, we discover that these tentative steps around the principle of natural selection can be explained by a certain scientific caution that guided Darwin in his research. He was first and foremost an empiricist and showed a certain reluctance to make theoretical statements in absolute terms. But having reached this point, it is perhaps appropriate to look at the theory of natural selection as a whole and from the perspective that philosophy and science allow us today.

From the outset, and considered unilaterally as philosophy, the theory of natural selection gives us the impression that was neither sufficiently energetic nor sufficiently consistent in its thinking. The theory suffers from some impurities. What do we mean by this? Viewed from a philosophical perspective, there is no doubt that the theory of natural selection brought great novelty at the time of its appearance. With the help of , an attempt was made for the first time (in modern times) to explain the de facto finality of organisms without resorting to a conscious, inherent finalist principle. Let us clarify. The finality of organisms, i.e. their structure and conformation, pline of correlations and correspondences, through which the preservation of beings in environmental conditions ensured, is a fact of common observation. Relative finality 2 is an aspect of life. Some philosophers, led by Immanuel Kant

amt, considers the finality oa O oaitegorie specific, without full cognitive power, against which the viraţa, with its manifestations, nevertheless acquires a particular transparency. In any case, the aspect has always tempted cerne-

1 Idem, ibidem, p. 178.

2 The term here means a purposeless finality, that is, a de facto match, in the realisation of which no "intention" necessarily intervenes. When we talk about de facto finality, we should not understand it as intelligent or providential finality, but as a relationship of relative convenience between the organism and the environment. This finality as a simple relationship of "adaptation" between organism and environment is a generally accepted factual state, regardless of the explanation given for it. Such a de facto finality is also accepted by dialectical materialism, provided that it is not considered to be the product of a conscious intention of a divine creative nature (see Engels' Anti-Dühring).

thinkers and philosophers, often becoming an occasion and a pretext for "metaphysical" explanations. Usually, the explanations that have been put forward over the centuries regarding the origin and substance of organic life tend towards the hypothetical admission of a creator-finalist principle: God, the spirit, the vital principle, the soul, the idea, creative reason. Darwin was the first in modern times to propose an explanation of the de facto finality of organisms from a non-finalist perspective, resorting to the idea of natural selection. The indisputable success of such a point of view would have been of immense philosophical importance. However, it is precisely from a philosophical point of view that Darwin is far from having thought the idea through sufficiently consistently and purely. That life itself produces random variations, among which the interplay of natural necessities selects and preserves those that are useful to the individual, is certainly a thought that can be fruitfully applied.

However, to fully explore this idea, we must examine the implications of such a hypothetical approach by nature, based on probability calculations. It does not seem sufficient to us to assert that, among several random variations, nature chooses the one that happens to be the "finalist". For, in order for a "finalist" variation to appear in an order and on a plane of events, countless non-finalist random variations are necessary, looking at things theoretically and according to the simplest calculation. The processes of transformation of life, which lead to so many new variations, could undoubtedly offer a mathematical chance for the accidental emergence of a finalist case; However, such a chance remains conditional on the assumption that life would be capable of an infinite explosion of non-final variations, in all directions and at every step. This seems to us to be the implication, which we calculate ipso facto when we take the idea of natural selection seriously. But such a corollary, which we derive purely speculatively from the terms of the theory, contains conjectures that are not really confirmed by biological experience. We mean that nowhere in nature do we observe this expected explosive variability of life in infinitely many directions and at every step. We might be told that experience gives negative results on this point, because the variations in question would be infinitesimal, and therefore insensible.

zabile. Such a clarification of the situation would be acceptable: if did not du:oe to o 1t1.ouă nedrumerire. Let us admit, however, de for the sake of discussion, that the variations would indeed be infinitesimal and therefore imperceptible. In this case, it remains unclear how nature could "choose" between an infinite number of non-finite variations on that which happens to be "finalist", given being

- according to the agreement - that the "finalist" is de-

It differs only imperceptibly from all the others. It seems to us that in order to be effective, natural selection presupposes sensible variations, for only these can become the subject of choice for their eventual use. Having reached ad, se cere să gîndim lucrurile pînă la capăt. If natural selection presupposes a production of variations, accessible to observation in any case, it cannot become effective in other conditions, and given that we must also take into account the 11.nlele suggestions of the calculation of probabilities as we have shown above, it is clear that we will have to admit a variability of life that is not only perceptible in all its forms, but also of infinite prodigality at every step. Once again, however, experience refutes such a hypothesis. Here is one of the most serious reservations that can be formulated in philosophy regarding the idea of natural selection , if we admit 1 as a principle that regulates, certainly and absolutely, the transformations of life. In his theoretical endeavours, however, Darwin was not guided by such philosophical criteria. And, by not doing so, he will move among compromises which, even by their very nature, are destined to diminish on the one hand, the fundamental validity of his idea and, on the other hand, lead to the abolition of its exclusivity , . The fact is that Darwin never thought of calculating with an explosive, infinite variability of life. He only calculates with a variability in general, for the explanation of which he admits many and diverse causes, which, according to his own testimony, "we ignore".

PellJtru takes the seminal compromise111rilie l1a to which Darwi1r1 declares himself willing, we recall that among the "causes" that lead to the transformation of species, he also accepts some of those that Lamarck once tried to highlight. Darwin concedes, for example, that in many cases, the use and exercise of organs lead to variations, or that the direct influence of physical conditions can cause variations.

floating, but sometimes also definitive. The English naturalist did not suspect that by accepting such variations - sometimes "Lamarckian" - he was appealing in his theory of life to "reactions" that imply, to a certain extent, a finalism of a vaguely creative nature, which suspended the exclusivity of 's non-finalism as an explanatory principle of "de facto finalities".

Following him more closely in the way he presents the phenomena of life, one sees how Darwin further undermines the intrinsic intentions of his theory.e vieţii, -se via r1emiar oa adle1s1eori cum Darwin submined the intrinsic intentions of his theory , which he wanted to be based solely on the principle of non-finalism, and for other reasons that he assimilated, without always thinking about the consequences. Thus, he generally admitted that nature preserves accidental variations over generations to prove useful to living beings. He believed this process to be possible in two ways: first, because thanks to the randomly acquired variation, the individual is more likely to survive; and second, because the individual would pass on the variation in question to his descendants. However, we must ask ourselves whether the thesis regarding such transmissibility is not an assumption through which in the theory of life a reflection of that final creative purpose crept in, which the overall intentions of the theme attempted to circumvent?

Also through a derogation, which he does not mention, however, from the principle of non-finalism, on which he bases life, Darwin also attributed other gifts to "heredity". According to the biologist, o particular useful feature already established, in one way or another, in the constitution of living beings, can therefore be transmitted to their descendants. But not only that.

•at1î t. Naturailiis1tul se showed d iisplllls to agree that it can be transmitted and 10 "v,ariabi:lHait·e " 1as a tendency, oe will lead to the same particularities on various successive lines, without a particular.The particularities would have had a definite space in the original ancestors. With this "tendency" to vary in a certain sense along different lines of evolution, we do not come close to the "finalist" tendency with which Ed. von Hartmann and other vitalists attempt to explain the appearance of certain xml-ph-0002@dee.close to the "finalist" tendency, with which Ed. von Hartmann and other vitalists attempt to explain the appearance of some organs or similar characteristics on very divergent evolutionary lines ? With these questions, we want to express only some doubts with regard to

1 Ch. Darwin, op. cit., p. 170.

's philosophical purity: Darwinian theory. Darwin, scientist of irreproachable honesty, was obviously familiar with a great deal of biological facts, and as a keen observer, he felt compelled to take into account experience even beyond the natural elasticity of his theory. The facts forced him to make a series of limitations to his theoretical ideas and sometimes even to abandon them.

Marx and Engels expressed their particular dissatisfaction with Darwin's evolutionary doctrine, which annexed a materialist perspective to the vast domain of life, after in the 18th century a certain Laplace had sought to imposethis perspective in the consideration of cosmic matter as the substrate of the evolution of celestial bodies. It is no less true th
Marx 1 , and Engels were the ones who pointed out some shortcomings and even "gross errors" in Darwinian theory . In "Anti-Duhring," Engels states unequivocally. "The theory of evolution is itself very young, and consequently there is no doubt that future research will significantly modify current ideas, including those that are strictly Darwinian, on the development of species."

Engels clearly argues that Darwin exaggerated when he made natural sthe exclusive cause of species variation.

We cannot conclude this chapter without mentioning some results of particular importance to which biological science has recently arrived with regard to the possible efficiency of selection in general. The results to which we refer are due in particular to the work of biologist W. Johansen 2, who has shown, on the basis of extensive experiments , that what can be achieved through selection to improve the level of a plant and animal population is, in practice, of particular significance, but that the efficiency of selection is not far from that which Darwin theoretically approved, because this path never leads to a change, to a shift in particulars.

1 Marx is particularly opposed to the application of ideas about the factors of "struggle for existence" and "natural selection" to the history of society humans, where these factors become most effective
much in the phase of free competition of the capitalist bourgeoisie, but not exactly as in nature.

2 Johannsen W., Experiments Grundlagen der Descendenzlehre
(Allgemeine Biologie, in .Kultur der Ge genwart").

hereditary traits inherent to a constitutional type (genotype). Does this place a limit on the use of the idea of natural selection in the problem of tre.sfio rmism? U!nii

Naturalists are of this opinion. We believe that a new proMemory has been opened here. However, from experiences such as those of a·celOlfa Johannsen, we are not

— we will emphasise this — to dwell on the stability of the constitutional forms of life, as some naturalists were quick to think. Botărîți a. Looking at life from a transformed perspective, we will argue that if selection cannot achieve the transformation of vital genotypes, then, naturally, such a transformation is due to other factors, which are yet to be brought to light.

's theory of mutations

In the 19th century, Darwin and Spencer's works established the idea that evolution occurs through slow, infinitesimal stages, but more recently, the theory of mutations, proposed and supported mainly by Hugo De Vries. The Darwin-Spencerian theory, , was and developed from the perspective of the concept of "continuity", while the latter was articulated from the perspective of the concept of "discontinuity". According to De Vries' conception, transformations are indeed real Vlamte 1ale vieţii s-ar .efectua brusc, prin „mutaţii ". De Vries developed his ideas in his work "The Theory of Mutations" (1901) and then in his study "Species and Varieties and Their Genesis by Mutations" (1906). During the first decades of our century, evolutionism, advocating the thesis of slow variations, has increasingly lost ground to mutationism.

In his seminal work, completed in 1900, De Vries mentions several precursors of mutation theory. Most importantly, in his opinion, is Louis Dollo, who in 1893 published a study on "The Laws of Evolution." Dollo was was the first to formulate mutationism as a theory. overall view of life, stating that "evolution is discontinuous." Concise and simple, this sentence could have revolutionised ideas about the development of life forms on Earth, if it had been understood from the outset in all its consequences. The significance of this sentence is also worth emphasising for its symmetries

in relation to the quantum theory proposed a few years later by Max Planck in physics. However, while in physics, in the field of energy, the perspective of discontinuity led to surprising results, in biology, the perspective brought by Dollo took root more slowly, without causing the same sensation. The importance of Dollo's study for the development of theoretical biology

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Dollo's study links the theory of evolution to the postulate of discontinuity for the first time, but the study also includes the formulation of several laws, one of which is currently known by the author's name. Dollo's law states that the evolution of life is irreversible and limited. This means, on the one hand, that life , in the development of its forms, never returns exactly to the forms it has already passed through, and on the other hand, that evolution also has its limits. We will encounter irreversibility as a feature of evolution in the course of our presentations. Among the general theoretical elements that we use in our anthropological views, this aspect must be mentioned, as we believe it is important for resolving some very delicate issues related to human evolution.

But let's get back to the topic. What does the theory of mutations consist of? The terms " " ( ), "mutație" ( ), "mutabilitate" ( ) and "nu " (nu ) are precisely
new. In the first decades of the 19th century, these terms were used to designate formal variations of life in general. De Vries reactivates them, but gives them a more precise meaning. He speaks of variations and mutations as completely heterogeneous processes. There are variations and there are mutations. It is true that the classics
evolutionists, such as Darwin and Wallace, were aware of some singular variations, which today would be called "mutations".
variations." At first, Darwin did not attach any particular significance to these singular variations in the process of evolution, considering them no more important than the usual slow, individual variations. Regarding Darwin's attitude towards this issue, De Vries oonstată the following.

"Darwin constantly made a distinction between individual variations
individual variations and singular variations; he gave the latter a less important role in the genesis of species. Only under the influence of his critics did he abandon

this opinion for a attribute an essential role to individual variations, which are found everywhere"[1]. W·allace, ·simplifying his theory Da!fwin, was of the opinion that the individual variations that we would today call mutations, play no role in the development of species. At In turn, De Vries reverses the perspective, arguing that common, individual variations, which, through natural selection, could lead to an ennoblement of v1afi.etății, are of no importance in terms of the emergence of new species, and that new species always arise only through mutations, oare give suddenly species defintte which remain constant until a new mutation is eventually declared. Within the limits of any new species, appearing through mutation, sunit, naturally, according to ·Opinion of De Vries, possible and countless individual variations, which, however, have no a significance for evolution such ·De Vries presents himself primarily as an opponent of Darwin's concept of regarding the genesis of species through natural selection. Through selection, he argues, whether natural or artificial, truly new species cannot be obtained. Selection would only have practical importance, in the sense that it can raise the level of a crop or livestock, with the proviso, however, that the improvement thus obtained is maintained exclusively within the framework of generic types that already existed in a population. De Vries also points out in this regard that any higher-level plant and animal cultures obtained through selection, , revert to their previous level within a few generations as soon as the selection process ceases. Based on these observations, De Vries concludes that: only the particularities acquired through mutation are transmissible through heredity, and only these remain constant until a possible new mutation.

The theory of mutations as presented in De Vries's studies, which mark true data, contains———why should we not admit this?———a great deal of "theory" and relatively little empirical material. If we recall the wealth of documentary material contributed by Darwin in "The Origin of Species," De Vries's theoretical approach seems bold. De Vries

[1] Hugo De Vries, Die Mutationstheorie, Leipzig, Verlag von Ve it, 1901, p. 28.

began to gather material in support of the theory of mutation in 1886, when a deseoperit pl,anta Oenothera lamarckiaina, spede ce manifestă aduialm ente o capia.ci-tate mutațională ex:cepțională. De Vries a urmărit ma-nifestările acestei plainte, metodi c şi sistematic, asupra unor culturi realizate în optime condiții experimentale, and this over a decade and a half before revealing his theory. The experimental material in question is impressive, but at first limited to the manifestations of O enotherei, so that the theory required a generalization of the results from one species to all existing ones. Of course, that and careful study of several cases allowed the announcement of a theory, but this only with the proviso that the examples, which could have meant a confirmation, would subsequently multiply, which, to the dismay of the theorist from Vri,es, did indeed happen. The relative rarity of phenomena of mutation during of did not discourage anyone, but became, in fact, an element of the theory itself. During the fifteen years of observation, the following experimental cultures were established Oenothera lamarckiana mu-mutations, the results of which De Vries observed and described. There is no need to go into detail about the situations that De Vries dealt with extensively in the first volume of „The Theory of Mutations". Pl,arnşa I with three figures illustrates the meaning in which Oenothem lamar ckiiana S- a changed, through small jumps, dind forms, on which, according to the criteria in use, any naturalist le will regard as species us. The changes are particularly striking in the leaves, although the morphology of the plant undergoes changes in many other respects as well. De Vr ie1s claims to have observed that these new species have remained constant throughout the generations conse-consecutive generations which step by step he had under his eye. That from The short duration of observations compared t 's multimillennial pace of evolution does not allow for such categorical conclusions, .cum le voia De Vries, este o alta chestiune.

In any case, De Vries' examination proved the strong mutability of the species Oenothera l amarckiana. On the basis of the material collected, De Vries believed himself justified in formulating the following laws of mutation:

1. New elementary species are produced suddenly, without intermediate phases.

2. New elementary species are most often completely constant, even from the moment they first appear.

3. Most new types that appear correspond, in their characteristics, exactly to new species, and not to simple variations (variations occur naturally within the limits of each species).

4. Elementary species appear in considerable numbers of individuals, simultaneously or at least during the same period (De Vries also calculated the percentage of new appearances. As regards the Oenort:her family, seven new species have appeared in the course of ten years, namely at a rate of 1-2% of the number of individuals comprising the population within which the mutations occurred).

5. The new particularities indicate any relationship striking, with individual variability.

6. Mutations occur in all directions, affecting all organs.

7. Mutability manifests itself periodically.

De Vries formulates these principles without hesitation; he expresses reservations only regarding the proposition concerning the periodicity of mutability. Here he also acknowledges that it would be more a matter of

presupunere, spre care ne- îndruma observați.a cu-

currently that mutational fertility is found in the most many species, if not eliminated, at least reduced to a state of l·atență. In volume doi al " Theory of Mutations", by Vries will insist on periodicity, but also on

The fact that a species undergoing acute mutability usually produces a number of new species whose mutational capacity seems to be definitively extinguished. This would explain, among other things, the fact that there are so many organisms, which, over the course of geological eras have not changed their appearance in any noticeable way. We learn almost nothing from De Vries about the internal or external factors directly involved in the processes of mutation, and even less about the factors which — assuming that mutability would be a fundamental characteristic of life — would periodically inhibit the capacity for mutation. As regarding the laws mutation produced by by De Vries, it should perhaps be noted that they are prematurely presented as "laws". Given the scarcity of documentary material, we must say that they float in the rarefied air of hypothesis. We will concern ourselves at some point with

, point 6: "Mutations occur in all directions, and the changes affect all organs." This so-called "law" seems particularly suspicious to us, as it is based on little empirical evidence. We said that the theory of mutations concerns organic evolution in the perspective of "discontinuity". The sentence with which De Vries begins his fundamental study is this:

"I call theory of mutations the statement that the properties Organisms are composed of distinctly separate units. These units can combine into groups, and we find these units and groups in related species. Transitions, as we observe them so numerous on the external forms of plants and animals, exist in these units, just as little as between the molecules of chemistry"[1].

It should be noted that volume two of "The Theory of Mutations" appeared only in 1903 and that it was only here that De Vries made extensive reference to his theory of the laws of heredity discovered by Mendel. Mendel's discoveries regarding the laws of heredity, made decades earlier, had remained unknown in an Austrian provincial journal until, finally, other naturalists, including De Vries, revealed their completely exceptional importance. Through his research on heredity, Mendel demonstrated the discontinuity of the elementary characteristics of species, and this in a field that could be properly researched and even allowed for the application, at least statistically, of mathematics. Mendel's results were fully contributed to by De Vries in the theory of organic evolution by "leaps". Mendel's discoveries could be invoked as further evidence in favour of the concept of the discontinuous development of life forms.

De Vries concluded the second volume of his "Theory of Mutations" with some rather naive mathematical speculations intended to support his theory. However, according to current knowledge about the evolution of the Earth, ar would be sooner than nature ' s-,0 refute . De Vries argued that, in order to accept the evolution of life through v1ariațiuni imperceptible, as

understood the Dascians evolutionism, should

[1] Hugo De Vries, op. cit., I, p. 3.

calculate with enormous geological durations, that is, according to certain calculations with a duration of two billion and a half years. But — as De V1r i1es argues — various researchers have found, using various methods, that the age

The Earth could not be more than a few tens of millions of years old. Guided by the eminent authorities of the time, De Vries calculated the age of life to be 24 million years, from which he concluded that life, in order to evolve during this period, had no other path than that of "salits". This is how naturalists of the time assessed geological durations fifty years ago. However, with the progress made by in the study of radioactivity, other assessments were made regarding the age of the Earth and life. These new assessments, given their more certain elements, present a very high degree of probability. Life is estimated to be at least one billion years old . Obviously, if we stick to the terms in which De Vries posed the question, this latter figure would tend to support the concept of imperceptible stages in the development of life. We mention all these calculations not so much to provide evidence for or against one theory of life or another, but rather to show how unrealistic and fanciful even speculation can sometimes become.

matical relations, when are more than "speculations", than "mathematical".

De Vries had high practical hopes for the theory of mutations: "A knowledge of the laws of mutation will, as can be predicted, eventually lead to the voluntary and artificial production of mutations, thus bringing about new characteristics in plants and animals"[1].

De Vries was therefore convinced of the possibility of voluntary human control over the processes of mutation, which would lead to the creation of superior species of plants and animals. Today, almost fifty years after the theory was formulated, we are still in the phase of trials and experiments, but all signs

——— and if we take into account the results of research by the Soviet Miciurin-Lysenko school ——— we are also seeing some initial successes. Here is what natural ist says on this subject

[1] Hugo de Vries, op. cit., p. 5.

Marcel Pre.nant: "Long ago, Darwin, De Vries and others had the impression that mutations were particularly frequent in domestic animals or cultivated plants in a rich environment. This vague indication of the influence of the environment has been clarified by recent research, which has succeeded in increasing the proportion of mutants to a remarkable or even enormous extent: in some cases, up to 150 times. These studies, conducted on several species, including Drosophila and barley, were carried out using various physical and chemical factors, the most effective of which were temperature, ultraviolet rays and, in particular, X-rays, as well as those of radium (...). We can conclude from these experiments, Prenant continues, at least the notion of an effective action of the environment on the production of mutations. However, it seems that, on the contrary, it has so far been impossible to produce a well-defined mutation in this way. Moreover, the same external physical factor seems to mări în același timp proporția diverselor mutații"[1].

For the massive realisation of De Vries' dream, with the dominant objective of practical mutation processes, we must probably wait for a very fragile solution to the fundamental problem of modern genetics, referring to the factors that make up the genetic material.mutational processes, we can probably expect a very fragile solution to the fundamental problem of modern genetics, concerning the factors that constitute the hereditary substance of biological particularities and their mutability. According to the Weissman-Mendel-Morgan doctrine, only germ cells are susceptible to mutations, whereas according to the new concept of the Soviet Miciurin-Lysenko school, there are also mutations of somatic cells. The Soviet school of also highlights the importance of environmental influences in determining mutations.

The theory of mutationalism developed by Hugo De Vries aroused much interest both in scientific circles and in philosophical circles. In the first decades of our century, the theory is in its offensive phase, gaining more and more ground to the detriment of the classical theory of evolutionism. So-called "spontaneous" mutations were discovered, a few hundred in Drosophila and in the plant Antirrhinum.

1 Marcel Prenant, Biology and Marxism, Publisher Pygmalion, 1946, p. 208.

2 T. D. Lysenko, Genetics, in Annals Romanian-Soviet Annals, 1947, vol. 7, p. 35.

(snapdragon) . Research has also been conducted into the constancy of these mutations.

In 1932 un biolog ca Richard Woltereck, profesor of zoology at Leipzig, felt compelled to make this observation on the results obtained from the perspective of mutationism: "All changes in heredity (i.e. so-called sporadic mutations, n.n.) that occur before our eyes are reversible"[1]. Mutations accessible exame- of empirical evidence, would therefore revert to their original state. The constancy of the mutants observed on a regular basis, and with which De Vries calculated so much, became, in other words, very problematic for the aforementioned naturalist. From this, however, the biologist does not conclude that mutations would not have played a fundamental role in the evolution of life on Earth. On the contrary, Wolte-reck himself argues: " "It seems——and today we cannot say more about this——that the spontaneous modification of plant and animal forms (...), that is, the progressive evolution of potencies, was the backbone of the entire evolutionary process. However, we cannot achieve this universal development of species (...) through mutations. (by genes) (. . .) which are achievable today and which still occur, but which, taken together, do not essentially bring anything new"[2]. Here we see how even one of the most reserved naturalists regarding the importance of dance for the effective evolution of life, of mutations such as those that take place before our eyes, they nevertheless readily admit, beyond the mutations that would no longer be analysable today, progressive and irreversible mutations, which the backbone of evolution throughout geological eras.

1 Richard Woltereck, Grundziige elner Allgemelnen Biologie, Stutgart, Encke Verlag, p. 412.
2 *Ibid.*, p. 411.

## Other aspects of evolution

The idea of "evolution" was initially a theoretical perspective that attempted to organise the empirical material gathered by various naturalists. When the evolutionary perspective seemed sufficiently legitimised by the data that all fields of biology were bringing to light, the more intimate articulation of evolutionary processes in general was gradually examined. Among the first researchers and thinkers who passionately applied themselves to deciphering the law of evolution, of "progress," was the Englishman Herbert Spenoer. The results of his examination, although obtained from an exclusively "mechanistic", they have not yet lost all their rights to hold our attention. Spencer's considerations naturally require serious revision, but in any case, at least in biology, they can serve as a starting point for new, more flexible research.

In "Principles of Biology" Spencer argues, as in his other works, that any organic aggregate, like all other aggregates, tends to move from its indistinct simplicity, primitive, l1a o more distinct complexity, and this is due to the different quantities and types of forces to which its parts are exposed. Spencer believes that the structure of an organism gravitates from an indefinite homogeneous state towards a definite heterogeneous state and that this process accumulates its effects in successive generations if the forces that produce it continue to work. Applying this alleged "law" to organisms, Spencer opines that a heterogeneous

increasingly complex structures are formed simultaneously in the structure of individuals

, in the structure of species and in the structure of the flora and fauna of the earth. This is, in summary, the famous "law" of evolution, derived by Spencer from a wealth of observational material, which included examples such as the formation, under the influence of the wind, of a pile of dry leaves
of dry leaves under the influence of the wind, as well as the differentiation, under the pressure of conditions natural forces , a an organism . Against

atiari interpretări strîmt „meoanidste" evoluției s-au ridicat o seamă de obiecțiuni, din partea oamenilor de ştiillță sau a filosofilor. (Că „mecanicismul" este o
perspective insufficient for an exhaustive consideration
of life, is a point on which such divergent doctrines as positivism, dialectical materialism and vitalism agree).

The encounters we will have, Jie, support us.
— as far as possible — on simple observations. Obviously, looking at things "mechanistically", it will be difficult to grasp, in evolutionary processes, aspects more striking than those retained by Spencer. However, we will seek to show, by referring to some examples taken from biology, that simple "differentiation" leading from a state of indefinite homogeneity to o a state of heterogeneity defi-

is not in all cases a sufficient means of

defining evolution I do not find it difficult to prove

that in defining "evolution" it becomes necessary to introduce other criteria than that of "differentiation in general" used by Spencer. Since it is not appropriate to dwell too much on this issue, we will analyse summary and therefore dtev.'J

examples concrete. There is in the Mediterranean Sea o algae ( Oaulerpa crassifoli a) , oare, viewed only exterior, seems to be a plant of relatively superior organisation, superior in any case to that which the plant actually possesses.

The plant is creeping; from its axis, which sprouts buds, grow on one side a kind of roots with which it penetrates the ground and from another side some leaves green 10 centimetres long

several centimetres long. A closer examination micro-

The plant's purpose leads to a paradoxical result: it is not constituted from cells, as other plants of a appearance apparently similar, but represents a single

tubular, absorbed in roots and leaves [1]. Plaila represents a single-celled organism, of a morphology amazingly differentiated, having appearance of plant multicellular with a relatively higher level of organisation. The example speaks for itself and proves strikingly that it is sometimes possible to have an organic "differentiation" of aspects and characteristics that are very pronounced in their own way, without this leading to a level of organisation that exceeds that of lower beings. Single-celled plants and animals often exhibit a striking structural and morphological "differentiation" without, however, exceeding the single-celled level in their principle.

Let us therefore consider a "differentiation" from a state of indistinct homogeneity to a defined heterogeneity, a process which is nevertheless far from representing an equivalentequivalent to that progress which we observe everywhere in the plant kingdom, and even more so in the animal kingdom, and which takes place from a lower level of organisation to a higher one. What we mean by this is that among single-celled beings there are some that possess more "specialised" organs in terms of their function. some that possess more "specialised" organs in fe- their structure, unlike multicellular organisms, which we generally recognise as having a higher level of organisation than single-celled organisms. Apart from the algae mentioned above mentioned, it is worth mentioning, as an illustration of the situation that demands our full attention, some examples of extremely "differentiated" unicellular animals, which, at the level of organisation, do not reach that of multicellular organisms. Pri- you have a single-celled animal, such as "euglena" (see plate II, fig. 1) with remarkable internal differentiation, having various organs, including an eye spot with the creature reacts to light, and alongside it, then, the even more impressive, so to speak "sensational" case of a peridinea (Pouchetia), which stands out possessing an astonishing optical organ, a large eye equipped with chi.ar cu l entilă (see plate II, fig. 2). Let us pause for a moment and weigh things up. There is so many multicellular animals with a higher level of organisation than unicellular organisms, multicellular organisms that are still far from having developed a lens-like eye.

Such biological data suggests not only

[1] See B. Lidforss, ZeJuJarer Bau, Elementarstruktur etc. in Biologie, Kultur der Gegenwart, p. 265.

the possibility, but also the necessity, of a distinction between two types of progressive evolution, one along the lines of increasing specialisation of certain organs, the other along the lines of a more complex organisation of the organism. generally higher level. We would like to point out a distinction that modern biology is increasingly focusing on, because this distinction raises issues of paramount importance for the transformist theory of life.

But let us return for now to see what other conclusions can be drawn from examining the situation with regard to the law of evolution, as Spencer understood it. That an organ as undoubtedly complex as the lens of the eye also appears in single-celled organisms is a fact, on wh the English philosopher could not have suspected at the stage of his research during his , so that he was condemned, under the influence of the material available to him, to form a rather inadequate idea of the so-called "indistinct homogeneity" of unicellular organisms. When we are told about an alleged homogeneity
indistinct unity of unic elular organisms, and we happen to be fortunate enough to see before us the "peridinium" equipped with a lens-like eye, we cannot suppress a smile, because even in the unicellular kingdom there is a differentiation of organs that is truly astonishing. This is a circumstance that does not appear to be sufficiently valued in Spencer's formula. Unicellular organisms, as , appear to be much more differentiated. in their intimate structure, as the philosopher imagines. This is something to remember. And a second thing to note is that this differentiation, for which unicellular organisms stand out, differs profoundly from the processes by which higher-level organisations are achieved.
single-celled organisms, differs profoundly from the processes by which higher-level organisations are achieved. That, like , this second mode evolutiv is susceptible to a
be called "differentiation", i.e. transition from homogeneity
indistinct towards defined heterogeneity, may be fair, but the difference between differentiation, which remains within the limits of an organ and differentiation, through which an organ obtains, either as a whole or for the most part, a new institutional level, requires to be placed in a more decisive relief.

The "differentiation" that Spencer insists on, as a distinctive feature of evolution, remains nevertheless a cri-
too abstract and unable to cope with the distinction between unity and meaning that we glimpse between the processes, about which we are talking about, that is, between the process of

specialisation of certain organs and the process that leads to new levels of organisation of life. We note that the two evolutionary modes do not occur only within
shown, of unicellular organisms and along the line of transition towards organs-
in the kingdom of multicellular organisms we encounter at every step the two modes of evolution; the first consisting of processes of structural, morphological and functional differentiation of certain organs, and the second in processes that gradually give rise to superior constitutional types. The two modes of evolution seem to dispute primacy, interfering with each other or showing their effects successively. Regarding this distinction ne we will expand more broadly in these chapters, given that we find in it one of the most fertile motifs in transformist theory. For now, we are content with having indicated
A situation in which we feel we must keep our distance in any circumstances we decide to tackle the great problem of evolution.

We will continue to investigate whether the scheme of organic evolution, as presented to us by Spencer, does not present other points of minor resistance. In order not to lose ourselves among general considerations , we will refer again
to concrete examples . There are, as is well known, some vie-
They form compact "colonies," which at first glance appear to be highly complex organisms. This mode of existence often leads to various individual differences within the colony. An illustration that leads us to some interesting conclusions is provided by "siphonophores", which form colonies that appear to be true "organisms" (see plate III-1a). Siphonophores specialise, acquiring particularities useful the colonial ensemble namely according to the place they occupy in the colony. A kind of division of labour is thus achieved, as in the colony we will discover individuals who serve as honey collectors, others as consumers, others as apă-
, etc. However, siphonophores are each independent individuals. Living together in a colony leads to o individual differentiation
; however, it cannot be said that through this they obtain all the characteristics that belong to the members of a true organism. Once again, we find ourselves faced with a phenomenon that demonstrates that "differences

"Colony", in its abstract sense, does not provide a sufficient criterion for defining evolution. CMar and only the simple intuition that precedes conceptual knowledge tells us that, in terms of organisation, a compact "colony" of diverse beings is inferior to an "organised" colony.

complex system as such, a1l whose simulacrum it appears to be. If we succeed in elucidating the conditions under which, for example, a pluricellular organism of a certain degree of complexity differs from a simple compact colony of differentiated living beings, with an overall physiognomy that is apparently tot as well as de complex as a organis-

In the case under examination, it goes without saying that we would be cutting ourselves off and creating a criterion for assessing the modes we are talking about. The reactions of an organism, fully characterised as a living being, are always carried out in a way that demonstrates a more or less "centralised" direction. The reactions of a colony of living beings, representing only the simulacrum of an organism, are more partial, more unilateral, or are carried out according to the norm.

individual of living beings that make up the colony. The reactions of a genuine organism, regardless of its degree of complexity, involve the whole organism. The organism manifests itself as a whole, and its behaviour seems to emanate from a presumed centre. This centralisation of reactions and its degree of efficiency undoubtedly represent a new moment that reveals the evolutionary level of the organism.

undoubtedly a new moment that influences the assessment of the evolutionary level of the organism. Since not all organisms are capable of equally evolved behaviour in terms of centralisation, its degree of effectiveness becomes, in turn, itself a criterion of the level

When attempting to assess, in concrete terms, the degree of effectiveness of centralisation within a given organisation, whether more or less complex, we must also take into account certain indicators that are material and controllable in the biological situation in question.

we must also be guided by certain indicators that are materially controllable in the biological situation in question. We recall that any organism is cellular in nature. Structure- and functions life manifests itself: always under this fundamental aspect. Conoomî,tent with the increasing centralisation of reactions, of which the organic substance is capable, it is noticeable — this being a material symptom, if not only of it, in any oasis and of it — an increase and diversification of the formations and of extra-cellular products, naturally conditioned by the existence and pro-

cell conductivity. Extracellular formations and products are so numerous that they cannot be listed, except in part and for illustrative purposes. Such formations and products would be conductive fibres and contra-tracts, cuticular formations, ligaments, tendons, fluids, as well as enzymes and hormones. That the multitude and variety of these extra-cellular formations and products are intrinsic to a higher level of organisation is, we believe, evident from a simple glance at the colony of siphonophores that has preoccupied us previously. The colony manifests a relative absence of formations and products

extra-cellular. In the same measure but the colony is dis-

it stands out through its structure of S1tructur1a of a composition, such as that of an authentic centralised organism. The most noticeable material symptom of the degree of centralisation, of organisms of various complexities, remains, however, the nerve cell formations, on which the degree of centralisation can be observed almost atomically and histologically.

Another question that arises in connection with the problem of evolution concerns the correlation between the organism and its environment. It exists, this cannot be denied, a

a fairly deep-rooted and widespread tendency to interpret the relationship between life and environment in the sense that organisms are better adapted to their environment the higher they climb the evolutionary ladder of life. This interpretation is erroneous, and the source of the error must be not

only insufficient observation, but also a false perspective, in which we are too willing to settle when assessing the evolution of life in general. Upon closer inspection, we discover that an organism does not deviate too much from Ira

, is always found at least in a relationship of sufficient convenience or harmony with its natural environment, whether it be lower organisms or higher organisms.

When we say convenience, we imply in dis-

As one might reasonably assume, it is not the creature with its particular conformation, nor the accidental environment in which it may find itself, but rather the individual as representative of a conformation and norms specific to its species, as well as the environment with its general profile, that is relevant.

species in discussion se manifests enough of equipped.

By saying this, we are not denying the possibility of intervention, at any stage, of moments of imbalance and crisis between organisms and the environment. The fact that individual organisms nevertheless manage to resolve the crisis that arises between them and the environment is proof that there is generally a sufficiently harmonious relationship between organisms and the environment. We have emphasised the word "sufficiently" in this statement. What I mean to say is that the evolution of life cannot be considered, in broad terms, as a progression from a phase of maladjustment to an increasingly perfect adaptation of beings in relation to a supposedly static environment. We must obviously also postulate an evolution in the relationship between beings and their environment. However, highlighting the articulations of such an evolution will bring into discussion concepts that are more subtle than those that are currently in circulation. Evolution, as regards the relationship between beings and their environment, has, we believe, divergent meanings, and these.a, as we are allowed to assume, depending precisely on the two evolutionary modes we have outlined, that is, on the one hand, depending on the evolution through the specialisation of certain organs, and on the other hand, depending on the evolution through the constitution of new levels of organisation of life. Life does not progress from states of maladjustment to states of adjustment. This perspective is flawed. We will have the opportunity to show that life evolves either from a state of sufficient harmony in relation to the environment to states of increasingly intimate adaptation (this process leads over time to a particular narrowing of the environmental horizon), or from a state of sufficient harmony in relation to a certain environment to a state of sufficient harmony with a boundless environment or one of increased volume, compared to the previous one. In recent decades, various naturalists have conducted extensive research on the evolutionary processes of life, without, however, arriving at a definition as precise as the one stated above of the divergent meanings in which these evolutionary processes take place. Of course, for now, we have only announced the idea, an idea that will guide us in the following expositions. With this idea, barely sketched out, we place ourselves beyond the Spencerian scheme. We are on the way to adopting points of view and addressing a series of issues that require extensive clarification, for which we will take the necessary time.

We would like to make one more observation here, before concluding our critical remarks on Spinoza's ideas about "evolution". We draw attention to a very particular mode of evolution that sometimes occurs in connection with the processes of organ specialisation. This mode of evolution consists not so much in an ever-increasing complication
The simplification or increasing unification of organs. We give as an example the evolution of the horse's foot, from its initial form with five toes, when the animal was a small forest creature, to its current form with a single hoof, when the animal became a steppe creature (see plate IV).

## Specialisation and level of organisation

In the previous chapter, we began to discuss a distinction that is emerging in relation to the evolution of living beings, between processes of organic specialisation and processes that lead to ever higher levels of organisation of the being. This distinction is necessary, whether we view life in its evolutionary phases through slow, almost imperceptible stages, or whether we view it in its discontinuous phases of true mutation. We would like to draw readers' attention to the fact that naturalists have been showing for some time increasingly attentive to the dissociation that can occur between evolution through specialisation and level evolution. We consider this issue to be one of the most delicate aspects biological issues, and we feel that there is still much work to be done in this area. The distinction between the two processes will be highlighted by as many of their characteristics as possible. The first major

The theorist of evolutionism, Lamarck, foresaw it, but left the question in a regrettable fog. Later, naturalists blurred even the little that Lamarck had glimpsed. Only recently has the interest of biologists been directed towards revisiting the whole complex of questions. For our part, we will endeavour to show whether among the facts recently illuminated by some modern biologists there are any that could be used to highlight the distinction that concerns us, and whose particular importance, more virtos

For the problems of 1airutropogenez1ei, we believe that it should be emphasised right from the start. In the investigation that we are undertaking, we will take as our starting point the research that has been done with regard to habitul between vietuito:are and am -

their differences. Tot mai mult naturaliştii au renwiţat de a lua în studiu organismul viu în chip izolat, hotărân-se-ra-1 rtra·ta, din contră, ]n strînsă [egătură ou mediul. There is thus much talk about the unity of, or more precisely, the "organism-environment complex". The notion of the "organism-environment complex" was imposed Mologiei din parte mai multor naturaliş ti, de very different theoretical orientation. Thus, naturalists such as Le Dantec or Rabaud ( ) attempted to introduce this notion into biology, giving it a physical-chemical meaning. Other naturalists, such as Marcel Prénant or the Russian Lysenko, also adopted the notion, giving the "organism-environment complex" the meaning of a dialectical unity. From a very personal perspective, he made a name for himself with his studies on the "organism-environment complex"

rganism-environment complex" and naturalist UexkriiH.

It cannot be argued that Uexküll deserves credit for discovering the intimate relationship between organisms and their environment, because, in general, this aspect was noticed, we believe, right from the moment when the human mind became aware of the phenomenon of life. Uexkiill studied but the subtleties, often astonishing, and the degree of intimacy that intervene in the relationships between living beings and their environments. Seen in this light, this naturalist can be considered .as pa-

rinte of the doctrine of environments (Umweltlehre) . That in this capacity he fell victim to exaggeration is all too true, since he would like to somehow ,reduce the entire philosophy of life to this doctrine."

The connection between the ..organism-environment" issue, highlighted by Uexkr0.11, is of real interest to biology, but it is less true that the "philosophy" that this researcher allows himself on the margins of the material remains questionable. In all his philosophical research, Uexkr0.11 resorts to means of expression that belong to the realm of sensitivity, which makes his digressions of this nature float in an atmosphere that is more artistic mai mult than scientific .

Uexkiill "musicalises" biology, attempting, according to his own testimony, to write the ..score" of life and nature.

To Uexkiill, the organism, with its processes, appears as a "game of bells," and the naturalist perceives the line of life as a "melody." The objects that are part of

the world surrounding a being, and would have, in his opinion, their specific "tones". In general, the organism would be a musical composition, organised into "points", the environment being considered as made up of all so many "·oonitrarpuncts". The metaphor is seductive, but it remains me-

"It is difficult to understand what advantage biology gains from a musical interpretation of life. In general, Uexkii.ill tries to avoid interpreting life as "meoani1sm", and this is probably because he realises that any "machine" is, in its essence, a product of man, and that life, as a machine, would also imply an author, which would lead us straight into theology. Uexküll avoids this pitfall, but falls into the other extreme and interprets the organism as a work of art, forgetting that "the work of art," like the machine, is also a product of man. For an artistic sensibility, Uexk1i.ill's interpretations are certainly of some interest, but a philosopher who is not willing to give up concepts will not understand why biological concepts should be replaced by other, more vague concepts of artistic origin, in specifically, drawing on music theory. Vi,aț1a is essentially a product of nature and, as such, it is not comparable in essence to "the machine" and ni· but rather with "the work of art", products conditioned by the existence of genius and whether they have their purpose and meaning in the human order.

We will therefore keep our distance from Uexki.ill's philosophy, allowing ourselves to use in the following biological explanations only facts that seem sufficiently proven and on which the naturalist's research has focused .

Let us see what these facts are. Uexkri.ill regards animals as living subjects which, from the ensemble of cosmic conditions external, from the objective environment , in-

only certain moments and aspede , to which they, animals, them respond through reactions full of meaning .

The moment and aspects perceived by an animal from the set of given conditions, to which it responds with reactions of a profile more or less precise, constitutes the "surrounding world" or "environment" (Umwelt) of the animal. An animal's environment is therefore never the totality of cosmic conditions in which it lives animal, but only a section cut out from this year-

This is a first and essential distinction of the meaning given by Uexkull to the concept of "surrounding world" ( ) or "environment" ( ). Let us give an example. One of the eloquent illustrations that Uexkull uses to highlight his concepts is that of the tick.

The eloquent illustrations that Uexkri.i.11 uses to highlight his concepts, such as that of the tick. The tick is, as is well known, a small insect which, after undergoing metamorphosis into the adult stage, feeds on the blood of mammals. The tick is equipped with extremely

Reduced: she cannot see or hear. After being fertilised, the female climbs up into the hollow of a bush, where she lies in wait for a mammal to pass by or to take her away with its fur. The tick's sense of smell is particularly sensitive to the smell of butyric acid, which is emitted by the sebaceous glands of all mammals. When a mammal passes under the bush, the tick promptly registers its presence and lets itself fall onto it. A keen sense of temperature tells the insect whether it has fallen on a mammal or not. If it has found its prey, it then attaches itself to the mammal's skin and pumps its blood. If the animal is not a mammal, then the tick leaves it and climbs back up to the top of the bush, where it waits for a new opportunity . The blood feast is unique in that, once it has had its fill, the tick falls to the ground, where it lays its eggs and dies. Ingenious experiments have shown that the insect lacks not only the senses of sight and hearing, but also the sense of taste. The world surrounding the insect is

, composed exclusively of the signs e:e i , communicates

a vague general sense of the light with which her skin is endowed, and especially from the signals of smell (in this case the signal of butyric acid) and the sense of temperature. However, the tick's reactions are so closely coordinated with these signals that, with the help of their registration, it fulfils its vital purpose, succeeding in reproducing.

Another example. The high-pitched sounds emitted by bats during their nocturnal flight are well known. These sounds are a kind of friendly signal, by which they recognise each other. Their prey is mainly moths. It has been noted that these moths suddenly stop flying as soon as they hear the high-pitched sounds of bats nearby. Since bats only catch their prey in flight, moths can save themselves simply by landing. And now comes the sensational aspect of the situation.

At a

Microscopic examination has revealed that moths possess an auditory apparatus consisting exclusively of two resonators, which tune only sounds specific to bats. Oridte sunefo exist in this world, moths can only hear the sounds produced by bats. For the rest of the sound world, moths are completely deaf. The world surrounding moths is therefore reduced, in terms of sound, to the sounds produced by bats, but this is sufficient for them. to defend their existence under the given conditions. A more expansive surrounding world, with its sounds, confuses them, causing them to lose their way. Due to their anatomical structure, moths therefore filter out only the elements that are of vital importance to them.

Another example. The common rhyme, a creature that most of us would imagine to be very poorly equipped for life, is capable, in relation to its environment, of performing a very complex operation. It draws into the narrow cavity where it lives leaves of lime or chestnut trees, which serve both as food and shelter. In order to be able to fit into the cavity, the leaf must be grasped at the tip, not the base (see plate V). The reverse operation does not work. How is it possible that the rhyme does not make a mistake and grabs the leaf by the base? The rhyme does not possess organs and senses that would enable it to recognise leaves by their shape. However, it has been found through various experiments that the rhyme possesses a very fine sense of taste, thanks to which it distinguishes the tip of the leaf from any other part of it. The surrounding world of rhyme is reduced to these signals received through taste, which are just enough for the creature to react, based on its organic constitution, with remarkable accuracy in relation with the objective environment [1]. Extensive research, effective by both Uexkrill and other naturalists have revealed facts that confirm the assumption that organisms do indeed have their own specific surrounding world. This research legitimises the introduction of new data into

[1] See I. v. Uexkill, Bedeutungslehre, Verlag Barth, Leipzig 1940 and Strellzigedruch die Umwelten von Tieren und Menschen, Verlag Springer, Berlin, 1934.

biology of the concept of "organism-environment complex", which has also been the subject of research by other naturalists, approached from different angles.

For our part, we will deal with these facts in an order of ideas in which they have not been evaluated by Uexkriill. The problem, in which we will try to evaluate facts of the nature of those mentioned, is that of the distinction that can be made between evolution through specialisation and evolution at the level Developments11e in connection with the surrounding world, which vary from being to being, provide us with arguments that plead for the existence of two types of evolution. The facts, evident evidenced in the perspective of the doctrine of the surrounding worlds Therefore, we justified in attributing, in general, certain more or less specific conformations to animals, due to which they are in a relationship of convenience with certain moments and aspects of the objective cosmic environment. Such facts can be studied not only from a static perspective, as Uexkull did; they can also be viewed from an evolutionary perspective, in order to follow the very process of specialisation to which organisms are subjected in relation to their environment. And if we decide to consider the facts from an evolutionary perspective, it is advisable to make some combinations and calculations from the outset.

Let us ask ourselves, are there theoretical conditions for the evolutionary process, thanks to which organisms "stand out" in relation to their environment?In order to answer this question, we must consider a less evolved phase in the process of specialisation. In such a phase, it can be assumed that the animal finds itself, on , based on its organic constitution ( ), in a raport de sufi- Harmony with the objective environment (this sufficient harmony is a perturbable state, allowing for critical states of tension of varying degrees ). Let us clarify. In a phase still undeveloped of specialisation its, the animal manifests itself as if it were in particular relation to certain moments and aspects of the environment, which, through: consideration abstract, le we can , designate by the capital letters A, B, C, D. These moments and aspects, the animal responds meaningfully (statistically speaking) through the reactions indicated by the letters a, b, c, d. We will now assume that the animal is slowly brought to

Slowly, in a given situation, living in an environment where conditions A and B are given, the other conditions change or disappear. What could be the consequences of such a change for the animal? The answer is not exactly difficult to find. Faced with the changed situation, the animal may be engaged in a process of evolution, as a result of which its previously possible reactions, a and b, will become specialised, and rea possible reactions c and d will regress. It can even be extinguished. This specialisation process can be imagined in the sense that reactions a and b will acquire a more complex profile, and under 1J1 functional contribution - greater precision. This means that reactions a and b will no longer respond only to conditions A and B of the environment, but also to their sub-conditions, i.e. $A_1$, A2, Aa and B1, B2, Ba, sub-conditions under which the animal I,e replka until iaci only with reactions of a more general profile {a and b). The animal is capable of reactions $a_1$, a2, a3 — $b_1$, b2, ba. In the phase under consideration, at the starting point the animal in registers from the objective cosmic environment the moments and aspects A, B, C, D. Now, after a decisive advance in the process of specialisation, the animal will register from the objective cosmic environment only moments and aspects A and B, but it will also perceive these in their sub-moments and sub-spectra ($A_1$, A2, A3 and $B_1$, B2, 83) for which previously had no particular resonance . . World

The animal's enclosure, to use Uexkiill's terminology, had been constructed from the signals in the gistrabile A, B, C, D and it is answered by reactions a, b, c, d; and then the surrounding world ·a a:ai - malului is composed of signals recordable A and B, with its sub-conditions $A_1$, $A_2$, A3 and B1, B2, B3 and it is I respond with reactions 1a, a2, a3 and bi, b2, b3. We are

Therefore, it is reasonable to assert that due to the evolutionary process of organic specialisation that animals undergo, their environment narrows, but becomes more differentiated internally in the portion that continues to play a role in relation to the living being. It is interesting to note that, as a general rule, an organism can be involved in a process of specialisation in two ways, namely: first, through the environment undergoing natural changes, losing some moments and aspects among those that o

characterises, and the second by the fact that a certain organic species is forced, by the economy of the surrounding circumstances, to evolve through specialisations in divergent directions. The animal, , which initially reacted to conditions A, B, C, D, branches into two different types, one of which specialises in reactions a and b, and the other in reactions c and d. Obviously, theoretically, another mode of specialisation can be conceived, namely in the sense that the animal, which responds to all conditions A, B, C, D, through reactions a, b, c, d, specialises in all directions inherent to its conformation, ultimately obtaining the reactions e and f.i.nța A, B, C, D, through reactions a, b, c, d, specialises in all directions inherent to its conformation, ultimately obtaining the possibility of reactions $a_1$ , a2, 1a3 — bi. b2, bs — c11 c2, C3 — di. d2, d3. Biological experience advises us to consider this case as purely theoretical. However, even if we admit that this could sometimes happen, as an exception, it should be noted that even this path would not lead to a delimitation of the initial environment, but only to an internal differentiation of it.

In view of these considerations, with regard to the processes of organic specialisation, it is necessary to discuss the evolution of life as a whole. What are the chances offered to life, assuming that it evolves only through processes of organic specialisation ? If the evolution of life had always taken place only through processes of organic specialisation , it seems to us that today the most evolved beings should have the narrowest environment.In general, to us that today the most evolved beings should have the narrowest environment (and an extremely differentiated internal area ). However, the real situation, in which the most evolved creatures find themselves, is not at all like this. The surrounding world of higher-organised beings is generally vaster and more complex than that of lower-organised beings. This is a verifiable fact, and those who have studied the worlds surrounding animals tell us so with complete certainty. But what follows from all this? One thing follows: the evolution of life on earth could not have taken place exclusively through processes de progressive specialisation organica — this would have led to the result that living beings would respond with increasing insistence, subtlety and flexibility to gradually more restricted environmental conditions, a process that would have manoeuvred life into serious dead ends. The evolution of life on earth must therefore have taken place through other kinds of pro-

cesses, through processes due to which higher levels of organisation are achieved, and at the same time a progressive separation of the environment. Those who have devoted themselves to the study of the surrounding worlds and conducted their research from a unilateral, static perspective, regrettably avoiding exploiting the facts in the sense of an evolutionary view of life. The facts in question can also be invoked, however, in view of certain considerations of principle regarding the possible directions of biological evolution in general.

... the theoretical conjectures that can be made in connection with the possible directions of biological evolution in general.

With regard to the facts of dismemberment, once again, the clear conclusion emerges that there are two types of organ evolution: one consists of organ specialisation processes and inevitably leads to a particular compression of the environment; the second, much more relevant, consists of processes of due to which higher levels of organisation are achieved and leads to a progressive desmărginire ambianței. For a expliha evoluția de nivel, să ne imaginăm că un organism trăiește într-o ambianță obiectivă, în raporturi rea(jtive cu momente and aspects A, B, C, D. Let us assume that at a given moment the environment of the living being expands, enriching pei- with aspects M, N, O, P. For the living creature, the surroundings could become an opportunity to 1a jump to a new level of organisation. Triggered by external circumstances external circumstances, the evolution of the level remains, in essence, sustained, promoted by factors intrinsic to life. Elucidating these factors is a task of the future. However, at At its new level, the organism proves capable of reacting to a broader environment than its previous one.

We recognise that, by examining a certain evolutionary phase of an organism in and of itself, we very easily arrive at an ambiguous situation, because most often there is a theoretical possibility of viewing it either as a product of evolution through specialisation or as a product of level evolution. In concrete terms, only the examination of successive phases as such can provide us with clarification as to the extent to which it is the result of evolution through specialisation or the result of level evolution. There are, of course, other cases which, based on concrete evidence, reveal themselves to be the effect of organic specialisation: , and especially cases of super-specialisation, are worth mentioning. In this

In order to observe, it is important not to lose sight of one thing: in fact, as we will have the opportunity to show, we are always dealing with an overlap of the two types of evolution. The two types of processes always have their say, their effects combining in varying degrees in all the forms and manifestations of life. In other chapters, we will have the opportunity to show that evolution through specialisation always starts from a constitution achieved through level evolution. Similarly, we will have the opportunity to show that a certain stage of specialisation can hinder level evolution, or even make it impossible. It will be seen, de similarly, that what is de
It is extremely important that there may be a level of evolution that is maintained in a pronounced manner along this line, emphasising specialisations as much as possible. The relationships between the two types of evolutionary processes, level and specialisation, are therefore many and varied. But we will return to this spectacle.

The study of the relationships between organisms and their environments can be exceptionally fruitful. Conducted from a static perspective, this study enriches our knowledge of the structure and reactions of living beings. When approached from a dynamic perspective, it opens our eyes to the heterogeneity of evolutionary processes, providing us with a and a criterion for effectively differentiating the processes in question. Once we are in a position to compare two or more evolutionary phases of one and the same organic type, it is sufficient to ask ourselves whether this evolution has led to the particular compression or to the characteristic demarcation of the environment in order to decide whether the process should be viewed as one that takes place along the lines of specialisation or as one that takes place along the lines of level evolution.

There is n o doubt that Lamarck glimpsed something of this complex situation when he distinguished between the processes of adaptation and the process of perfecting living beings. However, he did not dwell sufficiently on this distinction, moving too quickly away from empiricism and, as was his habit, jumping too quickly to theory ; he also caused confusion with the term "improvement", which he left completely unclear. Later, Darwin renounced this distinction, and one can guess what influence this had.

his authority regarding the systematic neglect of this issue. Here are a few words from the great English naturalist that clearly relate to the issue that concerns us: "I have given the name of natural selection to this principle of conservation or persistence of the fittest. This principle leads to the perfection of each creature in relation to the organic and inorganic conditions of its existence and,
consequently, in most cases, to what can be considered a a progress in the organisation"[1], or: (. . .)
"Beings placed on the lower rungs of the organisational ladder are more variable than those at the top. I believe that by inferiority in the scale, we must understand here that the different parts of the organisation have only a low degree of specialisation for particular functions."[2] It follows from these texts that Darwin blurred the distinction, supporting a rather simplistic thesis regarding the processes of specialisation and organisation on the evolutionary scale. It will be seen from other opinions that, at a certain point, it was no longer possible to deal with the problems posed to the human mind in connection with the evolution of life on earth.

1 Ch. Darwin, op. cit., p. 141.
2 Ibid., p. 161.

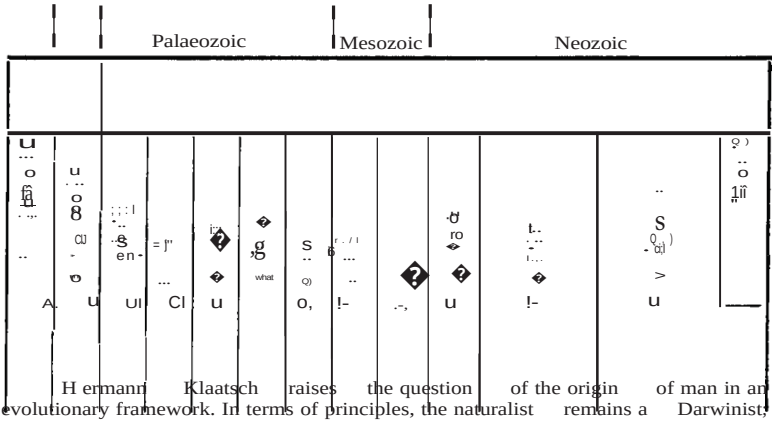
## Anthropogenesis and its new problems

We have outlined above the general ideas within which we intend to address the question of the origin of man. Our intention in addressing this issue is, among other things, to show the extent to which the classical doctrine of evolutionism, as regards the genesis of man, has been superseded by the results of recent scientific research. The question of the origin of man, as well as and aoeoo a structures specific to anthropology, have been widely and passionately debated in recent decades. For some time now, there has been a serious tendency to revise many of Darwin's ideas, without this leading to the abandonment of the evolutionary perspective as such. According to classical evolutionary theory, humans are descended from a certain form of anthropoid, now extinct, but which still has some representatives (modified) in today's anthropoids, such as the gibbon (Hylo-baites) , the orangutan (Pithieous siaityrus), the dmpamz1eu:l (Trn-glodyites n.iger) and the gorilla (Troglody.tes goriUa). In line with evolutionary doctrine and Darwin's ideas about humans, extensive comparative studies have been carried out between humans and anthropoids. What was most interesting about this research was the undeniable similarities between humans and other primates. All these similarities, which are now obvious to the naked eye, seemed to confirm the opinion that, in the course of evolution, a being quite similar to today's higher apes abandoned the tree-dwelling lifestyle specific to anthropoids and, descending to the parrîînt, it gradually adapted to life in this environment, which imposed on it

vertical position. This is how the evolution of the " human being" is seen. After exhaustive research into the similarities in question, it was natural for researchers to turn their attention to examining the differences between humans and anthropoids. The results of this new research are particularly rich. So rich, in fact, that in the face of the new comparative results, naturalists and philosophers find themselves compelled to pose the question of the origin of man in a different way than before. We have thus been witnessing for some time now a spectacle that must be recorded. Darwin's ideas on the genesis of man are under attack after attack. And we are not referring to the theological attacks, which have been relentless and carried out in the name of a creationist conception. No, we are talking about attacks from naturalists who are testing the waters for new, evolutionary conceptions. We will have to get used to the idea that accepting evolutionism does not oblige us to unconditionally accept the theory that man descended from an anthropoid more or less similar to current anthropoids. Science and philosophy are beginning to suspect that the problem of the origin of man involves other perspectives. If we disregard some of the doubts expressed even before by some naturalists regarding the phylogenetic line of man, as understood by classical evolutionism, it is worth emphasising here the particular importance of the works of the works through which the anthropologist Hermann Kl:aatsch (1863-1906) inaugurated research in the line that will interest us from here on. The massive works in which Klaatsch expounded his ideas on human evolution are: "The Genesis and Evolution of the Human Race" (1902) and "The Development of Humanity and the Genesis of Culture" (2nd ed., 1922). We consider the short study by the same author, published earlier, in 1899, in the magazine "Globus," to be of exceptional importance. We recall that this study, entitled "The Position of Man Among Mammals, Especially Primates, and His Development into a Lower Form," was written at the initiative of the magazine and contains a succinct presentation of the ideas ly developed by the author at a congress of anthropologists held in the same year. Kl1aatsch's ideas provoked at the time

's reaction negative a those more of account anthropologists.
Only in recent years have Klaa:tsch's ideas begun to be more fully appreciated.

Given that in this chapter, as well as in those that follow, we will refer to various geological eras, we will provide a chronological table of them.




Hermann Klaatsch raises the question of the origin of man in an evolutionary framework. In terms of principles, the naturalist remains a Darwinist; he operates even insistently with the principle of natural selection. However, Klaatsch manages, on the basis of comparative studies on humans and anthropoids, to argue that there is a completely different degree of kinship between humans and anthropoids (current or extinct) than that admitted by the classical representatives of evolutionism. In Klaa's opinion, humans differ anatomically and morphologically from all current and extinct anthropoids to such an extent that it would be wrong to claim that humans are descended from an anthropoid form. Klaaitsch believes that the relationship between humans and anthropoids is actually much more distant, since all apes, including anthropoids, and humans themselves, derive from a prosimians form of mammal, from which apes and humans would have developed, albeit from the same root, along divergent paths. Reduced to this, Klatsch's opinion does not impress us very much, for it could be argued in reply that, through such a hypothesis, the naturalist does nothing but push back the common ancestor of monkeys and humans on the phylogenetic line. This would be the case if the naturalist did not give and some clarifications additional, which show how deep his gaze was on this issue. Klaaitsoh precisely

, from the supposed pro-simian mammal ongmar, anthropoids would have developed completely differently from humans. Anthropoids 1alr would have undergone these de of "specialisation" of the extremities and dentition, whereas humans would have evolved in a different direction, preserving the extremities and dentition in a form mai more primitive. The extremities and dell!titia of humans therefore present forms closer to the equivalent forms of the original pro-simian mammal. It would follow from this that anthropoids manifest some forms that are more specialised than those of humans, which would also imply the conclusion that humans cannot derive from an anthropoid form. This is the first step in a major problem. We believe we are not mistaken in stating that K1aa1t's hypothesis drew attention for the first time in a more emphatic way to the fact that creatures that are inferior to others may nevertheless present some aspects that are more evolved in terms of specialisation than are aspects equivalent to superior beings . In this vein, Klaaitsch notes, for example, that mammals retain certain primitive features found in fish, while the same features have disappeared in saurians as a result of a process of specialisation. Clearly, saurians are inferior to mammals. However , mammals retain certain characteristics that are more primitive than in saurians. Here is another example to illustrate the situation. Klaatsch argues that organs such as the prehensile tongue and the prehensile foot, specific to so many creatures, must represent very ancient forms; they are found in humans and abundantly in anthropoids. However, we must not lose sight of the fact that in other mammals these organs have been specialised in a different direction, for example in the form of hooves in cattle and horses. During the Triassic period, these forms of the prehensile hand and prehensile foot were widespread among reptiles. It follows that anthropoids retain the most primitive characteristics, unlike their equivalents in other mammals, which are clearly inferior to them in overall . Another example: regarding the opposable finger of the human hand and the hand and foot of anthropoids, Klaratsch expresses the opinion that it is a feature prefigured in the rays of the primordial fin of the original from which all terrestrial vertebrates derive. However, this particularity has been lost in most vertebrates through specialisation in other directions, but has been preserved

for example, partially in the mammalian line, especially in humans and anthropoids.

This idea of preserving certain primitive characteristics in beings that are relatively superior to other beings, beings in whose constitution the same characteristics have evolved through specialisation, being lost or radically modified, is, we believe, particularly fortunate. It seems fair to us, regardless of its validity in the special cases indicated by Klaatsch. , with his intuition, KJa,atsch paved the way for future research, which proved to be so fruitful. The idea appears in KI,aatsch as an immediate reflection of some observations, still far from taking shape as a separate principle of evolution. This intuition initiated! fair a led but on its author, unfortunately, and towards some thoughts could very easily degenerate into the fabulous. From the fact that man would retain in his constitution some very ancient characteristics, Klaatsch sc oit she concluded, developed into a , that human beings did not appear only in the Quaternary period, as is commonly believed, but much earlier. soon. Humans would be very ancient beings, having appeared as early as the Mesozoic era. This is the conclusion of the theoretician" Klaatsch. However, there is a logical error in Klaatsch's calculations, which immediately renders them irredeemably fabulous. From here, then, to Edgar Dacque's spectacular but completely untenable theory, which appeared later, that nature had realised the idea of man in ancient geological eras, in various biological forms, was somewhat of an open door. Looking at things more carefully and with sufficient weight, it becomes clear that H. Klaatsch had no right to deduce from certain particularities ancient of man on the antiquity of man, (Da such, in the process of the evolution of life on earth. It is clear that man's "primitivisms", if they exist, cannot constitute proof of antiquity, except for themselves, but not for man, a being viewed as a whole.

And now a few more clarifications regarding the fundamental distinction for the issue of evolution, a distinction that is about to take on an increasingly prominent role, right before our eyes, We have put, we believe, sufficiently in light in what extent Klaatsch glimpses the difference that could exist between an evolution through specialisation and an evolution that leads to higher types

of beings. It is the same distinction, circumscribed only by different terms, that had been suspected almost a hundred years earlier by Lamarck. But what unexpected consequences does Klaatsch draw from this idea, namely in relation to the origin of man? Lamarck spoke of "adaptation" and "perfection". Both terms, and especially the latter, lend themselves, it is true, to intolerable ambiguities. Lamarck did not bother in the least to show what the greater the "perfection" of architectural plans, according to which higher-level organisms are composed, as opposed to lower-level ones. Lamarck was undoubtedly on the trail of an operative distinction, but this distinction remained undefined for him, and long after him. But in Darwin, and in all those who follow in his footsteps, the suspected distinction is washed away again, in the sense that its terms are no longer seen as possible indications of the intervention of heterogeneous principles in the evolutionary processes of life. Evolution is seen more briefly, as a process that takes place only in the direction of differentiation and specialisation. (Recently, even a philosopher with a biological orientation, such as Arnold Gehlen, author of an anthropology that we will have the opportunity to discuss later, asked himself in a moment of paroxysmal confusion what higher-level organisation could ultimately mean, if not more obvious specialisation 1). The distinction that concerns us will remain, moreover, only indicated in Klaatsch, as he does not provide any details. However, there are many other biologists who argue in favour of the distinction. We mention at random the names of Le Roy and Woltereck. Dacque also adheres to the distinction in question, but falls victim to theoretical fantasies, which are more "fabrication" rather than "theory". How do these authors distinguish between evolution by level and evolution by specialisation? Dacque argues as follows: "Superior and inferior, in terms of type, means that an organism as a representative of a formal type does not only possess a greater number of organs, nor only a greater or more secluded differentiation of its configuration; superior is a type

1 Arnold Gehlen, Der Mensch, Verlag Junker und Dii.nnhaupt, 1941, p. 132.

organisation when the differentiation and multiplication of organs is also more uniformly integrated. Specialised or unspecialised, however, it can be this or that species within any higher or lower type" [1].

For examples of specialisation, see plates VI and VII. With regard to evolution through specialisation and level evolution, we are certainly faced with a documentary matrix that can be processed in the sense of an increasingly reliable distinction; however, we are also faced with some question marks. Scientific research has a wide field of endeavour open to it here. Our ambition is to make, as far as possible and with all the caution required by the circumstances, some new contributions to the resolution of a question that continues to raise so many irritating questions. In other words, we find ourselves immersed a front of tentative explorations. We will seek to define, perhaps with greater precision, certain notions, and to highlight more decisively the intrinsic meaning of the biological phenomena under discussion.

We have seen, in another chapter, that the distinction between level evolution and evolution through organic specialisation is susceptible to clarification, which leaves behind the indications we receive from current biologists. We mean that in level evolution we are to see something more than just a multiplication and differentiation of organs, which in turn would appear increasingly unified and cohesive, as is claimed. Undoubtedly, this view of differentiation and complexity is, grosso modo, a reality that is fully controllable. But there are, as we show pre , other aspects that relate to the relationship between the organism and its environment, aspects that allow for an even more decisive dissociation between the two types of evolution. Through organic specialisation, one arrives always at a entirely particular narrowing of the environment, characteristic of an organism of a certain constitutional level, while in the evolution of level we discover the tendency of life towards the expansion of the environment. Such a distinctive criterion seems to us to be more effective and clearer than the criterion, which is also real and effective, but more difficult to apply, of increasing centralisation, to which an organic system would be subject in the evolution of level. The evolution of level, once established as

[1] Eduard Dacque, Die Erdzeit, Verlag Oldenburg, 1930, p. 474.

In fact, it is susceptible to a number of considerations of an "interpretative" nature. The assumption that such an evolution exists, ce leads to a progressive expansion
of the environment, could have the significance of an increasingly decisive affirmation of the relative autonomy of life in relation to external conditions. In accordance with the modern evolutionary concept, we will attribute to life the possibility of producing systems, types, and organic forms. In affirming this, we do not claim that we currently know
We have all the necessary technology, so to speak, and all the factors inherent in the processes of evolution. There are undoubtedly still many mysteries waiting to be solved. We can also say, without giving in too much to the temptation to speculate, that life, having to realise its modes and functions structures and forms, in given cosmic conditions, will not be able to assert itself as fully autonomous. Life is forced to accept, in one way or another, these conditions in its systems. Life will therefore fulfil its modes and functions, structures and forms, under the conditions given to it, connecting them to this that at least in the sense of a "sufficient harmonies". ⊞.mirnteri it remains clear that any organic systems that may not be in approximate harmony with the cosmic environment would be destroyed under the pressure of the latter. The relationship of convenience that we assume between the organism and the environment naturally leaves room for many contradictions, due to which the concrete organism will find itself in constant struggle with the concrete environment. However, in order for an organism to be able to sustain a permanent struggle with the environment it seems to us that we must first admit a relationship of strict harmony between the organism and the environment. It is clear, for example, that an earthly organism could not sustain the struggle with the environment if it were placed in the conditions of interstellar vacuum.

Let us now examine the consequences of this situation. On the one hand, it should be noted that the environment exerts its influence and pressure on life beyond the concessions that life makes by forming organic systems that are somewhat generally adapted to external conditions. The effect of this pressure from the environment on life is the evolution of the latter through specialisation. Under the pressure of external conditions, life will tend, on the one hand, to assert its relative autonomy, making only certain strictly necessary concessions to the environment this

This tendency can lead to the creation of higher-level organisations, characterised by an increasing separation from the environment. Life therefore has two solutions to respond to environmental pressures, namely: a concessive solution involving changes through which, by specialising, it adapts with increasing precision to an increasingly narrow environment, and an affirmative solution, through the creation of higher organic structures, thanks to which the environment becomes boundless. In its two major evolutionary processes, life appears to be driven by two polar tendencies: one, the affirmation of its relative autonomy, a tendency that leads to ever higher levels of organisation and implies a certain reserve towards organic specialisation, and the second, overt concessions made to the environment, a tendency that gradually leads to a precise adaptation to the environment.

Taking into special consideration the two polar tendencies that seem to dominate our lives, we will ultimately notice that in each of them we find the two factors related to each other: life and nature; but

each time with a different emphasis. In the tendency to assert its autonomy, as much as it can, life does not achieve either

Once without a minimum, necessary reporting, Ja eon-diţiile external conditions, to nature. In the tendency of overt adaptation, through organic specialisations, of life, external conditions are involved as a decisive factor, since this time life takes the path of maximum concessions in relation to nature. The dosage of these tendencies, present at any moment in the evolution of life, differs infinitely from case to case, with the emphasis sometimes on one, sometimes on the other. Life, with its various forms, cannot therefore be understood solely through the tendency to adapt openly. ly through organic specialisations, to the environment, an aspect that has attracted the attention of biologists in particular. To understand life, we must also acknowledge a tendency to assert its autonomy as such, which leads to gradually higher levels of organisation and an increasing expansion of the environment But such a tendency to assert oneself also implies a certain reserve towards adaptation or a certain adaptive shyness.

Klaatsch's hypotheses regarding certain alleged "primitivisms" of man remained, if one overlooks the momentary sensation, without echo in the scientific world. It took some twenty-five years before a number of naturalists finally began to work more systematically to elucidate the issue.

More detailed information, intended to illustrate the somewhat "unevolved" , human characteristics, in comparison cru ale 1a1ntropoidelor, brought ainatomul Dutchman L. Bolk, who in 1926 published a study on "The Problem of Anthropogenesis" [1] , summarising not only the results of investigations careful and 1agere, but and o
account of very strange theoretical formulations, on which we are about to pronounce. Bolk's study caused justified astonishment among naturalists at the time of its publication. The documentary material on human particularities, presented as lagging behind the structures and the equivalent forms of anthropoids, was truly impressive. However, Bolk's "theory," which attempted to explain human morphology and physiology, remains surprising, to say the least. To avoid any misunderstanding, we would like to announce, even before presenting Bolk's observations and ideas, that we are willing to to discuss the information

·1 Unfortunately, neo-a it has been impossible to obtain Bolk's study. It is very likely that no copy of this work can be found in our country.
, while abroad,
read this study shortly after its publication.

the Dutch naturalist's observations on human structures and forms, but that is all. His "theory" seems so intortooheată, that we can only comment on it in the sense of a caiteg,orice non-acceptance. In connection with this study by anthropology, we were unable to consult a report that Bolk himself made on his ideas in "Comptes rendus de l'Association des anatomistes" (Nancy, 1926, p. 80).

Bolk begins by noting that in recent times, anthropological research and the study of comparative ' anatomy' have been dominated by the genealogical perspective and the issue of descent. The method and viewpoints in question have borne fruit, but, Bolk argues, the time has come for the human form to be studied more closely and in itself, without the alterations that the perspective of descent might bring to this issue. The question that Bolk's question is as follows: what is the form of the human ancestor, and what was the main factor that led to humans acquiring their current form? In order to answer the first part of the question, Bolk believes that the second part must first be resolved by researching the human form itself. Bolk is convinced that current theories are insufficient for understanding the genesis of the human form. Bolk goes on to state that he has confident reasons to a believes that as more and more extinct forms are discovered , solving the problem of anthropogenesis with the help of these historical documents will in fact become increasingly difficult. Bolk will therefore attempt to reconnect with concrete anthropological reality. He will ask himself: what is essential to humans as organisms, and what is essential to humans as forms? One aspect of the question is physiological, the other anatomical. Bolk's research initially started from a chance observation. The naturalist noticed a number of particularities in a certain adult, which represented normal but temporary conditions in the human foetus, but which had become permanent in the adult in question. Although this was a clinical case, the observation in question became a guiding idea for Bolk's further research. The idea was that of the persistence of foetal properties. Later, studying the phylogenetic development of human teeth, Bolk proved that the first molar originated from a milk tooth.

venH "persistent". The notion of persistence of foetal properties thus took on a concrete form in the sphere of biological normality. The same idea seemed to be confirmed later in connection with other data that would come to light. Bolk studied the location of the occipital foramen in the human skull and that of monkeys. The general opinion of evolutionists was that the anatomical peculiarities of humans derive from simian conditions and that the occipital foramen, located in humans at the centre of the base of the skull, acquired this position through a dislocation from back to front, as a consequence of humans standing upright on two legs. Contrary to the current opinion, Bolk expresses a view, corroborated by a series of facts, that the central position of the occipital foramen in humans is the primary position in the foetuses of all primates. Moreover, in the foetuses of other mammals, the position of the occipital foramen is always closer to the centre of the base of the skull than in the same mammals in the adult phase (see plate VIII, fig. 1-4).

Bolk further notes that, while in all other primates the hole approaches the occipital pole of the skull during development, in humans it persists in its primitive position. According to Bolk, the central position of the occipital foramen in relation to the base of the skull in humans is not a consequence, but rather one of the causes of humans walking upright. Gradually, and after a number of concrete confirmations, the idea of the persistence of foetal particularity thus becomes, for Bolk, the basis for understanding the human form.

The essential somatic properties of humans, i.e. those that distinguish humans from other primates, all have one thing in common: they are permanent physical characteristics. In the ontogenesis of other primates, these characteristics are transitory, whereas in humans they are definitive. We will soon see which particularities could be discussed in this sense. The particularities that we will list below are also found in monkeys.

during ontogenesis; however, while in monkeys the characteristics we will point out are replaced by more specialised features, in humans they are definitive. Observations of this nature led Bolk to conclude that the difference between human somatic characteristics and those of monkeys consists in their foetal appearance. From this, the overall idea emerges: all the particularities

to which reference is made, were also found in the most primitive ancestors of man, "but only during a short period of their foetal life, as temporary conditions". This is the core idea around which the "theory of foetalisation" of anthropogenesis has been developed, through which the naturalist Olan-dez has gained a sensational reputation as an original anthropologist.

. "In a certain sense," Bolk argues, "man can be defined as a primate foetus that has become capable of reproduces itself." Humans would be mature monkey foetuses. The theory formulated in this way is certainly pointed and should not be taken literally. It would be a case of halted development in humans. According to Bolk, the cause of this halt could not be internal, and in no case external. The 'problem of anthropogenesis would not be, in other words, phylogenetic, but ontogenetic. As an internal factor leading to foetalisation, Bolk points to a "principle of retardation", whose influence would be felt throughout human life in comparison with that of all mammals (see plate VIII, figures 1-4). The influence of this principle of retardation would continue to grow throughout human evolution, from which it would follow, among other things, that Neanderthal man possessed, for example, complete dentition Hnără deoît man current. Neanderthals became adults more quickly, in other words. Returning to the initial anatomical and physiological question, which he undertook to investigate, Bolk offers the following answers: the essential of human form is the result of a foetalisations, the essence of human physiological existence is the consequence of a retardation of its functions. Seeking to provide a solution to the question of what could be the cause of the progressive slowing down of the vital current in human ancestors, and consequently the cause of foetalisation, Bolk decides to propose the hypothesis of a change in the functioning of the endocrine system. It is known that hormones can accelerate or delay developmental processes.

Before moving on, it is worth listing all the those particularities "undifferentiated" of humans, which Bolk deals with, not only descriptively, but also as a "theoretical rhetorician". These particularities are:

1. Orthognathism (the position of the jaws sub cavita-tea cranianä). In anthropoids, we are dealing with prognathism mai mult or mai less pronounced. In the foetus

antropoid , cons>taită an orthognathism obvious, but temporary.

2. Absence of hair (a phase and in the ontogenesis of anthropoids) .
3. Disappearance of pigment from the skin, hair and eyes.
4. The shell-shaped ear.
5. Mongolian fold.
6. Central position of the occipital foramen.
7. Relatively large brain weight.
8. Persistence of the cranial suture.
9. ' l hnajora in women.
10. The shape of the hand and foot.
11. The shape of the pelvis.
12. Position oriented ventral a fantei genitale la female.

The Dutch naturalist deserves credit for having taken a serious step forward in researching the human characteristics of the "undeveloped" appearance, which Kl,aatsch was among the first to glimpse, without however providing any explanation for them. We are faced here with observations of particular importance, which no research can ignore. Bolk, undoubtedly a brilliant anatomist, exceptionally gifted for observation, does not, however, remain within the strict framework of examining the facts; he frantically aspires to theorise, but as a theorist, Bolk proves to be completely incapable of breaking free from the habits of a biologist who thinks almost "medically", even when he is tasked with rising to a more philosophical level. His theory on anthropogenesis is, in our opinion, so incredible that we feel compelled to suspect that somewhere, somewhere, he is hiding a secret. His theory on anthropogenesis is, in our opinion, so incredible that we feel compelled to suspect that somewhere in these theoretical speculations, insufficiently verified hypotheses have crept in. Only a mentality seriously affected by professional deformities could adhere to such fanciful medical inventions. It is not particularly difficult to trace the assumptions that have crept into this curious theoretical construct without any justification.

One of the assumptions that may be suspected of inconsistency refers to the primordial ancestors of man, about which is claimed to have had and they all

primitive characteristics similar to those of modern humans, but only during the short period of their foetal life, as temporary conditions. The primordial ancestors of humans would have developed, after their foetal stages, characteristics that were more "specialised" than those of modern humans. Obviously, if we look at the process that led to modern humans in this way, we must admit that a specific factor of "foetisation" intervened in the constitution of the primary ancestors, "retardation", which would allow us, after all, to imagine it as being endocrine in nature. However, in order to reach such a conclusion, it would have been necessary to examine beforehand whether, in fact, beings more "Specialised", in organic terms, modern humans may or may not be among the ancestors of humans!

A second assumption, which has found its way into Bolk's theory, is this: man would be reduced, in its entirety, under anatomical-physiological terms, exclusively to the particularities more "undeveloped" in similarity to the equivalent particularities of anthropoids. Bolk argues with all conviction that what is specific to humans, from a biological point of view, in comparison with anthropoids, represents definitive foetal characteristics as such. Or nouă ni se pare că tocmai ad, într-o,a,s emenea presu-punere cu totul insuficient verificată, urmează să căutăm eroarea fundamentală de care s-a făcut vinovat na·tu- ralistul olandez. What difficulties would arise in refuting Bolk's theory if it were shown that man differs from anthropoids in a number of structures and characteristics that mark a much higher level of organisation? In this case, the hypothesis of the retardant factor, of an endocrinic nature, which would intervene in human evolution, would fall, for it is obvious that such a factor would have to influence all human characteristics, which would frustrate the realisation of the theory.crină, oe again intervening in human evolution, would fall, for it is clear that such a factor would have to influence all human particularities, which would thwart the realisation of the level of organisation superior to man. It is clear that Bolk's theory, according to which man is only a mature monkey foetus, stands or is nullified in conjunction with the two assumptions mentioned above. Later, when we try to clarify the bundle of "undifferentiated" characteristics, "nesp:edaliz.ate" of humans, it will become clear why we are so keen to draw a line, even now, between the states of discovery described by Bolk and his "theoda", in the face of which we cannot suppress the feeling that

ramme a theory constructed from a distorted perspective, a caricatured theory.

In light of his theory of the ontogenetic "foetalisation" of human forms, Bolk therefore considers all specifically human characteristics to be "embryonic", similar to the equivalent characteristics in anthropoids.

Other naturalists, who, either following Bolk or independently of him, have dealt with these particularities, namely ma-

jorH atea lor în perspectivă filogenetică, înclină să soco-tească aceste particularităţi ca „primitivisme ". In order to complete the information regarding the research that followed along the same lines, we will add that in the last two or three decades knowledge has been greatly expanded. No

It is not necessary to go into too much detail or to specify buţi,a personal a diferiţilor naturalişti la îmbogăţirea cunoştinţelor îm conexiune cu problema ce se pune ; However, we mention a few of the most important naturalists who have worked and strived in this direction: Mijsberg, Wesitenhofer, Naef-Zurich, Adolff, Osborn, Frechkop, Schindewolf, Werth, Otto Grasser, etc. What other discoveries did these naturalists make regarding the "primitivism" of huma ? ? We highlight some of the results of research in this direction, carried out with with ever-increasing care and attention.

It is known that in mammals, the cranial and facial parts are inversely proportional. The more developed the cranial cavity crnniană, păstrătoarea creierului, the less prominent the face appears. In anthropoids, the snout is still particularly massive in comparison with the cerebral part. In humans, the face remains somewhat recessed under the

cerebral cavity. In connection with this situation is de

A symptomatic detail has been highlighted: in general, mammals manifest –– In the embryological stages in terms of the proportions between the skull and the face, the index is closer to that of humans, and that the index found in the same adult mammals differs from that of humans. It follows that the proportions in question in humans represent a more primitive" state than the proportions found in other adult mammals.

Another thing: we know that human teeth are vertical, whether they're adult or embryonic. In other adult mammals, the teeth are slanted, while in the embryonic stages, their teeth are

characterised by a vertical position, as in adult humans. Humans would therefore retain a tooth position that is, phylogenetically, more primitive.

But there are other facts that have recently come to light regarding the issue of human primitivism. It is well known, for example, that the human jawbone is horseshoe-shaped, while in anthropoids it is elongated. It is particularly symptomatic that the horseshoe-shaped jaw is found in semi-apes, which is further proof that the human horseshoe jaw is a more primitive form than the elongated jaw of anthropoids. Another primitive feature in humans is the absence of a diastema between the canines and premolars. The presence of a diastema is attested in all anthropoids (a diastema occurs when the canines transform into tearing teeth).

In humans, the premolars, behind the canines, have two cusps, similar to those of apes, which is a more primitive feature than the single cusp found in the premolars of anthropoids, premolars that have specialised in the same way as their canines.

Also in relation to the phylogenetic issue of teeth, it has been discovered that the non-protrusion of canines, characteristic of humans, is a feature also found in the lowest placental mammals, in insectivores which would allow for an interpretation that the non-protrusion of canines in humans is a form of primitivism. It is well known how much this phenomenon of non-protruding canines in humans has given classical evolutionists pause for thought. Darwin explained this phenomenon through a process of "reduction" or "secondary adaptation" , consistent with the fact that humans became civilised, by resorting to technical tools, which would have made the prominence of canines superfluous. But Spencer did not go any further in discerning the difficulties of the issue. He insists on showing the nonsense of explaining this phenomenon through "natural selection". In turn, Spencer attempted to explain the phenomenon by resorting to the Lamarckian factor, to the possibility of transmitting an acquired function through heredity! According to Spencer, this would involve the gradual diminution of a function following the disappearance of certain savage habits from human life. However, given all the uncertainties

Herbert Spencer, Principles of Biology, Paris, 1877, p. 55.

Given the attitudes in which the "Lamarckian factor" still prevails, it seems appropriate to ask whether the phenomenon might not be more accurately described as primitivism.

CH considers the five- ed extremities of humans, a group of naturalists increasingly inclined to view them as a very primitive feature, because even in the Palaeozoic era, there was widespread evidence of soft-bodied vertebrates with five-fingered limbs and an opposable thumb . It could be argued that in mammalsprimates have retained these limbs, in c o m p a r i s o n to which the digging paws of the weasel or the wing of the lili acus, or the paw of the lion, or the hoof of the horse are obviously more "evolved" organs in terms of organic specialisation.

Another curious primitivism characteristic of human beings has been revealed in one stage of their embryological processes. A researcher examined very young human embryos and found that they go through a very clear gastrulation phase, a phase that in other mammals appears blurred to the point of being unrecognisable. It should be noted that in human embryology, the gastrulation phase manifests itself with a plastic clarity that we only find in Amphioxus, the most primitive vertebrate.

We cannot fail to mention the observations made in the past by Mijsberg, another Dutch naturalist, precisely in the years when Bolk announced his discoveries. Following in Bolk's footsteps, Mijsberg also discovered some structures, human forms with a more "embryonic" appearance than those of anthropoids, such as: the conformation of the rini-chilor and a aspect as well as that of him p pendulus in humans 1.

Most naturalists who have studied these human characteristics , come to the conclusion that man does not

1 In this very brief presentation of the results of research in such a little-known area of biology, we have limited ourselves to indicating the main data. The extensive specialist literature on the issue of human primitivism is discussed at length in in the study by large proportions "Der Mensch" by Arnold

Gehlen (1940). which, given the poor conditions of information and scientific research scientific research during the war years was also of particular use to us .

may descend from an anthropoid type. But more on that later.

Anyone will acknowledge, based on the data presented before us, that the material intended to prove that humans preserve in their structure and form a number of primitive characteristics not only of the anthropoid, but sometimes even of all other primates, or in some cases perhaps even of reptiles, is impressive.Let us not lose sight of the fact that this field of research certainly still holds surprises for us. The explorations undertaken so far in this area do not seem exhaustive to us. The idea that the most highly and complexly organised being, man, would retain in his constitution certain primitivisms" from which other beings, inferior to man in terms of organisation, have long since emerged, is undoubtedly paradoxical. This is the only way to understand why naturalists have found it so difficult to conduct research of this kind.

However, neither science nor philosophy can any longer

Now, I'll let you i g n o r e the facts just because they bother some folks who've forgotten too quickly the importance of self-review. In the next few lines, we'll try to look at how some theorists have tried to explain this weird situation; on the other hand, we will seek to prove the insufficiency of the proposed explanations and at the same time to show what would be, given the situation, the most plausible hypothesis that could be put forward within the theoretical framework developed in the first chapters of this study.

## A new clarification

Naturalists who, taking into account the particularities of a "primitive" appearance of the human species, currently reject the theory that man descends from a pre-human anthropoid type, are not isolated oases in today's scientific thinking. They form, so to speak, a phalanx engaged in research directed in the same direction, and the facts brought to light by them serve as a pretext for launching their various ideas about the origin, age and nature of the human being.

We note that some human characteristics, among the most paradoxical, which today give naturalists and philosophers so much food for thought, have long been noted by

naturalists and philosophers, have been noted for a long time,

even from classical evolutionists. One such peculiarity would be, for example, the non-prominence of canines in humans. But older biology, guided by the overall correct idea of evolution, still worked with material that was sometimes only roughly elaborated, and tended to explain this phenomenon as the result of a process of "reduction" that would have intervened concomitantly with the transition pre- humans to

from an arboreal life to a terrestrial life, and in conditions of human civilisation. This is generally

The current trend in biology to interpret the human characteristics in question, although in most cases the explanation through secondary adaptations or "reductions" presents insurmountable difficulties. To argue that om oaninii-colți diminished from the moment he invented the knife, because he no longer needed sharp teeth, is naive and only a plausible conjecture for an excessive fantasy. But what do we do with all the other particularities, which ne-.am dealt with, and fiață de

that the solution through alleged processes of "reduction" reveals itself to be one of the most obvious means of evading the facts of the matter? Let us acknowledge that the eye of experts has had decades to become a precision instrument, registering details that naturalists a hundred years ago did not notice. And the most authoritative experts tell us that these aspects are "embryonic" or "primitive" conformations, and not mere secondary imitations of rudimentary states.

The explanation through processes of "reduction", secondary to the broad line of evolution, is opposed in each case by a number of concrete arguments. We cannot embark on a more leisurely unfolding of these testimonies here, because this would mean summarising the dozens of studies by naturalists who have devoted many years of work to observing and interpreting this or that particular human characteristic. In this regard, we are content to refer readers to the most important studies in the specialist literature. We must also take into account, in any criticism of "reductionist" explanations, certain general considerations. One of these general considerations would be the following: there are, without doubt, very frequent processes of "reduction" in the evolution of life on earth, but such processes never lead to structures that are accused of being "embryonic" or "primitive", as

1 Mijsberg, Ober den Bau des Urogenitalapparates bei den männlichen Primaten, Verlag Kgl. Akad. d. Wissenschaften, Amsterdam, 1923.

Westenhofer, Das Problem der Menschwerdung, 1935.

Naef-Zurich, Die Naturwissenschaften, 1926, pp. 89, 445, 472. Adolff, Einige besondere Bildungen an den Zähnen des Menschen und ihre Bedeutung fi1 r die Vorgeschichte, Anatom. Anzeiger, 1924, p. 58.

Osborn F. A., Fundamental discoveries of the last decade in human evolution, New York, Academy of Medicine, April, 1927; Recent discussion relating to the origin and antiquity of man, American Philosophical Society 1927; Recent discussion in human evolution, Medical Society of the County of Kings, 1927.

Frechkop, Bulletin du Musee royal d'Historie nat urelle de Belgique, 1937, notes XXI and XXII.

Schindewolf, Das Problem der Menschwerdung, ein paläontologischer Lösungsversuch, Jahrbuch der preussischen geologischen Landesanstalt, 49, 1928.

Werth, Zeitschrlft f fi1r Suugetierkunde, 12, 1937.

Grasser, Forschungen und Fortschritte, 10, 1931.

are those under discussion, but at most vague hints, very approximate imitations of archaic conformations, hints which, upon closer examination, reveal themselves to be inauthentic primitivism. Dollo's law, which establishes the irreversibility of evolution, prohibits the explanation of clearly embryonic or primitive conformations through processes of "reduction". Another circumstance that also compels us to reject the explanation by "reduction" is that the information available on the archaic features of man has increased enormously in recent times and is likely to increase further in the future. Tezervă fiață de explicația prin "reducție", este aceea că materialul informativ cu privire la p1articularități1e arhaice ale omu-lui s-a amplifioat enorm în timpul din urmă, având toate șansele de a spori și de aci înainte.

The problem of human "primitivism" on which we have focused must be considered at least an open question. This problem is of interest to both science and philosophy. We ourselves consider it to be the most important problem in biological anthropology at the moment. Using a given set of information in the problem, we hope to be able to make some personal contributions, at least as far as its solution is concerned.

Before developing our views on this matter, it is appropriate to present the interpretations and conclusions reached by naturalists and philosophers who have dealt more extensively with this paradoxical state of affairs. The most bold conclusions were put forward by the Dutchman Bolk. The great anatomist presents the biological characteristics specific to humans simply as traits that have remained in an "embryonic" phase. Humans, like anthropoids, would be the product of a "foetalisation". Bolk does not deny therefore descent from an anthropoid type, but he sees this process differently than classical evolutionists did. While classical evolutionists argued for a truly progressive evolution (with some regressive readaptations), Bolk believes that a massive "delaying" factor intervened in human evolution, due to whichthe eminently embryonic characteristics of apes stabilised in this form in humans. As humans evolved from the anthropoid form to their own form, the "embryonic" characteristics of the were preserved, accentuated, and defined as such. And "retardarea" ce ar fi iruterveni în evoluția

Bolk attributes this to a change in the functioning of the endocrine system.

·Bolk's theory caused justified astonishment among naturalists some twenty years ago. Due to the storm of criticism to which it was exposed, Bolk's theory is so repugnant to the imagination that it was quickly dismissed. Recently, a prominent philosopher, Arnold Gehlen, discussing Bolk's ideas in relation to human beings, has once again argued in their favour. Gehlen declares that in the absence of a more acceptable theory, Bolk's theory is still the most recommendable one for the time being[1] and that we should not be alarmed by its drastic formulation, because it is only a matter of a "pointed" expression. Of course, in scientific matters it is not very appropriate to be guided by feelings. We know this very well and we would never think of disparaging a theory based on sentimental prejudices. If, from our side, we take a completely negative attitude towards Bolk's theory, it is not because of a prejudice. There are sufficient objective reasons that lead us to reject the theory.

We acknowledge that Bolk's ideas can be supported by evidence, namely human characteristics, which we, in turn, are willing to consider as "primitivism". But Bolk's theory goes beyond the facts, and the question that arises is whether the human characteristics in question cannot be interpreted in another sense, namely in the sense of general ideas about evolution, which do not necessarily require additional ad hoc and artificial assumptions such as Bolk's.What are the objections that could be raised against Bolk's "theory"?

Bolk resorts to exploiting the "particularities" of the "embryonic" aspect of humans, as a retarding factor, which could be endocrine in nature. Let us ask ourselves, in view of such a thesis, how significant sa an endocrine-related delaying factor could be in human evolution ? The answer to this question is

1 Arnold Gehlen, Der Mensch, Junker und Dlinnhaupt Verlag, 1940, Berlin, p. 104.

One thing: man should endure the effect of such a retarding factor in his entire being. It seems that Bolk himself thought so. Man would be, in all the complexity of his being, a mature monkey foetus, as such. This statement is as risky as it is gratuitous, because from an objective point of view, nothing entitles us to make statements about man as a "whole".

when the discussion concerns only a number of particularities
of the soul. Empirical observation does not yet allow us to make the leap from a number, however considerable, of "particularities" to the whole of human being. A critical analysis of the situation offers opportunities for other hypotheses. It may be that, in comparison with most, man has a s,e amă de particularities mai "embryonic", more "primitive", more "unspecialised", but at the same time, compared to the same monkeys, man could represent, in a different sense, a being

of an unspeakably higher "level of organisation". The distinction
between evolution through specialisation and level evolution would open up a perspective here on human particularities, which is what Bolk outlined in his theoretical caricature.

Another objection. Bolk argues, in line with the idea of endocrine retardation, i.e. the factor that would have progressively increased during the course of evolution.

human beings, that Neanderthals possessed a full set of teeth at a younger age than modern humans, thus becoming adult more quickly. This would mean that, in adulthood, Neanderthal man would have had a more "anthropomorphic" appearance than modern man. It is not impossible that Neanderthal man was characterised in adulthood by a
more "specialised" conformation than that of modern humans. However, the hypothesis regarding the increasingly pronounced intervention of the retardation factor in human evolution would only be confirmed if it were proven that Neanderthals are the "direct" ancestors of modern humans! However, this has not yet b e e n p r o v e n . For our part, we are inclined to believe that all those anthropoid mammals, hominids or even humans to a certain extent, which in one way or another have manifested forms organioe mai "specialised" than humans

present, cannot be considered "direct" ancestors, in a phylogenic sense, of modern humans. We will return to this point later.

Another objection, of a more general nature, to which Bolk's theory seems susceptible, is that in its light man appears as a wholly singular biological "exception" in the evolutionary process of life on earth. But any mind that has once assimilated the postulates of science is repelled by digressions about the exceptional. An "exceptional" biological position, by the very principles it implies, can only be sustained in a very arbitrary manner. Of course, Arnold Gehlen may sympathise with such a theory, because he himself sees man as a completely "exceptional" phenomenon in nature, even from a biological point of view.

We note that Bolk raises the issue "lpariţiei of man in-tr-un framework in the first place ontogenetic — and only in the second place phylogenetic. The other naturalists, who in turn took into consideration "theoretical" particularities, which we have come to deal with, of man, view the situation again more from a phylogenetic perspective. What are the hypotheses that these naturalists propose in relation to the particularities described and analysed within the framework of various disciplines and with such a wealth of documentation over the last two or three decades? The naturalists we refer to, whose leader remains Klaatsch, express their firm conviction that man is much older than what dasic evolutionism attributes to him. (Regardless of the age of the fossils that have actually been unearthed so far.) A Dacque, in several studies, such as "Urwelt, Sage und der Mens·ch" and un Westenh5fer in the work "Das Problem den Menschenwerdung" (1935) imagines a separate line of human evolution, distinct from that of animals, which began with the rise of amphibians walking on two legs in the Palaeozoic era. Adolff (1931, 1938), somewhat more moderate in his , and imagine a phylogenetic line specific to humans, extending deep into the Tertiary period, a line that never passed through anthropoid forms. These authors, considerably extending the human phylogenetic line into the past, tend to believe that mammals, and especially anthropoids, would have

be detached in turn, falling somewhat from the human phylogenic line, so that it may be that man did not descend from a type of monkey, but rather monkeys from human forms.

A rather strange theory, proposed by Schindewolf, argues that in the ontogenesis of anthropoids, phylogenetic forms do not appear in their natural order of succession, but in reverse order; later phylogenetic forms would appear in the childhood stages of anthropoids, and earlier phylogenetic forms would appear in their mature or old age stages. Schindewolf calls

this process "proterogenesis". In human ontogenesis, this reverse succession of forms would combine with the normal ph . Evidently, interpretation of biological facts

leads here to theoretical ideas of intolerable artificiality. These theories are the product of a moment of surprise. The discovery of human "primitivism" came as a shock and was a circumstance that could indeed set the naturalists' imagination in motion. However, all these authors attribute exaggerated importance to the primitivisms in question, considering that the human being is circumscribed, biologically speaking, approximately by these particularities. However, as we will endeavour to demonstrate, these particularities are so far from constituting the whole of the human being that their "antiquity" is at most proof of their own antiquity, and not of the antiquity of man.

The need to explain a factual situation, such as that of "undifferentiated" human characteristics in comparison with those of anthropoids or sometimes even other mammals, has therefore led to a number of anthropogenic theories. Naturalists, who adhere to classical evolutionism, would like to present the human characteristics in question, to the extent that they are actually acknowledged, as the result of processes of secondary adaptation or sometimes "regression". This interpretation does not take sufficient account of Dollo's law, which establishes the irreversibility of evolution. Atîrt înfăţişarea

The archaic accusation of the particularities that form the object of theorisation, as well as Dollo's law, raise insurmountable obstacles to an explanation through processes of 'reduction'.

Unfortunately, other theories single out humans, viewing them as a completely "exceptional" oasis in the evolution of life on Earth. Research is thus threatened with reaching a serious impasse. A factual state, namely that of "primitivism," which we also consider real, has led the theoretical imagination of naturalists towards distortions, against which even common sense warns us. After an overview of the situation, it is appropriate to ask ourselves to what extent human "primitivism" could be explained within the general theoretical framework that we have outlined in the first chapters of this study. Having examined the evolutionary doctrine, we have concluded that, under certain conditions it still awaits the development and corrections that are incumbent upon it. Whatever this development and these corrections may be, we consider the hypothesis in oadrru evolutionist framework to be a valuable contribution to science. Man, like all other organic beings, must be conceived as the result of an evolution, and this evolution could have taken place gradually, through mutations. These are the coordinates within which we understand to proceed with the internal development of the doctrine. We have sought further, maintaining in the framework of the idea of evolution, to make a distinction in terms of greater precision than has been made so far, between two kinds of processes. Biological experience advises us to admit, on the one hand, an evolution that leads, through stages, either through mutations, to a progressive "specialisation" of one or more organs specific to a type of a certain constitutional type, and, on the other hand, an evolution that, through processes Mutational, sometimes through radical leaps, they break through from lower-level constitutional types to higher-level types of organisation. In order to enhance the visibility of this distinction, which we will use as a common thread throughout our study, we have created a criterion that allows for a better understanding: evolution through "specialisation", which usually takes place gradually, as a result of a particular "compression" of the environment in which a being lives, since evolution towards higher levels of organisation finds its culmination in a progressive "expansion" of a being's environment. Let us also keep in mind everything that

nd h a v e discussed the possible relationships between organisms and their environment. Every organism, regardless of its constitutional characteristics and species, and as far as its possible reactions are concerned, at least in a relationship of sufficient harmony with the cosmic conditions in which it lives (once again: the struggle for the existence of the concrete organism with the concrete environment remains a basic principle. However, this struggle, which promotes evolution, always implies a strictly necessary relationship of harmony between the organism and its environment, without which no being could take up the struggle with the environment, being destroyed from the outset by the cosmic environment). What happens to organisms engaged in a process of specialisation? These organisms move, in their relationship with the environment, from a relationship of "sufficient harmony" more and more towards a relationship of "precision harmony" (this term "precision harmony" refers again only to the relationship between species characteristics and the general aspects of the environment; in concrete terms, even this "precision harmony" does not cancel out the struggle for existence of the individual organism with the environment in which it finds itself hic et nunc). Evolution through organic specialisation can also be described as evolution through progressive "adaptation" although "adaptability" is currently exposed as a term laden with too many ambiguities. (We recall that, according to Lamarck, there is a direct "adaptation", either through the direct influence of the environment on organisms, or through the exercise or non-exercise of their functions, while according to Darwin, there is only adaptation in the indirect sense, which is due to natural selection.)indirectly and is due to natural selection.) When talking about "adaptation," it would perhaps be more appropriate to empty the term of all its theoretical and e y connotations and use it to designate only the passage of an orgiamfom from a state of

"sufficient harmony" l1a a sbare of "precision harmony" in relation to the environment. "Adaptation", viewed in this way, is a process identical to evolution through specialisation, which, as we have emphasised, leads to a particular compression of the environment in which the being lives. In order to avoid overly long and cumbersome descriptions in a discussion, we will henceforth refer to this process or mode evolutiv "horizontal evolution" . It will be seen from

the diagram illustrating the situation that the expression imposes itself through its economy.

The second evolutionary mode, which remains much more important for the development of structures and of earthly biological forms, results in increasingly higher levels of organisation, i.e. higher constitutional types of ensemble. Beings engaged in such an evolution do not pass from a state of "sufficient harmony" in relation to their environment to a state of "precision harmony", but from a state of "sufficient harmony" in relation to a certain environment l1a to a state of "sufficient harmony" raport cu o ambianţă desmărginită, adică mai largă şi mai complexă în acelaşi timp dedt am-bianţa anterioară. Vom recurge de acum încolo şi pentru desemnarea 1acestui mod evolutiv la un termen mai sumar: aceasta este evoluţia verticală. We have established the two evolutionary modes on the basis of a direct analysis of the situation and on a somewhat purely descriptive level. Regarding the factors that promote or are involved in the evolution of life in any of its modes, science has generally expressed itself in the sense indicated by us in the first chapters of this study. As for the question of the evolution of levels ( ) and the evolution through specialisation ( ), which some biologists point to and which we seek to define more closely, this is an open question from a scientific point of view. Throughout this study, we attempt to delimit and clarify the terms of the problem; we also seek to provide some explanations and put forward some hypotheses in relation to it, without considering them to be exhaustive. We are certain that other researchers, today and tomorrow, will also have their say, correcting or completing what has been said so far about this very complex issue.

After these several clarifications we will seek to take a step further. One question stands in our way: "how" does life behave under its two evolutionary modes , vertical and horizontal? In order to the facts as vividly as possible, that is, to shed as much light as possible on the "how," we allow ourselves to make use, as is the case in all sciences, even in physics, of f1r ecv.ent rather than se re·cunoaşte, de perspec1tiva lui "as well as cum". In horizontal evolution, , i.e. in the process

Due to the specialisation of its structures and forms, life behaves "as if" it tends to adapt to increasingly precise environmental conditions, eliminating some and emphasising others. Whether speaking metaphorically or ally aspiring to more, the classics of evolutionism speak at every turn about the adaptive tendency of life in relation to the environment. This aspect is particularly important, sa.u
even exclusive, highlighted as a fundamental feature of life.However.we have seen how limited such a view of life remains. We have also identified another fundamental feature of life, that of vertical or level evolution. aci a doua întrebare a noastră : cum

behave life in processes of evolution vertical?

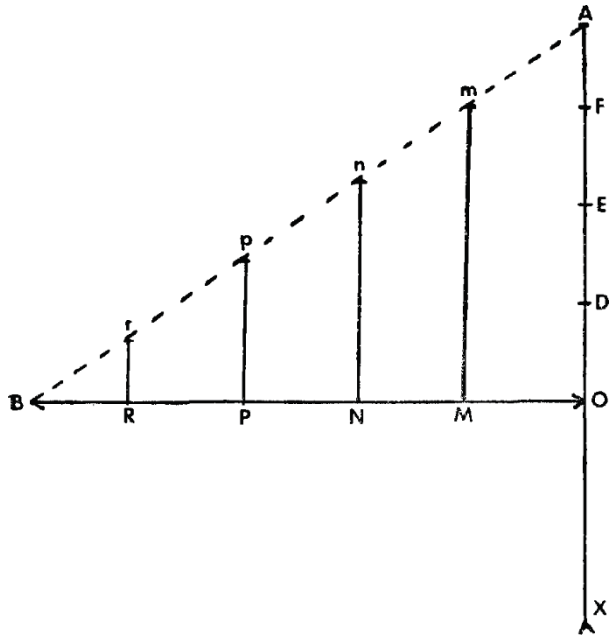
In our desire, if not to provide more comprehensive explanations, at least to prepare them, we will formulate our response in the same "how and why" perspective. In vertical evolution, the process by which higher levels of organisation are achieved, life, while maintaining a constant state of "sufficient harmony" with increasingly boundless environments, behaves "as if it were a single organism".
, life, while maintaining a relationship of "sufficient harmony" with increasingly boundless environments, behaves "as if" it were dominated by a certain shyness or a certain reserve.

As regards overt adaptation, and at the same time the tendency to form organic systems that are more autonomous from cosmic conditions. In the perspective of "as if" we are therefore allowed to speak of two quasi-polar, tendencies of life: one would be the adaptive tendency and the other the adaptive tendency as the reverse of the aspiration towards ever higher systems of organisation and of an autonomy
.

If we look at all forms of life in their entirety — those that have disappeared, from other geological eras, and those that are current, are the result of evolution — it can be assumed that evolution vertical and evolved horizontal, the first with ca-
raderistka ei fecundHate f.orma,lă accompanied by a certain adaptive sfială, the second with its marked adaptive tendency, come into action alternately, their effects overlapping. We will now show schematically how this overlap of eifeote occurs, as biological experience and theoretical conjectures provide sufficient evidence.

this overlapping of effects takes place, as biological experience and theoretical conjectures provide sufficient
reasons to believe that vertical and horizontal evolution are mutually dependent to a certain extent in terms of their possibilities and limitations.

The alternating action, with overlapping effects, of vertical and horizontal evolution can be represented schematically as follows:




The line X–O–A represents a "vertical evolution". At point O, a "horizontal evolution" (O-B) begins, passing through points M, N, P, R. On the line X-O-A Constitutional types of increasingly higher levels (O, D, E, F, A) are created in turn. On line O-B Se , a progressive "specialisation" of one or more organs is achieved, which is equivalent to an overt adaptation" of the organism to certain external conditions. In fact, as the logic of the diagram shows, horizontal evolution can only occur from a point located on the line of vertical evolution. A horizontal evolution also traverses various phases of increasingly characterised profiles, ultimately reaching a terminus (B), beyond which any new specialisation" ceases to represent a meaningful adaptation, becoming

a ballast (see hypermorphs). What could be deduced (theoretically) from the diagram is that processes of vertical evolution can also start from various points of horizontal evolution (M, N, O, P, R): M-m, N-n, P-p, R-r; However, these vertical processes will in no case reach level A of the initial vertical line, from which the horizontal line 0-B originated . We cannot escape the suggestion that the ceilings that vertical evolutionary processes, starting from different points on a horizontal line, can reach have all the lower, the closer the points from which they start are to the terminus of the basic horizontal line. Or, in other words: biological evolution through specialisation lowers the ceiling of possible vertical biological evolutions based on it, the more advanced it is. One of the conclusions that could be drawn from the possible confirmation of this hypothesis would be that complete "specialisation" or overspecialisation hinders any new vertical evolution. The situation on which we are projecting our hypothesis can be summarised in even more geometric terms.

If we imagine a vertical evolution and a horizontal branch of it, with two lines forming a right angle, then the ceilings of the possible vertical processes based on the horizontal line lie on the hypotenuse A-B, which transforms the right angle into a triangle. What would be the main aspects of such a situation? Let us first note that on the line X-0-D-E-F-A, vertical evolution does not alternate with horizontal evolution. Let us note a of the second aspect: on the zigzag X-0-M-m the vertical evolution alternates with the horizontal evolution. And a third aspect: from point B of the horizontal line, which starts from O, it is no longer possible a vertical evolution. All these moments, like the substance from which they are chosen, are susceptible, as we have seen, to a formulation with the appearance of a "law". Of course, such a "law" cannot, at the current stage of research, have more than the value of a hypothesis. Se cuvine mai atragem luarea aminte, în legătură cu o atare "lege", că fixarea unor plafoane biologice nu are neapărat semnificația unei stingelfi a fecundității evolutive proprii ființelor vii. Din momen-tul în care omul, bunăşi ajunge pl afonul biologic,

's fertility evolutionary does not cease, it simply takes another direction, namely "historical" ("historical" in the narrower sense of the word). From the moment a being has specialised, organically, to the end, in a certain direction, evolution can continue in the form, dangerous for it, a hypermorphs, 1or it can to endure

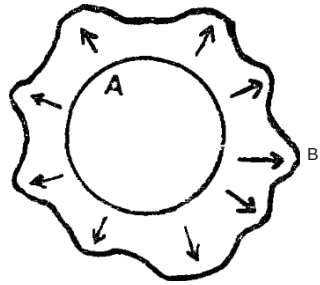
Biological "regressions". The relative stagnation of biological evolution is also quite common, as evidenced by the many creatures that have changed very little from the Palaeozoic era to the present day. (To facilitate the reader's understanding, we note that in the following explanations, the points from which either vertical evolution, horizontal evolution, or both evolve alternately, will be referred to as "fUeitic modes".)

The "law" of biological ceilings, which, we repeat, for now noi înşine nu are decât valoarea unei ipoteze,e, could be used to clarify so many problems încă deschise ale biologiei. The hypothetical law of biological ceilings, according to which the height to which vertical evolution can rise is inversely proportional to the degree of specialisation at which has reached a horizontal evolution of basic the hypothetical law of biological ceilings, by virtue of which a horizontal evolution that has reached its end makes any vertical evolution on its basis impossible, the law of biological ceilings, by virtue of which a vertical evolution can reach levels that are all the higher the less disturbed, affected or interrupted it is by an evolution through specialisation - this law, we say, explains better than anything else the immense diversity of forms of life.disturbed, affected or interrupted by evolution through specialisation — this law, we say, explains better than anything else the immense diversity of life forms on earth. It has been pointed out many times by naturalists that the diversity of life forms on Earth is much greater than would be necessary as a consequence of the diversity of environments possible of life (G oebel) . This means that the immense diversity of life forms requires an explanation based on factors other than the diversity of environments . But such a factor could be precisely the hypothetical law of biological ceilings.

By stating the hypothetical law of biological ceilings , we have merely added another element to the fundamental framework in which we will attempt to resolve the anthropogenetic problem

anthropogenic problem addressed in this study. However, for such an undertaking, it is also necessary to first clarify a theoretical element.

We return to the "laws of mutation," to which De Vries devoted his life's work. (We remind readers that De Vries conducted his investigations into "mutations" without distinguishing between vertical and horizontal evolution.) One of the laws formulated by De Vries is, as we recall, that through the process of mutation, the structure, form, and characteristics of a species would change in all directions. If we were to symbolise the species undergoing mutation with a circle, then the process would occur explosively in the direction of all the rays of the circle.

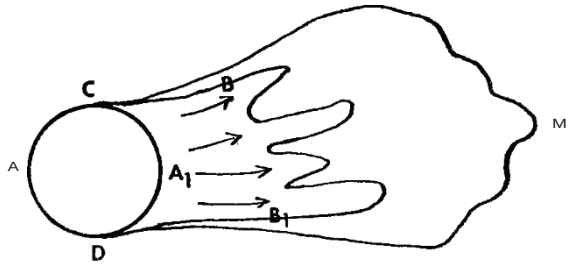



A – represents the species that moves; B – represents the new species.

We recall that De Vries made his observations on a relatively limited amount of biological material. He ultimately studied only mutations which, according to more recent naturalists, have proven to be mostly reversible, i.e. unstable mutations that do not represent anything essentially new in the evolution of life. It should also be noted that De Vries drew particular attention to mutations that represent only small "leaps", often accessible only to the expert eye. From such documents, which are in any case approximate in value, De Vries had no right to conclude that there was a "law" according to which mutations would occur in all directions, promoting all the structures and organs of the species. This would be one side of the issue. Another side is the following: in order to explain the evolution of life on earth, we must postulate, throughout the geological eras, a completely exceptional and eminent mutative fertility.

progressive mind. But within such a postulate the question arises as to whether, for mutations that proceed by radical and progressive leaps, the alleged "law" that mutations would affect all the structures and organs of a species can still be valid. It is doubtful that this is the case. We have the latitude to assume that it is precisely in the postulated mutations that life has proceeded and continues to proceed all the more "economically" on the one hand, while on the other hand, the novel characteristics that define the new species are obtained through greater leaps. We are not making another hypothesis, of course. The hypothesis will find its justification in its possibilities of application. In order to be able to pronounce on it, we must, in other words, first see it functioning in relation to with empiria. For now, we are constructing a hypothesis. It can be assumed that a biological process, such as that indicated by our hypothesis, will intervene especially in vertical evolution processes, which result not only in new species, but also in new constitutional types, higher levels of organisation. Such a biological process w o u l d require a symbolic representation as follows:

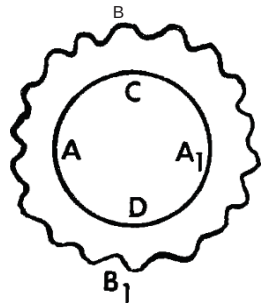
There is the species represented by circle A-A1 and the new species or constitutional level A-B-B1, which is created from species A-A1 through a process of radical progressive mutation. This time, the mutation




It modifies all the structures and organs of the species, but only the majority of them, in the sense indicated by the arrows in the figure. The new species will differ from the first in a series of particularities, exponents of a higher constitutional level, but will retain, in its composition and , some particularities (C-A-D), which formed the apa-

the origin of the species. Let us assume that several other medium-sized mutations then occur in the circumscribed direction through the curve A-C-B-M-D-A. The last species, which will result from from these processes, will acquire a very distinct prnfH from that of the first, while retaining in its constitution a number of more original, siau acuzat "archaic" features. This would be one of the schemes that we will retain. The second scheme, to which we must pay attention, refers to the possibilities of "horizontal" evolution of the same original species, which also appears as the starting point in the first figure. We will assume that a number of specimens of species A-C-
-A-D does not evolve vertically, but horizontally, through "specialisations", through adaptations of progressive precision.

The less specialised species A-C-A1-D results in a highly specialised species B-B1 as a result of horizontal evolution. Now comparing the final specico in the second figure with the species final from figure the third, both evolving




From the same initial species, , we discover that the final species in the second figure, although more highly evolved, still exhibits certain "primitive" (archaic) characteristics in its constitution, which the final species in the third figure no longer possesses .

The states described and their evolutions, divergent by their very nature; provide us with some theoretical elements that could be used to build a general platform for clarifying the issue raised by human "primitivism" in comp,arație with the particularities evolved through

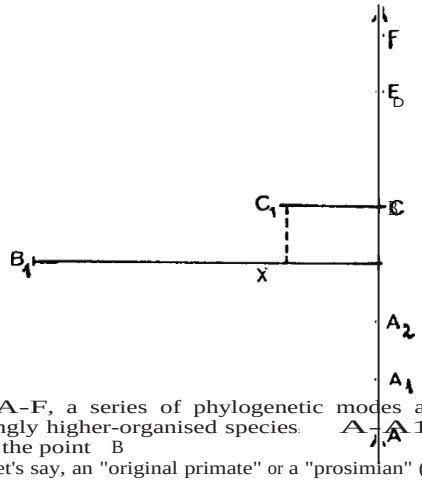
"specialisation" ale antropoidelor. Prin di stincți,a ce- o

We operate between vertical evolution 1 and horizontal evolution on the one hand, and through a modification or limitation of a supposed mutational "law" proposed by De Vries, we obtain the necessary coordinates in which the anthropogenetic problem that concerns us finds its most just solution. De Vries' law follows to be either restricted or transformed in the sense of a paradox: species resulting from vertical evolution con-servă in oonstituția lor with as many and older "primitivisms" with as they are more advanced in their evolution towards higher levels of organisation. De Vries' law predicts, through the processes of mutation, precursors in all conformations of a species. This alleged

‘ However, this "law" seems to be contradicted by the observational material we are discussing in relation to the anthropogenic issue. In order to break the deadlock, it is necessary to either replace or restrict the validity of De Vries' "law" with a formula that states that in radical and truly progressive "mutations," life proceeds paradoxically, organising higher constitutional types without abandoning all the characteristics of the original species. It could be assumed that it is precisely the most radical mutations that are carried out more economically, as they would not lead to a modification of all the structures and organs specific to the original species. (We will not examine in this study whether only the new formula, , or also De Vries' formula remains valid. The validity of both formulas, which would limit each other's scope of application, seems more likely to us than the exclusive validity of one of them. If we accept that both are valid, then it would be more appropriate to speak not of two "laws", but rather two "rules", each of more or less limited scope).

After the above clarifications, it does not take much insight to place the issue of anthropogenesis in the most appropriate theoretical framework. All the theoretical elements we are working with are general in nature: the distinction between vertical evolution and horizontal evolution is general. oaracter g·eneraJ is the hypothetical law of biological ceilings, and we must attribute cel at least a broad sufficiency to the rule of radical mutations, according to which life achieves noi species of higher levels

of organisation, preserving in a primitive manner, namely primitivism in their constitution. A. Jrrtroipogenesis could be schematically imagined as follows:




Neanderthal man (C1) could have evolved either along the lines B–C–Ci or along the lines B–X–C1; the law of biological ceilings would allow for such distinct but "equivalent" evolutions.

On the phylogenetic line A–F, a series of phylogenetic modes are recorded, representing increasingly higher-organised species. A–A1–A2–B–C–D–E–F. In , the point B We have the freedom to imagine, let's say, an "original primate" or a "prosimian" (in the current phase of research it is very difficultto specify the point where the human line and the anthropoid line diverged), which was, in any case, a being endowed with structures and organs of a very "unspecialised" appearance. From point B, through horizontal evolution, i.e. through various organic "specialisations" , the anthropoids branch off, but from the same point, the fertility of the vertical line gives rise to a series of increasingly higher levels of organisation, which at point F result in "modern man", and in the collateral C, slightly specialised up to point C1, let us say, the Neanderthal man. According to the rule regarding the preservation of certain primitivisms in constitutions superiorly organised through radical mutations, it is assumed that modern man constitutes a small archive of "primitivisms", on which anthropoids have surpassed

through horizontal evolution, that is, through various organic "specialisations". We cannot in the current human being as being predominantly constituted by its "primitivisms," but rather as being predominantly constituted by all the particularities acquired through radical mutations, which have led to higher levels of organisation, located on the B-F line.

We consider erroneous the opinion of those naturalists who, based on the real primitiveness of modern man, attribute an exceptionally long history to his appearance. But just as wrong is the opinion of some that anthropoids are descended from human forms. The "modern human" is primarily the result of radical mutations, which occurred between the original primate or pro-simi from point B and modern humans. Between modern humans and the original being from point B there is undoubtedly a partial quasi-equivalence, and namely that represented by "primitivisms" of modern man. Viewed from the perspective of these "primitivisms", man actual e is certainly closer to the original being (B), than they appear in relation to it, the current anthropoids, which developed from the same being (B) through evolutionary paths of "specialisation". However, we must consider the original being (B) as still very far from "human", given that, according to premises, that in order to reach man, several radical vertical mutations were necessary. Naturalists, who admit a "human" line "human" up to in phases pre-mammalian vertebrates, confuse "primitivisms" of man actual, with modern humans. One can speak, naturally, and about a "human" line in the evolution of life on earth, but this distinctly "vertical" line has nothing to do with the various her phases of conformation and ans amblul physiognomic "human". This "human" line begins, ultimately, with the original "cell", and is the line that leads from the original cell, through inarticulate multicellular beings , and then articulated, then through vertebrate beings, through an enormous series of radical mutations, in a vertical sense, finally reaching "man". Such a line can be called "human", but only by giving this word a "directional" meaning, since among all the phyletic lines of life it has remained permanently mai aproape de evoluți,a verticală, pură, care remains a line "theoretical". None of the lines fHetiice

real aspects of life on earth have not yielded, in their many stages, less to horizontal evolution through specialisation than the line, which we call "human" and which as such

, "chosen", in the true sense, from the diverse ensemble branched lines that led to diversity: structural and formal, past and present; of the biosphere. Man, with his primitivism , which is preserved in accordance with a paradoxical rule , effective precisely in vertical evolution processes of vertical evolution, therefore do not represent a problem biological "exceptional", as Bolk or Gehlen believe. In the evolution of life on Earth, man represents only an "immortal" case, immortal in two senses: immortal first in the sense that his line proves to be the closest, among all that exist, de the line vertical pure theoretical, and immortal

in the sense that the paradoxical rule, of which seems led

Vertical evolution manifests itself in humans in a paroxysmal form. However, from a biological point of view, we cannot see anything that would lead us to believe that humans represent an "exceptional" problem. All theories that have been put forward in connection with human embryonism or primitivism have thus been rejected. Obviously, on our part, we do not know the reality of xml-ph-0000@deepl.internal, the effective xml-ph-0002@deepl.internal, or the xml-ph-0002@deepl.internal.

realitatea efectivă a acestor primitivisme. Ele ni se par autentice şi 11u numai aparente. Ceea

This means that we consider the explanation of these culminating parts as the result of processes of reduction or "secondary adaptation" to be incorrect. We recognise the primitivism of the primitivists, but we are not prepared to follow the naturalists who consider that primitivism poses a problemxml-ph-0000@deepl.internal of primitivism, but we are not prepared to follow the naturalists who consider that primitivism poses an "exceptional" problem omului. Primitivismele umane allow for sufficient clarification within a theoretical framework that is valid for the unfolding of life on earth in its entirety, with the additional specification that man represents only a preliminary case of the effectiveness of modes, laws and the rules of evolution in general.

In order to measure as accurately as possible the real distance between humans and anthropoids (both current and fossil), we believe it is necessary to view it from the perspective of the distinction we

make between vertical evolution and horizontal evolution.

There is no doubt that "Rambiancy", i.e. cosmic conditions, whether physical or biological, keep various organisms under a certain constraint, which forces them (either directly or indirectly)

life to changes in structure and form. Faced with external pressures, life has, due to its intrinsic nature, the possibility of responding on the one hand through horizontal evolution, which leads through progressive adjustments and adaptations, from a state of "sufficient harmony" of the organism in relation to the cosmic environment, to a state of "precision harmony"-daliz ări, adaptations, from a state of "sufficient harmony" of the organism in relation to the cosmic environment, to a state of "precision harmony" , but still life has, on the other hand, the possibility to respond also through a vertical evolution, which leads from A state of sufficient harmony of the organism in relation to a certain environment to a state of sufficient harmony in relation to a more complex and larger environment. Through the first evolutionary mode (horizontal), life seems to increasingly reach a state of dependence in relation to the environment, and ultimately even slavery to it; through the second evolutionary mode (vertical), life seems to save its relative autonomy and spontaneity in with the environment. Through horizontal evolution , organic specialisation, overt adaptation, life: ultimately reaching highly differentiated structures and forms and precision harmony in relation to the environment,
but precisely because of this, it becomes rigid, inflexible, and loses its plasticity. Through evolution , life asserts its
its formal, physical, and new and ever higher levels of organisation or constitutional types in relation to ever wider and more complex environments. Meaning
The evolutionary development of life does not seem to be solely about "Adapt" openly to external conditions, which exert continuous pressure on it , a process that, through progressive organic specialisation , would consume quickly and end in a general ossification of life forms. The evolutionary meaning of life remains, first and foremost, that of fertility producing ever superior constitutional types; through this evolutionary mode, life affirms its existence and its power to triumph over the environment, transcending it.

In several of our works published years ago, aim vorbi1t, in connection with the processes of integration, not only of life, but also of reality in general, about

morphological modes and ontological modes. Through

morphological modes we understand structures and forms ; by ontological modes we understand the mode of existence of concrete individualisations and of beings in relation to

the environment. We have argued and continue to argue that morphological modes exist in the universe of possibility, while ontological modes, which are fundamentally different, are few. Modes

ontological, fundamentally distinct from one another, exist in unity not very many, but they are all the more decisive

and more significant for the complex articulation of "level" of reality. It is easy for anyone to observe the enormous diversity of structures and forms that exist in the universe, created on the one hand by inorganic matter and on the other by life. A maximum of structuring, pri-

devoid of organic matter, crystals provide us with it; but in the world there are also so many structures and forms that living matter creates : plants and animals. Any indi-

belonging to these great tgor dase of

compositions, each in its own way and in its own ontological mode, possesses a way of existing in the environment. We will seek to clarify a little the situation. AlUel

"exists" in relation to the environment, the crystal is different from the plant, and again different. 11a rindul său, animalul şi altfel, omul. In

comparison, for example, with the individualities of other kingdoms, the crystal is characterised by certain properties that seem to make it similar to organisms: the crystal comes into being,

grows, takes shape, accumulates matter within itself, and, when broken, is able to restore itself to a certain extent; but, on the other hand, crystals do not truly "assimilate" the matter around them through processes of

metab oHsm and does not "re ly reproduce". In relation to the environment, crystal is capable only of physically determined reactions, from cause to effect. Other properties belong to the plant: the plant comes into being, grows, fulfils its form, more plastic than that of the crystal, it truly assimilates, it

reproduces, restores itself within certain limits. These would be its structural properties. In relation to the environment, the plant has its own specific way of functioning: it is able to exploit certain conditions to its advantage.

ambient and is capable of a series of meaningful reactions in relation to them. Let us give an example: stej arul is endowed with a number of par1ticul1a rities that make it capable of so many reactions juste in relation to its ambient . Here,

for example, the way the leaves that make up the oak tree's crown are arranged

This is not accidental, because the crown has a shape, the leaves are gradually distributed,

so that rainwater flows over them like a roof, as if deliberately designed to make the water fall to the ground in a circle, precisely in the regions where, under the humus, the ends of the roots with which the oak absorbs water reach. A careful examination of the plant formations reveals 11a fi eca,re pas countless 'similar meaningful relationships between leaflets and environment. (In noting these "finalistic" relationships between plant and environment, I have not yet made any statement regarding the factors to which these "finalisms" might be attributed. Such "de facto finalisms" were also noted by Darwin when explained them through "natural selection".)

·Through other structural and formal characteristics and through a different ontological mode of existence, the animal is characterised. Its level of structural and formal organisation is, in principle, circumscribed by its ontological mode: the animal "exists" always in a "environment" of its , perceived through special sensory organs from the total environment in which it lives. The environment, at certain moments, takes on the significance of a sign that the animal perceives and to which it responds with meaningful reactions. They are "finalist", but "finalist" not only in relation to ou conditions existing as such, but and in relation to con- teeth "noticed" as such. The animal proves capable to react as a centralised structure within itself to an "environment" that it perceives, avoiding what does not correspond to its possible reactions. what does not correspond to its possible reactions. In The relationship between animals and their environment involves other factors, which are fundamentally different from those present in the relationship between plants and their environment. Animals behave in relation to their environment as quasi-subjects in relation to quasi-objects, within the limits of their possible "perception". And then: man! The human being manifests possibilities that transcend the fundamental relationship between the animal and its environment. First of all, man does not appear to be as conditioned by a certain "environment" as animals are. Man, in relation to the environment, becomes a "subject" who takes a stance, suprimă ,or ; the human environment, beginning to be "environment" instinctively instinctively, and becoming an objective horizon dominated by intelligence, it is constantly expanding. Man has a concrete horizon, which is virtually l1arg as the world, not limited like the animal environment. More muH : ,human environment

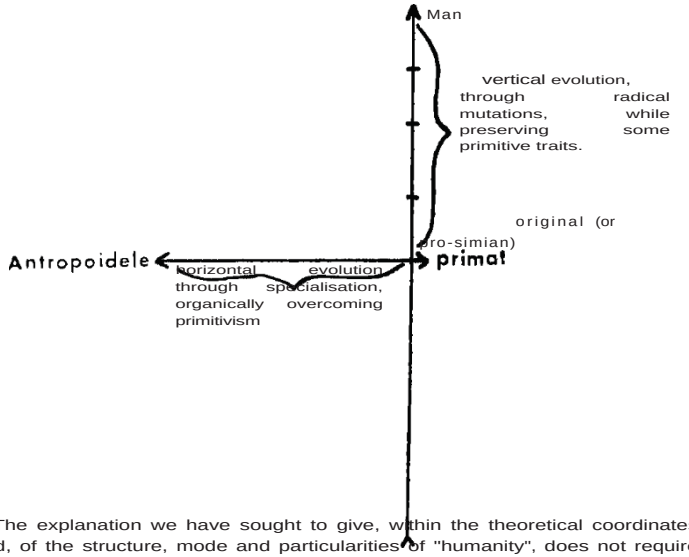
is complicated by another aspect, which in the animal environment
No, it does not appear in any form; this aspect of the human environment is the horizon of the unknown (not only on the surface, but also in depth, and especially in depth). The
horizon of the unknown, a specific dimension of the human environment, becomes the principal factor that stimulates man to make the most extreme attempts to reveal themselves, what is still hidden.

The boundlessness of the environment, even in the form of its enrichment with a horizon of the unknown, in the case
human beings, once again confirms the thesis we support regarding vertical evolution, thanks to which life achieves constitutional types of increasingly higher levels.
high, which leads to a progressive expansion of the environment. As a consequence of its structures and forms, obtained through successive vertical mutations, man asserts himself in an environment that extends beyond the concrete world into the horizon of the unknown. This enormous
boundlessness is one of the essential conditions through which man becomes what he is: the creator of culture par excellence.

If we proceed now, in light of the evidence presented. to an analogy between anthropoids and humans, we will establish the following:

Taking all the evidence into account. humans retain certain primitive traits in their constitution — traits that they have not lost as such, but which have been transformed through "specialisation", i.e. through processes of horizontal evolution - but which have been transformed through "specialisation", i.e. through processes of horizontal evolution.
s-a have not been lost as such, but have been transformed through "specialisation", that is, through processes of horizontal evolution.
From a bio-psycho-spiritual perspective, humans represent, in relation to anthropoids, a vertically evolved primate, through a series of mutations that confer upon them an enormous level of superiority. The conclusion that emerges from such a clarification is that anthropoids, whether current or fossilised, cannot be considered ancestors of humans, nor can humans or any other alleged hominid form be considered ancestors of anthropoids.
such clarification is that anthropoids, whether current or fossilised, cannot be considered ancestors of humans, but neither can humans or any alleged hominid form be considered ancestors of anthropoid . The hypothesis the most
The plausible explanation must be that there was once a primate (or perhaps a prosimian?) originator, from which, through processes of organic specialisation, anthropoids, and evolved on the one hand, and d.e on the other, the human type.
The human type, however, was achieved through vertical evolution, through radical mutations, which give humans. despite their primitive

organic primitiveness that anthropoids have long since left behind, a dignity that is, so to speak, superior to that of anthropoids.




The explanation we have sought to give, within the theoretical coordinates outlined, of the structure, mode and particularities of "humanity", does not require additional, artificial hypotheses. Man is not an "exceptional phenomenon" within nature and life, he is only the paroxysmal form of manifestation of a rule, which we believe is dominated by vertical evolution a vi·ții. Assumptions pe which we base our attempt to clarify the characteristics of "man" on are, therefore, to recapitulate, the following:

1. There are countless morphological modes in the universe,

but far fewer ontological modes, which are fundamentally distinct, yet decisive for the realisation of levels of quality in the universe.

2. We suspect that life is dominated by two antagonistic evolutionary tendencies: one horizontal, of overt adaptation through "organic specialisations", which lead to a particular appreciation of the environment, and the second, vertical, always aspiring towards new types constitutional from which in which higher .

This second tendency implies, as a reversal or complementary aspect of it, a certain adaptive flexibility and leads to a progressive blurring of boundaries.

3. The vertical evolution of a species does not always occur in all directions and does not involve all structures and organs, but rather takes place multilaterally, albeit without engaging the whole being. Vertical mutations of this kind have the potential to lead to much more radical changes along their line than mutations that occur in all directions.

4. Compared to the phyletic lines of all other beings, the phyletic line of humans is, in all its stages, the closest to the theoretical line of vertical evolution, making the fewest concessions to the evolutionary tendency through obvious "adaptations" .

5. Between the original primate (or hypothetical prosimians) and humans, there was a vertical evolution, with serious mutations; while between anthropoids and the original primate (or prosimians?), , there was mainly a horizontal evolution, through organic specialisations.

6. Anthropoids have diversified into "species"; from a biological point of view, humans are also a "species", but of their ontological modes, there is a qualitative difference between humans and anthropoids that is entirely relevant.

In this theoretical perspective, we must clarify the meaning of the term and the bundle of real "primitivisms" of man. Any hypothesis devised ad hoc, solely for the sake of the term "man", must be rejected on grounds of scientific fairness. We cannot overlook the fact that, in connection with the paradoxical characteristics of human , on which we have endeavoured to shed some light, a theory has recently emerged that returns to the hypothesis of "reduction". The "reduction" hypothesis has this time been combined with the hypothesis of hypermorphoses. The speculation finds its starting point in the phenomenon of hypermorphoses, observed in some beings, which consists in overspecialisation, i.e. in the superlative complication of an organ. Through a correlation effect, such overdevelopment of one organ would lead to the "reduction" of other organs. Hypermorphisms have been observed in many species (see plate IX, figs. 1-3), starting, for example, with single-celled radiolarians, which suffer from hypermorphism of the umbracular axis, and , to the mammoth, , which exhibits hypermorphism of the

teeth. Whenever and wherever, hypermorphs represent a real burden for organisms, and usually organisms suffering from hypermodosis are doomed to perish. However, according to some biologists, humans find themselves in a situation; el ar pătimi de hipermorfoza cr.ei·eru-lui, oeea ce ar fi dus la r·ediucţia 1a1ltor organ e (dinţi etc.). Parti'cu.laritățile cu înfățişare de „primitivisme " ale omu-

his would not be authentic primitivism, but rather the effect of a secondary reduction

that occurred simultaneously with the hypermorphosis of the brain. Humans would therefore be a seriously endangered species, doomed to disappear due to their shortcomings

and the creation of an over-evolved structure, which has become a burden.

The apparent lack means that the present hypothesis cannot be denied. It is clear, however, that such a bleak outlook on the future of the human race cannot be

Don't blame anyone. However, to refute a hypothesis, it is not enough to appeal to emotional reasons. It is our duty to examine the facts dispassionately. The hypothesis of hypermorphosis can be justifiably applied to so many cases.

The hypermorphosis hypothesis may be justifiably applied to many cases spi through the fields of palaeontology,

but anevoie asupra oa·zului „om ". Impresionantele di-

Other mentions of human hypermorphism, and its less impressive differentiation, are not sufficient grounds for talking about a phenomenon of hypermorphism. Obviously, hypermorphs are achieved through processes of specialisation, which go beyond

biological point of view and in direct relation to iambi.anta. Supra-

specialisation appears as the effect of a tendency that has a certain moment of "inertia", which cannot be overcome at the opportune moment. A being that specialises

extremely in a certain direction may sometimes fall victim to this tendency, going too far beyond what is necessary and hindering developments that become an impediment.

, endangering the survival of the species. But xml-ph-0003@deepl.internal. The spiral tusks of the mammoth become unsuitable for their original function.

We may now ask ourselves whether the human brain can be considered a product of a process of over-specialisation, of over-adaptation, which would manifest itself in an obvious inadequacy in relation to the function for which it is intended. Examining in such a perspective

In this situation, we may discover that the human brain, without a represents a "ballast" under angle biological, is an organ that simply exceeds the limits of biology in general. It may happen that we develop, in other words, that this organ can also be considered from the perspective of the other "evolution", of nature vertical and, in such a case, we would not be dealing with a phenomenon of "specialisation" (nor with a phenomenon of "over-specialisation"), but with a structure integrated into a bio-psycho-spiritual structural ensemble of a very high level of organisation. The human brain, with its dimensions and internal complexity, would not represent a hypermorphy, but would rather b the symptom material of a very high level of organisation, achieved through radial mutations, which life is capable of in its vertical evolution. And then all the gloomy prophecies about the imminent end of the human race collapse into their inner nothingness. Moreover, the interpretation of human "primitivisms" as pseudo-primitivisms that would occur due to secondary reductions in connection with the alleged hypermorphy of the brain, would encounter difficulties that, even from a strictly biological point of view, would be difficult to overcome. It is certainly conceivable that the hypermorphy of mammoth teeth could have led to a reduction in some of the mammoth's teeth; similarly, it can be assumed that in certain radiolarians, the hypermorphy of one of the axes could have led to the reduction of the other axes. There is a direct "material" relationship between hypermorphy and reduction in these phenomena. But not

What correlation of this nature could exist between the development of extreme a the human brain and the characteristics

which we consider primitive, of humans, so that they took on the appearance that they have only through a secondary process, of "reduction". What the development of creie-

, of the human being would necessarily result in the absence of diastema between the canines and premolars, the particular shape of the pelvis, the Mongolian fold, the ventral position of the genital slit in women, or the shape of the ear?

## Man

The bio-psycho-spiritual characteristics of humans have become clear to us, on the one hand, as a series of real "primitivisms" and, on the other hand, as a massive structuring along the lines of vertical evolution , a level much superior
that of all animals. All a,c is particular
will constitute self-evident implications of specifically human "possibilities". We can list a number of naturalists and thinkers, scientists and philosophers who,
studying human "possibilities", •are willing to emphasise: in manner emphasising on particularities biological
"primitive" or "embryonic" aspects of humans, disregarding or ignoring those that attest to the superior level of organisation characteristic of humans. It is thus asserted that the "primitive" characteristics of a , of a nature bi·ologică, oonsistând într-o absență a speci alizării, place humans in a precarious situation in relation to the physical and biological environment or in relation to
"nature", and that in this c o n t e x t , the "cause" of human productivity should be sought above all else. Looking at humans from the perspective of some of their "primitivism," such as nudity, fragility, and the general lack of certain abilities, structures, or organs that are so useful to other beings, such as teeth, horns, claws, instincts, etc., we certainly get an idea of man's disadvantage in the natural environment. Certainly, biologically speaking,
Viewed, man finds himself at the most precarious limit of "sufficient harmony" in relation to nature, that is, at the lower limit of the aolea sufficient harmony, which implies the existence of xml-ph-0000@deepl.internal any xml-ph-0001@deepl.com
of sufficient harmony, which is implied by the existence of any plant or animal. However, , it would be a mistake to consider man as a mere bundle of

"primitivism". Or, worse, as a bundle of "insufficiencies". In the structural-morphological and ontological ensemble of the human being, we distinguish so many particularities which, far from representing "primitivism" and "insufficiencies", are, on the contrary, the manifest expression of mutations that considerably exceed, in terms of organisation, the most complex stages reached by animals. We point out, once again, among these particularities, the way in which humans "exist" in relation to their environment, a way that is exceptionally complex compared to that of animals or plants: while animals "exist" in close correlation with a very

Delimited, man "exists" in an ever-changing environment, which includes as constituent elements the known horizon of the given world and the unknown horizon of the unknown. In order to realise his possibilities in this complex horizon, man has at his disposal, on the one hand, his highly developed intelligence, thanks to which he can convert the data of the known world into a system of concepts-crete, and on the other hand, creative genius, thanks to which man can convert the horizon of the unknown into myths and magical thoughts, into religious and metaphysical visions, into scientific theories, into artistic creations. The most obvious material symbol of this high level of organisation specific to humans is the brain, with its exceptionally developed structure and configuration. All these human abilities and possibilities develop naturally in close correlation with their possibilities to construct a language,

, which involves and human sociability. Experiencing in so-

ci etate a indivizilor umani, într-o atmosferă de comuni-cabilitate, este în general mij locul cel mai puternic de

promoting human potential, as this makes it possible to progressively accumulate all efforts. The fact that man is not reduced to a bundle of

1 The extraordinary structural complexity of the human brain compared to that of other animals (mammals, monkeys) is particularly emphasised by Soviet scientists as a distinctive feature of humans. Based on research conducted by Brodman, Vogt, and Economo on the cytoarchitectonic fields of the brain, topographical maps of the cortex of the hemispheres of different animals were created, leading to the conclusion that humans have a series of "new" fields that apes do not yet have.
( see: Cornilov, Topolov and Schwartz, Psychology,

translated from Russian, Cluj, 1948, p. 101).

"primitive" and "insufficient", but rather, thanks to the vertical evolution that occurred between the original primate (or pro-simian) and the Romanian appearance, imbued with other structures, aptitudes and possibilities that qualitatively exceed the animal level, this fact has the immediate effect of a change meaning, the situation in which man himself te in relationship with nature, following one of the "primitivisms" from which he suffers. The precarious situation is now destined to incite human beings to the specific productivity of which they are capable on the basis of the structures obtained through evolutions of vertical. And through this productivity specific to humans, humans become creators of civilisation and culture.

The famous physician and thinker of antiquity Galen, then in the 18th century Herder and Kant, and then in our century so many other authors, among whom we should mention M. Eyth ("Lebendige Krăfte", Berlin, 1904 and "Die Anfänge der Technik" in "Welt und Menschheit". Vol. 5, 1904) and Arnold Gehlien ("Der Mensch", 1940) deal extensively with one aspect of the issue, which we touched upon earlier in the lines de mai . All these authors note a certain difficult state of man in relation to nature, and from this point of view they interpret human "civilisation" and "culture" as a compensation for the "biological insufficiencies" from which man suffers. However, to see biological insufficiencies as a "cause" of human productivity or, in any case, as a factor in relation to which, through direct compensation, s ivi "civilisation" and human "culture" , in-

In our opinion, this means placing too much emphasis on a moment, in , which is definitely, however, subsidiary in the process under discussion. Viewed from this perspective, the situation suffers at least some distortion. Such a viewpoint inevitably leads towards a narrow interpretation . "biological" phenomena, such as civilisation and human culture, which nevertheless transcend the biological through their significance, complexity and implications. L. Eyth says the following about the role of human biological shortcomings in the creation of civilisation, paraphrasing some sentences uttered long ago by Herder: "Here, at last, is man . . . in the midst of a world full of enemies and mortal dangers, a frail creature, without natural weapons, faced with beasts armed with fangs and claws", with fur and horny skins,

who were ten times stronger, faster, more agile, naked exposed to the harshness of all weathers and climates, searching for food in a wilderness that produced only thistles and thorns . . . This pitiful creature was doomed to perish, as any understanding being who had the opportunity to see man in those times in his struggle for existence would have said, and the animals around him, who considered him one of their own, did not think otherwise and proceeded to attack him. considered him one of their own, thought no differently and proceeded to attack him." And further: "The first thing we know about man is that, naked and almost defenceless, as nature made him, he could not have lived a single year in this harsh and hostile world. He needed tools."

I:a1tă cum „biological insufficiencies" attributed to humans have become, in the view of some authors, the "cause" of technology, civilisation and even culture as a whole. In general, it is necessary to point out what inappropriate statements can sometimes lead to, even if only minor distortions of the factors used to calculate the premises of a theory. In the case of the theory we are dealing with, concerning the genesis of civilisation and culture, we are faced with a perspective that "distorts" the situation, at first only slightly in the premises and then seriously in the conclusions. We are willing to take into account the reality of certain biological shortcomings of humans, but in assessing the whole, their role must not be exaggerated in any way. We believe that

When takes into consideration the constellation man-nature and, within it, the factors that condition the genesis of civilisation and culture, it must assign all the elements that come into play their rightful place, de drept . We know

We recognise that humans suffer from certain biological shortcomings, but these cannot be the focus of our interest in a theory of civilisation and culture. ' The biological shortcomings of human beings that are under discussion

undoubtedly represent so many "primitivisms", but these primitivisms should not be viewed as a , as they would

constitute the whole of human being; these primitivisms have persisted in human beings only because they have not taken

the path of "horizontal" evolution, through obvious adaptations, such as anthropoids, but rather the path of vertical evolution, thanks to which, while retaining some primitive features, it has reached a higher level of development, to which anthropoids have never been "specialised" or precisely adapted.

they will no longer be able to reach 1. Human biological inadequacies cannot be isolated and considered as such in the determinism that presided over the creation of human civilisation and culture, because they exist only as a paradoxical correlate of higher-level structures. In the genetic determinism that we seek to outline, we will highlight precisely these higher-level structures, which are, in material terms, an exceptionally developed brain, and in psycho-spiritual terms, intelligence and creative genius.

.with their ontological implications: the boundless horizon of the concrete world and the horizon of the infinite. These high-level structures, which we must first of all

When we define human beings, we are not referring to a product of biological deficiencies inherent to humans, but rather to morphological and ornithological mutations of a vertical nature. Of course, this vertical evolution of the human being could only take place by preserving some "primitivism" in its constitution. In this whole constellation of factors and results, human civilisation and culture cannot be seen as a "compensation" for the biological insufficiencies of human . Biological insufficiencies play only a minor role in this constellation of factors.

.access: they can really "incite" people, stimulate them to be productive, especially in a technical sense; however, the possibility of productivity is given to people through their high-level structures. Human biological shortcomings can certainly become a positive factor in the genetic process of civilisation, but only because humans also possess, to a certain degree, the high-level structures that characterise them; without these, the biological shortcomings in question would have been nothing more than a fatal circumstance for the being that possessed them. An alternative perspective, in which biological deficiencies would take on greater importance, would lead us to a purely biological conception of the genesis of civilisation and culture.

It is commonly believed among professional anthropologists th , humans are a product of the Ice Age.

1 Regarding the differences between today's anthropoids and the ape that was the ancestor of man, M. Plisețchi argues that today's anthropoids have "specialised" characteristics, which could not have been the case for the ape that was the origin of man (see also M. Plisețchi, Originea omului [The Origin of Man], Ed. Cartea rusă, p. 20).

which began at some point in the Quaternary period. We believe that in this formulation,' , the same error of perspective that we were discussing earlier has crept in. When the Quaternary transition to the first phase of the Ice Age took place, a hominid must have existed, but it was only at this point that some of the biological "primitivisms" of the hominid proved to be increasingly serious "biological deficiencies". This circumstance declanşat "productivitatea"

'h u m a n in a technical sense and in other senses, because it had to be

to cope with the physical challenges of the environment. At a time when the mammoth responded to harsh living conditions through an organic process of "specialisation", adapting by developing a coat of fur, man, who had acquired so many new morphological and ontological structures through vertical evolution, as well as the corresponding abilities and functions, was able to respond to circumstances.

through various technical inventions. It's more likely

So intelligence and genius had already flashed beneath the human leaf before the ice age began, C for only this can explain his ability to cope with catastrophic climate change: let us not forget that the anthropoids and other apes, which at the same time and in the same regions had evolved through specialisation in a different direction from hominids,

despite the fact that the ice age did not come about suddenly, but gradually. The ice age came about in stages, some beings still had the plasticity organic necessary s-1 could "adapt" oLrganic,

While higher animals, but also those extremely specialised in certain areas, such as antropoids, were doomed to perish, no 11d pl1astieitate1a organic ne-cesară to respond to new conditions. The same fate would have befallen the regions affected by the ice age and hominids, had they not been endowed with eminently human abilities, thanks to which they proved capable of saving themselves by inventing a "civilisation". The Ice Age put humans to work, forcing them to increase their productivity. The idea that humans are a "product" of the Ice Age can only be considered hyperbole.

The first appearance of some beings with evident human characteristics and appearance took place, as is believed today by

specialists, 111 million years ago. The fossils that have been discovered legitimise this hypothetical assessment. The age of the "human" jawbone found in Mauer (Heidelberg) is estimated at 530,000 years and approximately the same age is attributed to the Chelebal culture, the oldest human culture discovered to date.

The glacial period, during which the climate was milder, lasted several hundred thousand years, and according to independent calculations made in Switzerland and Scandinavia, it ended about 15,000 years ago.

The earliest human cultures and civilisations, for which science has valuable material evidence, were characterised mainly by the appearance of the technical products they left behind. Of the multitude of tools produced by these ancient civilisations, those made of durable materials, namely flint, have been preserved. It took a very long time, more than five hundred thousand years, for the flint tools to be worn down to the point where they could be used as tools.

"Palaeolithic" with its subdivisions. The Palaeolithic generally represents cultures and civilisations that were predominantly hunter-gatherers. Man lived primarily from hunting wild animals and, naturally, from the fruits of vegetation that had not yet been deliberately cultivated. At the same time with "Neolithic" ce se de-dară after the glacial period, alongside much more sophisticated tools, still made of flint, agriculture, cattle breeding and other activities sustained beyond the strictly seasonal needs of man appeared.

In the Old Palaeolithic, which lasted about 400,000 years, the dominant seems to have been a human being of the type "Neander t1al,ens" [1], of relatively short and stocky stature (with an average height of 160-165 cm), and, according to all indications, a fearsome appearance; a being dominated by obi-

They were nomadic and fed on game, primarily mammoths and cave bears. They knew how to use fire. In the caves inhabited by Neanderthal man, hearths were found, and what is very significant for the appreciation of their "culture" is a number of stone boxes, in which se adunau și se conservau craniile animalelor

1. Neanderthal man, the best known of the extinct human species. Since 1856, some 40 more or less complete skeletons have been discovered, from southern England to Palestine, from the Caucasus in Spain and to in Africa from south."
(M. Prenant, Biology and Marxism, p. 41).

unted. E. Bachler's discoveries ("Das alpine Palao-lithikum der Schweis", Basel, 1940) regarding Palaeolithic culture are truly revealing. Guided by the traces of life, civilisation and culture of Neanderthal man preserved in Alpine caves and judging their findings by analogy with what we know about primitive thinking, researched in so many studies in recent decades by ethnologists, sociologists, philosophers, we can say thatIt is clear that once the oldest remains of settlements and tools from the Palaeolithic era appear, there are also clear indications that humans had, at least for certain purposes, regulated ritual customs, a "cult", magical thinking and therefore also magical techniques. Man indulged in magical practices, especially in relation to the animals that were the focus of his hunting interests. For example, he "preserves" the bones of cave bears in special boxes, most likely because he imagined that such preferential treatment could magically attract [illegible] of the animals he hunts towards humans. Of course, these preserved skulls could also be evidence of cultic sacrifices. In any case, it would be difficult to explain the presence of these boxes of skulls without resorting, in one way or another, to an explanation based on magical beliefs. What has been discovered by researchers regarding the manner of burial of humans, also in the Old Palaeolithic, namely in Dordogne (France), is no less revealing about the mentality of early humans. A characteristic orientation of the dead (from east to west) was thus noted. Traces of fires were found at the burial sites. These fires over the burial sites undoubtedly attest to the existence of " " rituals. And the position in which the dead were laid proves that humans had, for better or worse, some ideas about death. These ideas could only be mythical: in the west lies the land of the dead. Death is a journey to the west. The care given to the dead, through rituals and burial practices, reveals the effective presence of mythical and magical thinking in the life of early humans. The clues that reveal this presence then multiply massively in the late Palaeolithic, when, in the turbulent arena of human evolution, Neanderthal man gave way to modern man (Homo sapiens). The evidence from the late Palaeolithic is

such that no further interpretation is possible. To give an example: sometimes in this era, the dead were stripped of their flesh, and their skeletons were painted with ochre. What could be the significance of such an operation? A sem-

magical significance, without a doubt, because "red" represents blood and life; the dead were painted red to magically communicate "life" to them. Therefore, the aim was to

ensure the afterlife of the deceased through magical techniques[1]. The art of magical symbolism also appeared in the late Palaeolithic period. Numerous drawings and sculptures depicting hunting scenes or sexual intercourse between animals have been found in caves, intended to

in fact, a witchcraft-like influence on hunting success and an enhancement of animal reproduction. Mythical thinking and magical thinking are therefore not just a dawn of "history" in the narrow sense of the word. They are a prerogative of primitive man and then of man — for many hundreds of thousands of years — ; here is a state of affairs that is extremely eloquent. This constitutes a sign that man appears, even from the beginning, structured

tuJial raport,t•at la o ambi.anță enorm desmărginită, si

milar to the animal mode. In the ambian , the horizon of the known world is combined with the horizon of the unknown. In the study oe l-am închinat „Gtndirii magice"[2] am

s ought, on the one hand, material from the life and the thinking of primitive tribes, and based on the one hand on current folklore material, but also on material gathered from historical cultures, we will show the articulation and structural implications of magical thinking. This time, we are given the welcome opportunity to talk about the emergence of magical thinking in the distant past of humanity, and about namely circumstances which probably have promoted

a sudden appearance. In our analysis of magical thinking, we highlighted, at the time, the paradoxical structure inherent in the idea of the "power" or "substance" of magic, an idea that this mode of thinking constantly operates with. We also noted the universality of magical thinking, as traces of it can sometimes be found even in rationalist metaphysical systems.

[1] For more on the life of primitive man, see G. Kraft, Der Urmensch al Schäpfer, Verlag Ebering, Berlin, 1942.

[2] Lucian Blaga, Trilogy values, Editura Fund ațiilor, 1947.

The universal spread of "magical" thinking could be explained perhaps by its extraordinary antiquity, but also by the exceptional circumstances that conditioned its use in distant times. We now know that the first indications of the existence of magical thinking appear alongside the first signs of human civilisation. Let us imagine the trajectory of the epochal durations during which this thinking took shape and amplified itself. The Chelean is estimated to be approximately 500,000 years old, the oldest of the forms of civilisation of the early Palaeolithic. The Old Palaeolithic, with forms such as the Acheulean, Micoquian, Clactonian, Levaloisian and Mousterian, lasted about 400,000 years; the more recent Palaeolithic, with forms such as the Solutrean, Aurignacian, Magdalenian, and Azilian, lasted at least a hundred thousand years. Let us add to this the 15,000 years of the Neolithic period and the several thousand years of human "history". These enormous periods, throughout which magical thinking can be identified at every turn, explain to us sufficiently the deep roots of magical thinking. The idea of "magical" powers or substances is, in the final analysis, a figment of the human spirit. This invention has proved to be almost incredibly persistent, considering its irrational, paradoxical and impossible nature. How could such an invention have come ...? In order to arrive at such an invention, we must assume that in the psychic life of primitive man, the horizon of the unknown manifested itself in a rather acute way, and this served as a very vivid stimulus for flights of thought and imagination. It is likely that "myth" as a form of thought is just as old, if not older, than the idea of magical powers and substances. But myth as a form of thought is not as ly irrational and ly impossible as the idea of "magic" is. For man to accept such an "impossible" idea as that of magical powers and substances, such a "desperate" idea, so to speak, we believe that exceptional external conditions had to intervene as inciting factors. Following climatic changes, triggered at a certain point in time, probably due to astronomical causes, on the Earth's crust, man was brought into the catastrophic situation of the Ice Age. The living conditions in this era, which threw him

So categorical in the alternative of being or not being, they guided him towards inventions with which he had to face the circumstances. Some inventions were material, such as the flint knife, for example, a tool for making tools, so characteristic of the Palaeolithic era, or fire; other inventions, however, were spiritual in nature. Faced with the gravity of the conditions, man found himself compelled to attempt the impossible. He accepted the existence of magical powers or substances, capable in themselves of correcting external shortcomings and which he, "man", could have eventually put at the service of his simple will. In the most desperate of situations in which he found himself brought about in the course of his evolution, man was forced to adopt a certain way of thinking. The "magical" power of will was perhaps the only hope man could have in the terrible conditions of the glacier. And man clung to a truly cosmic panic, to this single thought, in the face of all failures technology spiri.bua1e through which he tried to harness magic. Some suggestions for this spiritual technique are given to him, it is true, by everyday experience. A simple thought and his simple will were enough for man to set his arm in motion. Could man not have set other bodies in motion, too, by his simple will alone?

A spoken word had an effect on the fire; why could man not achieve anything, again through a [illegible] rnSitilt? A1Ht gî1l1Jdul exisit:enței U1l1Jor puteri şi substant·e magioe, cât Şi tehnica pr.in oar·e omu.l şi l,e-ar fi putut aservi, au cev1a din impasibilitatea unui vis, la care recurge paroxismul disperării sau al panicii cosmice. It is reasonable to assume that human genius was able to anchor itsełf so deeply in magical thinking, as it were, out of a catastrophic and very long-lasting situation. The effervescence of magical thinking in the Palaeolithic era remains perhaps the most eloquent document spiritual cu privire la împrejurare.a că omul a trăit oîteva sute de mii de ani în condiții ex- which imposed this dream as a valve for its existence. Living in geological durations, under the harsh conditions of the glacier, was, of course, a decisive circumstance for the promotion of magical thinking to the power of a spiritual dominant.

* In the lithographed text, the word is difficult to decipher (n. ed.).

The most common tool that has come down to us from the Palaeolithic era ( ) is the flint hand axe ( ). This was man's primary tool. The hand axe was primarily a "cutting" tool, used to prepare other tools, i.e. a tool of tools, a instrument "analytical" and "constructive" at the same time, a primary means, very appropriate, of technical intelligence, which was beginning its path to great triumphs (see plate X, fig. 1). On a philosophical level, this technical medium invites ample meditation, for we find ourselves here in the presence of a specifically human tool. Tools, which could also be considered projections of organs or substitutes for organs, a also used by animals. But the "pumnaru" has another function: it serves as a tool. as one another thing to do: through what opens up a technical horizon with countless possibilities. 's "pumnar" finds its first overwhelming expression in the analytical and constructive intelligence of man. The tools that early man made with the help of the punch were made of materials that did not withstand the test of time. We know that primitive man worked with the fist, but no tools have survived, so we cannot form a very rich picture of the content and the forms of the first civilisations.

It would be interesting to know whether those civilisations surpassed or not the strict limits of utH or perhaps even from the beginning, other civilisations and demands of a different nature manifested themselves. In the absence of documentation, the few artefacts that have been found are intended to provide us with some clues that early man discovered and enjoyed "forms". as such, of the shapes consistently developed in them. Specialists remind us that among the ancient Palaeolithic pumners, there are sometimes completely oval specimens (see plate X, fig. 2). It suffices to glance at these oval pumners to realise that their shape made them not only useless but also impractical in a sense, as they were difficult to handle, given that they could only be "grasped" with the hand, at the risk of cutting oneself. Nevertheless, man made such handles: this means that man truly felt joy in the face of form as an entity. We believe we are not mistaken in stating that we are in the presence of "products", the first products, with a "stylistic" aspect, at least incipient. These

Oval punches should be seen as a sign that there was such interest and such a focus of human creative powers in the old Palaeolithic period. There is no hope that new evidence will come to light in this regard, since all the evidence, which undoubtedly existed, has been destroyed. If we take into account the fact that we only have (magical) art creations from the late Palaeolithic, where the stylistic orientation is illustrated with particular force and insistence, we are justified in assuming that in the early Palaeolithic this stylistic inclination of man manifested itself with a persistence we cannot properly assess (·) for the simple reason that all products made not of flint but of perishable materials have disappeared.

Many works of magical art have survived from the late Palaeolithic period, especially drawings and sculptures. In these works, the stylistic inclinations of human beings become evident, both in a "realistic" and in an idealised manner, and sometimes in a very pronounced abstract way. In order to find terms of comparison for this abstract art, we must come to our own times.

The magical art of the late Palaeolithic had the misfortune of being discovered a few decades ago by researchers who were unable to do a good job of classifying and organising the material, but who, due to their very one-sided artistic sensibility, were ill-equipped to judge its aesthetic value. artistic sensibility, were ill-equipped to judge its aesthetic value. Researchers usually acknowledge the exceptional artistic virtuosity of Palaeolithic "authors," contesting However, their art would be of lesser value, as it would be limited by the inability to depict even hunting scenes. Palaeolithic art would be restricted, monotonous, and sterile. Palaeolithic artists would have been unable to embody their erotic idols and favourite animals except in isolation, which would constitute a deficiency compared to "great art", which would, it is said, indulge in the "anecdotal". We doubt that such a

This point of view could be a fair criterion for assessing an art whose virtues consist precisely in processes of abstraction. However, this is not the only case in which a mediocre aesthetic sensibility was doomed to fail. Let us not forget that Byzantine art was also accused of monotony, narrow-mindedness and sterility for centuries by Westerners.

whose eyes were accustomed to other patterns. Fortunately, today there are still many people, even among the most refined, who experience a real thrill when faced with such artistic products of the Palaeolithic era. That art can still resonate in our consciousness after tens of thousands of years is truly wonderful. But what we wanted to demonstrate with this incursion is that in paleontology? One thing is certain: when man appears as an active subject in the world, inventing the plough and fire, he also appears as a subject who creates culture. This implies specific psycho-spiritual structures, as the product of a vertical evolution. The "biological insufficiencies" of man cannot be discussed in an explanation of civilisation and human culture, except in an ancillary way, as a factor that "incites" him to productivity. And that's all.

## Criticism of a biological conception of culture

In connection with the anthropological issues discussed so far, we will now take a critical look at a large-scale study
The belief that guides Gehlen in his endeavour is that all the problems posed by the genesis of civilisation and human culture can be resolved from a purely biological perspective.

Gehlen finds it appropriate to begin his anthropological considerations with a biological comparison between animals and humans. In order to clarify the animal mode,
How does the animal behave in relation to its environment and what are its possible performances? This is the big question that Gehlen answers in his book.

1. If we disregard sociable insects with rigid instincts, we can observe in all animals, starting with amoebas, the ability to improve their performance through "learning". However, the increase in performance through learning
performance through learning is generally limited. Animals certainly make use of certain "experiences" that provide them with opportunities. But this is only in the sense of a smoother execution of the intrinsic finality of their actions. Animals usually achieve increased performance only in the context of concrete, present situations.

1 Arnold Gehlen, Der Mensch, Verlag Junker und Dunhaupt, 1941.

2. The vital rhythm of the soul is always linked to what is "present".

3. Any animal behaviour is is linked to instinct.

4. The "experiences" that animals have are also strictly conditioned by instinct. Animals learn to react more and more appropriately from a vital point of view, but exclusively in the field of specific situations, characterised by the fact that they can be embraced by instinctive behaviour.

5. All these possible performances of the animal, da-

·The scope of "learning" is strictly limited (pp. 18-19). Evidently, these laws reflect the biological discoveries of Uexküll's school and the distinction between the surrounding worlds, pomrivJ.,t, according to which the animal perceives only the portion of the environment for which it is organically equipped. echipa·t. Every animal lives in a particular "environment" . Gehlen breaks, however, the scheme uex-k.ullian draws attention to the fact that, unlike animals, humans are not fixed in one "environment". Humans are surrounded by a "world" that floods them with a vast multitude of impressions, and this world is not only that of the present, but also that of the past and the future. The laws mentioned above, which apply to animals, do not apply to humans.

How does man present himself biologically? According to Gehlen, "unfulfillment" and "embryonicity" are part of man's biological structure. Humans are nothing but a bundle of "deficiencies" that make them prone to misery. In order to "exist," humans must become "active." Humans are endangered precisely by their "insufficient" biological characteristics, and this is ly different from animals, which always find themselves perfectly placed in their environment. Humans can only cope with existence through eia că devine ființă eminamente ac tivă.

This is the anthropological framework that e Gehl developed with a wealth of data and arguments. All human activities are interpreted within this framework. Such a conception of man is not new. However, the author's development and argumentation remain impressive. Gehlen himself cites a number of precursors who saw the human being

human m aoel.same way: Herder, Kant, etc. The physician Galen in antiquity saw things in the same way. Herder argued that "man is not an infallible machine in the hands of nature, but his own purpose and goal of processing." Based on extensive recent research into the physical structure of man, Gehlen reveals that man does not possess specialised organs; biologically, man is composed only of "primitivisms"; for example, his teeth show a complete lack of primitive plenitude and indeterminate forms, which means that man is not exclusively a meat eater. vegetarian, nor exclusively carnivorous. Compared to larger mayflies, which are extremely tree-dwe l l i ń g animals c'iictliz:ate, dotarbe cru br1ate 1supr1aevoluall:e for climbing by hanging, in comparison with large monkeys, which have strong hair and canines, man appears as a desperately maladjusted being. He is characterised, in the entirety of his being, by an embarrassing lack of means, and man compensates for this enormous deficiency only through his aptitude for activity". Immanuel Kant professed similar ideas in his pamphlet "Idee zu einer allgemeinen Geschichtie". Kant asserts that nature does nothing in vain and that by endowing man with reason and free will, it has deprived him of instincts and "innate knowledge": Man was meant to draw everything from himself. The invention of means of food, clothing, external security and defence, . . . all the joy that makes life pleasant, even skill, dexterity, and even the goodness of his human will, are entirely his own work and his alone.

Gehlen will go on to show that the findings of modern biology highlight the exceptionally exposed situation of human beings. Unlike animals, humans do not have an "environment" to which they are perfectly adapted; humans are surrounded by a "world" in which they, as beings without specialised organs, are very vulnerable. Humans are beings who invent the means by which they make their existence possible. "All human abilities must be examined in light of this question: how is such a monstrous being capable of life? These considerations, Gehlen believes, would justify us in raising the question of the xml-ph-0002

- The reference is missing in the lithographed text (n. ed.).

According to Gehlen, the biological consideration of man does not consist in comparing the human body to that of a chimpanzee, but in seeking an answer to the question: how is this being, whose essence is incomparable to any other animal, capable of living? [1]

Gehlen answers this question in a study of over four hundred pages. His fundamental idea is this: "... all the deficiencies of the human constitution which, under natural, so to speak animalistic, conditions represent a serious burden on its capacity to live, are actively transformed by man into the very means of existence a circumstance on which man's drive for action and his special situation, incomparable to any other, are ultimately based." [2]

Or more clearly and concretely: "As a consequence of his primitiveness and lack of organic means, man is incapable of living in a truly natural and primary sphere. He is therefore called upon to supplement, himself, the means of which he is organically deprived, and this is done by actively processing the world to serve his life. He must prepare for himself the weapons of defence and attack of which he is deprived, and the food that is not naturally available to him; to this end, he must make objective experiments and devise techniques for the objective treatment of things. He must take care to defend himself against the elements, to feed and raise his children, who have been abnormally undeveloped for a long time; he needs even

and only because of this basic need for cooperation and mutual understanding. In order to become fit for existence, man is constituted with a view to processing and overcoming nature, and therefore also with a view to experiencing the world: he is an active being, because he is unspecialised and because he lacks an environment to which he is naturally adapted. The intrinsic meaning of nature as processed by him, so that it may serve him vitally is called culture. and the world of culture is the human world. [3]

1 Arnold Gehlen, Der Mensch, p. 26.

2 Ibid., p. 25.

3 Ibid., p. 27.

's culture would be, therefore, " 's second nature", which man organizes around him in order to exist. Gehlen will seek to demonstrate that all productive manifestations of man are reduced to this structure, from action to language, from community life to all creations of culture, such as science, philosophical systems, and a r t \ This is, in Gehlen's conception

Gehlen, on an almost ostentatious biological pragmatism, developed, admittedly, with exceptional meticulousness and skill, but unfortunately i n a o n e - s i d e d m a n n e r : The fundamental error that Gehlen made, ni se it seems, vi -

novat is that of not having analysed in advance fiinţa

human culture itself, with all its structural implications. A preliminary analysis, in this regard, would have spared from the efforts expended on a dead end . To deduce culture in all its manifestations from a process of compensating for man's biological maladjustment in relation to nature is to simplify the situation beyond any permissible limits. Human productivity in the sphere of culture has, on closer inspection, other implications that cannot be reduced to k1 the biological situation in dis-

caution, rather than risking to nullify their meaning.

In our works de ŝculturii am we sought to show what these implications of cultural creation are. And we saw that the implications are diverse and of varying degrees. Culture implies a specific ontological mode.

human, that is, existence in an ever-changing environment, where the horizon of the concrete world merges with the horizon of the unknown. CuHura implies, among other things, the aspiration towards the revelation of this horizon of the unknown

, a revelation that man makes for himself through the most varied fabrications of the most varied kind, in materials of the most varied kind, and in a wide variety of stylistic patterns. We like to

see in man the creator of culture par excellence, but this means first and foremost that man in his

embodies all those biological and material. psychological and spiritual conditions, without which culture remains a disintegration that refuses to cohere. We will hardly succeed in understanding culture, in all its forms of manifestation, as a simple compensation for the biological deficiencies of structure that seem to be inherent in human beings. These structural deficiencies can, of course, be a stimulus for o ·anume activity, within certain limits,

data that would directly complement these deficiencies. Culture cannot, therefore, be viewed solely as a "second nature" with which man complements nature in order to make his existence possible only as a being that is strictly biological in nature. On the other hand, it could be added that culture would have long since exhausted its possibilities if it had only this meaning. Humans can, of course, compensate for their biological shortcomings but they can do so because, from the outset, thanks to the structures, functions, and bio-psycho-spiritual abilities that make up their elevated level of organisation, they are capable of much more than that. Man is able to process nature in accordance with the needs that derive from his biological deficiencies, because he is capable of more complex and far superior performances, because he is able to...

to create "culture", which is not second nature, but something that qualitatively transcends nature. Productivity, as an aptitude, is the expression of human beings themselves, achieved through phylogenic evolution, i.e. through the realisation of ever higher levels of organisation. Science

will only achieve a comprehensive understanding of these human abilities once the decisive factors that determine the vertical evolution of life in general have been brought to light. That man is a being of "deficiencies" (Mangelwesen), remains a point of view that is regrettably biased. Man is a being of "deficiencies" only in part, because on the other hand he represents, as we have tried to show, the highest level of constitution among all beings. There is, without a doubt, a very pronounced structural paradox in humans. Man is a being of the highest level of organisation, while at the same time being an archive of primitivism. In no other being is this discrepancy as evident as in man, although the discrepancy exists, in varying degrees and nuances, in other beings as well. Let us add in response to the theses advocated by Gehlen that man, as a culture-creating being, if they had been only "active" in order to compensate for their biological structural deficiencies, they would have resolved and exhausted the problems that challenged their creative powers hundreds of thousands of years ago, contenting themselves from then until today with stereotypical forms of life produced by them. Man ar would have solved these

problems in essence not much different from how they solved problems of this kind and, atN:ea animals. However, similar to animals, humans developed their productivity in a different sense and on other dimensions. Man alone has become a historical being, which means permanently historical, that is, a being who eternally surpasses his creation, but who never surpasses his condition as a "creator".

In , the biological striate coordinates in which Geh- 1en, and through an "activity" aimed solely at compensating for structural deficiencies, this "historicity" cannot be explained as a characteristic dimension of human existence. "Historicity" is a e way of truly human existence, and the way this manifests itself in the temporal unfolding of generations of humans in an increasingly pronounced manner, after initially, for example during the Palaeolithic, it seems, at least at first glance, to be almost indistinguishable from the stereotypical existence specific to animals. Human existence is characterised from the outset by the characteristics of "historicity". And this mode of existence becomes all the more manifest the closer we get to the present day.

Particularly symptomatic of Gehlen's thinking is the fact that he declares himself in agreement with a Nietzschean ideal of "superhuman" culture, of meaning in itself, and that he then goes on to say that the whole orientation of his thinking is towards the creation of a "superhuman" culture.

of Gehlen's thinking is the fact that he agrees with a Nietzschean ideal of "superhuman" culture, in the biological sense. This has a consequence on Gehlen had to inevitably reverse enthusiastic, given the strictly biological perspective on which he chose to base his anthropology. Following Gehlen's expositions, one constantly has the impression that he is trying to resolve a very lofty and complex issue on too narrow a basis. Only a particular intellectual agility and flexibility H puts him in a situation de a da sometimes the illusion of some "solutions".

# Instinct, intelligence, genius

We have taken on the task of presenting man first and foremost as a creator of culture and civilisation, given that it is in this capacity that he fully realises his potential – the knowledge of his being . An extension of the basis for discussion is

is necessary. Man distances himself from animals. But to what extent and in what ways? A fruitful opportunity to broaden our view is offered by the study of instinct, intelligence and genius.

We will try to approach the phenomena one by one. We begin with "instinct," a phenomenon that poses one of the most difficult problems addressed by the natural sciences and philosophers. The scope of this work requires us only to proceed to an explanation of instinct. For our purposes, it is sufficient for now to present and define the phenomenon.

and delimitation of the phenomenon. Such an operation

It is necessary for the main purpose of our research, which remains the clear distinction between the "quality" of humans and animals.

Instinct! How many highly talented theoretical minds have capitulated in the face of this enigma? Science and philosophy are currently seeking to tackle the enigma in several ways, which can be formulated in the form of questions, such as:

1. Is instinct a complex combination of "reflexes" ( )?
2. Is instinct the result of a habit that animals acquire through intelligent trial and error, which then becomes automatic?

3. Is instinct the product of purely accidental acquisitions that natural selection aligns according to their usefulness, in the struggle for existence of the animal?

4. Or is instinct something spiritual in nature, yet totally different from what intelligence would be?

Each of these questions obviously raises at least one question in itself. Scientists continue to hope that the effort to explain instinct will eventually reach its conclusion within one or another of the first three ways of posing the question. Henri Bergson is an exponent of philosophy who follows his own path. Using "instinct" as a pretext for philosophising, he addresses the problem within the limits of the latter question.

We would naturally be tempted to debate the theories in circulation, if we did not know how complicated the issues are, how difficult the incursions are, and how arduous the endeavours are. But in the end, for what we are pursuing, we hope to be sufficiently served for now by a simple description of "instinct".

By "instinct" we actually mean the extension in "coordinated acts" of organic life in relation to ambience. Once you have become sufficiently familiar with its modes, instinct seems no more mysterious, nor less mysterious, than organic life in general is. A "meaning" is inherent in the various manifestations of life, but such meaning becomes particularly visible in the case of instincts, where we are primarily concerned with the "acts" of an organism in relation to its environment. Instinct, encompassing a complex set of coordinated "acts," coordinated both among themselves and in relation to the environment, strongly suggests to a lay observer the idea that an intelligence with possibilities of knowledge, exceptional in its own way, would collaborate in the work of an instinctive nature. However, a closer analysis of states and conditions reveals that such intelligence and knowledge, assuming they really intervene in the game of instinct, are on the other hand so limited by their objective, that they seem to abolish their very quality of "intelligence" and "knowledge".

By examining more closely certain forms of extraordinary complexity of instinct, Bergson managed to shed light on at least the difficulties of the problem.

However, his comments on instinct are clouded by his personal metaphysics. This is to such an extent that they are almost incomprehensible, despite 's good intentions to save the viable elements contained in them.

It is regrettable that Bergson's ideas on instinct cannot be isolated from his metaphysical conception of life. Bergson gife, in its evolution, as a current of " original consciousness" , which would or g 1aniz1a matter.

In other words, according to Bergson, there would be o consciousness "co-extensive" with life. Instinct, in its concrete forms, would represent a limitation of universal consciousness to what is strictly necessary, as required by the biological interests of the animal itself . This would be view Bergsonian maxim of maximum amplitude over the individual. With such a "view", it will be difficult for us to begin anything in the present expositions, for any positive step in this direction would imply a prior adoption of the metaphysics in question. However, we cannot deprive ourselves of the pleasure of bringing into debate some of Bergson's statements, which seem to take more deliberate account of the concrete phenomena of instinct.

One of Bergson's most sustained ambitions is to prove that instinct is qualitatively distinct from intelligence. Attheir origin, instinct and intelligence would have a common source in what the philosopher calls "consciousness" (once again, we are talking about a supposed "original" consciousness, which would organize, like a current, matter under an immense multitude of organic forms, and which, in its spiritual mode, would branch out in two directions, appearing on the divergent paths of evolution, of life, once as "instinct" and once as "intelligence"). Instinct takes the forms those more complex, triumphant in certain animals, in species in insects, and intelligence in humans. Instinct, representing, according to Bergson's conception, consciousness original evolved under the constraint of other needs dedt intelligence, would remain in its essence inconvertible in terms of intelligence. Does this deny us any understanding of instinct? No. For man is not devoid of certain instinctive aptitudes. If we want to form an idea of instinct, we must, according to Bergson, resort to analogies with the processes, aptitudes and states that have retained something of the nature of instincts in our own lives: the instinct

it would be a kind of "divinatory sympathy". How little enlightening such an approximation remains is evident from the futility of any attempt to know what it is. After all, "divinatory sympathy" is a kind of instinct. Bergson, if someone had allowed him to ask this question, would probably have answered that divinatory sympathy is a kind of instinct. This brings us to a vicious circle from which nothing can get us out.

Proceeding to examine the concrete phenomena of instinct, Bergson can often be caught trying to force facts into constructed patterns. Indeed, the French philosopher argues that "intelligence" is designed to work on inert matter while instinct remains in touch with the secrets of life. The examples of instinct that Bergson analyses are admissibly chosen and seem to support the thesis in the text, and however you look at them. The philosopher was able to exploit the thesis in favour of the thesis examples of instinct among the most complex, but no less so he eliminated, perhaps not intentionally, but in any case unconsciously, any example, that could have refuted his idea. It is almost fabulous the case of that hymenoptera (Sfexul amofil) which stings its victim, a caterpillar, with anatomical precision that leaves nothing to be desired, precisely in the nine nerve centres of the . The caterpillar must be stunned without being killed: the scorpion lays its eggs in the caterpillar's body; the scorpion larvae, which will develop from the eggs, need this fresh food, not a corpse. Things therefore happen as if the sphinx knew that its victim had nine nerve centres, and as if it knew exactly the vital rhythm of its larvae and their food requirements (needless to say, human science knows about the nine nerve centres of the caterpillar, on anatomy whose. sifexul "seems" .atât de bine "informed", only for a few decades). With examples of this kind, impressive without a doubt, the French philosopher will seek to explain instinct as a form of knowledge that is entirely sui generis a "of life" ("instinctual knowledge" would, however, be more "played" than "represented,", argues Bergson). And, naturally, the scripture will be fulfilled, the examples cited will highlight the dichotomy and the theoretical formula , according to which instinct is oriented towards the "knowledge" of life, of structures and rhythms.

organic, as long as intelligence is directed towards the "constant" nature of inert matter and space. But with this observer, clinging to an idea, he unknowingly becomes a falsifier of facts. To expose the inconsistency of the dichotomy, we need only look a little further. Take a species of crabs, operating, this time not on life, but on inert matter. Instinctively, of course.

An illustration shows us the crab proceeding with acts of dexterity in closing the entrance to its dwelling with a round stone, perfectly adjusted to the opening (see plate a XI -a). The example is simple. Countless others

are available to anyone. An impressive example is provided by the tick. Yes, we are indeed referring to the vulgar tick of our rivers . Its instinctive possibilities of times-

The changes that occur in "space" are astonishing. During its period of upward metamorphosis, before reaching maturity, the eel remains silent

the journey from a certain region of the Atlantic Ocean to the rivers of the European continent, and after maturing, it makes the reverse journey, from the rivers back to the same places, with a mysterious past, in the Atlantic Ocean, to lay its eggs there. Not through inert nature

or the life of their object differs, therefore, from the instinct of intelligence. Within the limits of its interests, the instinct seems just as well oriented towards inert matter as and

on life. Regardless of the nature of its objective, the animal behaves, in its instinctive reactions, as if it perfectly and precisely knows a delimited segment of "reality". The apparently illuminated segment is always that of moments and aspects of reality, which the being endowed with instinct le can cut out, using them in .advantage to itself. Instinctive behaviour therefore seems to imply a kind of adequate knowledge of a strictly delimited segment of reality. If intelligent knowledge were to enter into or intervene in instinctive behaviour, we would have to assume that the sphinx has possessed for millions of years a "knowledge" that man has only attained after great effort, taking advantage of a technical invention such as the microscope. As the actual state of affairs cannot

be that as it may, and how, on the other hand, intelligent knowledge ml. is never limited to a single object

- In the text lithographed is ,secret" in place of .segment" (n. ed.).

or l,a tiparul acestuia, but is boundless in its objective, acea:srtia through the very terms that define it, because it extends its network over the ever-growing space of reality, it is clear that instinct cannot be interpreted in analogy with "intelligent knowledge" nor in analogy with the actions deriving from it.

As they progress, the natural sciences enable us to identify increasingly sophisticated forms of instinct. In the 18th century, for example, it would not have been possible to recognise in any way the intrinsic significance of the fox's actions in relation to the caterpillar

victim, as coordinated and meaningful reactions, which can be labelled in the whole them by the term of "im�Unct".

We now p r o c e e d to analyse another example "Instinct", in our opinion, due to its complexity and even more incredible than the famous case of , around which Bergson revolved. The organic-instinctual system that we will discuss has not yet been recognised in all its inner subtleties and in all its breadth. To interpret the phenomenon, we also resort to some elements that have not be ly contributed to it until now. But it is precisely these elements that will highlight the complexity of the example we are considering. At first glance, the phenomenon does not seem to have the significance we attribute to it. We are referring to the oak gall, which is the result of a wasp sting. (There are a number of plants that produce such galls as a result of

prick: the ones that are attacked by various insects. See Plate XII, fig. 1-3). The insect pierces the plant tissue, and the plant responds by forming globules, which, due to their shape and structure, provide perfect protection for the larvae that hatch from the eggs laid by the insect in the plant tissue. Even this protective covering, made of very suitable tissues, is destined to arouse our curiosity. But let us also note other completely amazing circumstances: the globules, made up of various tissues, not only provide a suitable dwelling place, but also accumulate the special food that the larvae need for their development. More

more: doughnuts also have an appearance through which, once fully developed, once fully developed, will be able to leave the place that has served as its shelter and source of food in pe-

a number of naturalists have studied this phenomenon with legitimate interest, but without being able to make sense of the facts they observed. Things happen as if ex1i sta collaboration, solidarity of interests, 1ntr1e inseotä and plant, or rather a plant t h a t would serve its services at the disposal of the insect. Not long ago, a biologist like WoHernck cited the phenomenon in question in 1932 as alleged proof of fundamental solidarity. what would exist in living beings. However, from the moment we admit a supposed solidarity of this kind, we very quickly forced to assume that a generous "reason" is at work in the plant, which knows It accurately identifies the insect's needs and fulfils them accordingly. However, it would be too risky to embark on such a path. There are undoubtedly many examples in nature of solidarity between beings of completely different species, in the so-called "symbioses". Let us not forget, however, that symbioses are achieved according to the principle "I give you, so that give me " and advantages are always shared by both parties. But in the case of the oak tree and the wasp, for example, there is no benefit for the oak tree; on the contrary, the oak plays the role of victim, as many stings can destroy its organs and cost it its life. No less so is the wasp engaged in the production of honeycombs both useful for the development of wasps. This fact is indeed surprising and seems to suggest a relationship of '"generosity" between plants and animals, which would contradict the law of the struggle for existence. We recall that Darwin said somewhere in "The Origin of Species" that the whole theory of natural selection, based on the struggle for existence, would fall if a single oasis were discovered in nature that proved to be beneficial to the development of wasps.the theory of natural selection, based on the struggle for existence, would collapse if a single case were discovered in nature proving that one species offers its services to another species without deriving any benefit from this act. Here are the consequences that the discovery of such "generosity" in nature would have for Darwin's theory of natural selection. For us, Darwin's observation is a warning to look at things with greater attention and caution. The clarification of the case that concerns us is to be sought in a completely different direction and in a different field of facts. There is an area of biology, the study of the life of plants, which has been studied with great passion in recent decades and which, we believe, provides us with the answer to the question we are asking. There is a field of biology, , which has been studied with great passion in recent decades and which, we believe, provides us with some new theoretical elements for elucidating phenomena of a similar to that of the gogo-

We refer to the biological experiments of Spemann and his school. In plate XIII, we see a newt's eye, into which a small fragment of iris has been inserted. Contrary to all expectations, this fragment of iris is transformed into a lens, which proves the effective presence of a lens "organising" factor inside the eye. Experiments of the most v1artate shows that such "organising" factors can be removed from the organism of origin and introduced into another organism of a different species, where they will continue to organise the tissues of the host organism organs and structures specific to the organism of origin. Experiments on the induction of "organisers" from one organism into another organism g1anism, s.au from one part of an organism to another part of the same organism, led to the most unexpected results. Experiments confirm the existence in organisms of certain factors "mgani◆atori" which, cut from and induced in the Oirganic environment, can assert, to a certain extent, their autonomy and efficiency.

affirm, to a certain extent, their autonomy and efficiency. In connection with a number of phenomena of the same order, the Russian Gurvitsch [1] proposed the theory of "biological waves," imagined in analogy with certain physiological theories. Organisms , especially in the embryonic stages, carriers of "biological fields", on the basis of which the forms and structures of organic organisms. These "fields" would be susceptible to being induced, under experimental conditions, from one organic medium to another organic medium.

We must consider these experiences and hypotheses when studying a phenomenon, such as that of oak trees. Here we find ourselves faced with an extraordinarily complex organic-instinctive structure . However, this structure belongs to the wasp and not to the oak tree oak tree. The oak tree does not play dedt wl de victim. In light of experiences with "organising factors" or with "Biological fields" shed light on this issue. Things happen just as the wasp, with its sting, would induce in the oak leaf, through a chemical-molecular process of a probably enzymatic nature, a "biological field".Does it organise the leaf, from the material oe-i stă 1a,co1o l1a dispoziție, go-

[1] Alex. Gurvitsch, Versuch einer synthetischen Biologie in Ablwnd-lungen zur Theoretischen Biologie, Berlin, 1923, notebook 17.

goaşa, as an organ 1Urt1i1l 11arV\e1i that will come out of a wasp egg. Interpreted in terms of "intelligent" knowledge, to occur in such a way that the wasp first perfectly understands the chemistry of the oak tree and its possibilities, in order to induce a certain "biology",

and the facts occur, s e c o n d ly, as the wasp lives.

would know the needs of its larva, producing in its own organism (that of the wasp) all the chemical-organic substances of a specific 11 biological dmp" which was to be induced in the oak leaf. Here is an organic-instinctual composition which, if we were to interpret it in terms of

in terms of "interligent" knowledge, it would require without

two. knowledge that greatly exceeds that of chi-miş tHor and .as emeni and possibilities for eliabo·rn:re and n- tetică that exceed the fantastic possibilities of chemistry laboratories, human. It is fortunate that the question does not arise in this way, and we have sufficient reason to believe that it does not arise in this way. For a single attempt to raise the question in this sense would only force us to ask ourselves how it is that a supposed knowledge of oneT

Can such profound secrets and such possibilities for elaboration be limited to such a narrow area of the leaf oak tree, doughnut and larva?
This categorical delimitation of the "composition of instinctual organs" warns us not to be seduced nki for a moment by the temptation to interpret "instinct" in analogy with "intelligent knowledge".

Obviously, in order to highlight the complexity of meaning of this organic-instinctual composition, we had to resort to the latest and most paradoxical results and hypotheses in the field of experimental biology today. Without such knowledge and theoretical elements, we would not have been able to even remotely guess the intrinsic meaning of the phenomenon. I mentioned above that as the natural sciences progress, it is to be expected that increasingly complex organic-instinctual compositions will be discovered. Such identifications naturally lead us only to a more precise description, but only to a "description" of the phenomena in comparison with the acts and products of "intelligence." But such a simple " " was in fact the intention that guided us in the present chapter. Through

"instinct" follows to understand a siS1tiem of acts

coordinated, biologically meaningful, a series of reactions that an organism is capable of in relation to certain moments and aspects of a situation of vital interest, in which it, the organism, can arrive, due to its nature

·...in its natural environment.

The limit of the objective area over which the instinct becomes dominant is noticeable in any reaction of the organism.

-it is inherent in human nature. We encounter an aspect that will undoubtedly have to be included in a definition and in the consciousness, as well as in any attempt to explain instinct. Bergson observed

the limited area on which instinct acts, but he did not considered it a "defining" aspect, but rather an accessory feature. The French thinker had his reasons for blurring the profile he had reached. Bergson wanted, as is well known, to establish a somewhat

"metaphysical" based on intuition (and divine sympathy) a philosophical method, and believed that the phenomena of the

were susceptible to exploitation in the sense of an exaltation of "intuition". Bergson thus found himself talking about

"Intuition" as "instinct" that expands "ohied" and begins to reflect on itself. But an instinct

that would "expand" its object is simply impossible. We can expect even less that instinct would begin to reflect on itself, because any act of

reflection is ef,e ctruează prin concepte, iar ins:t1inotul se

is entirely outside of any conceptual thinking.

From which it follows that Bergsonian intuition, to the extent that tn could become a peninsula in philosophy, it actually had absolutely nothing to do with "instinct". (in Bergsonian expositions aisuprn intuition slipped in, in chip

unconscious de1s igur, o mkă escr ocherie philosophical : filo-

·soful ține,a probably to confer, in some way, on intuition methodical, for which

plead, something from relative

"infallibility" 1 of instinct.).

We will now see what else can be said about instinct, without straying from the subject and resorting to conjecture only within the limits of "theorising" strictly necessary

1 .The infallibility of instinct should not be considered absolute. Let us not forget that instinct, like any adaptation, is relative and statistical," says Marcel Prenant in Biology and Marxism, p. 235.

salt. It would be interesting to know how and to what extent "Consciousness" as part of an instinctive achievement. We are convinced that the conscious element also intervenes in the processes and acts of instinct, certainly not as a coextensive companion a1cesitui1a , but in the form of certain "moments" inserted into a broad mechanism . In general we must imagine animal life not as a machine, but as being permeated by psychic tones, as being capable of "conscious" flickers, and even as being determined sometimes, at least in part, if not exclusively, by moments <le "consciousness". If we disregard the fact that animals "perceive" certain aspects of their environment, we would have sufficient reason to consider the development of perhaps take here the element conscious. Animals are the at least a container of "perceptions". for about these "per- We know that perceptions are often capable of triggering instinctive reactions of a wide and rich internal articulation. However, according to all the information available to us, the "psychic-conscious" processes and states, functions and possibilities of animals should be understood as being, in many respects, different from our own. Indeed, the psychic-conscious life of animals We imagine it rather as a drowsiness with flashes of awakening, the "conscious" element, with its diversity of moments, never managing to organise itself into a relatively autonomous whole, as this happens in human life. Psychic-conscious moments and the tonic- of this kind that run through animal life appear to be entirely at the service of biology. A "perception" thus has, in animals, more of a character of an effective "state" simple only in a mechanism of acts, than character of a signal" that would enable intelligence to constitute an "object". But we will return to the way in which "perceptions" are organised in the animal's mental life, we will return after a brief digression, which we believe is necessary beforehand.

Philosophers and naturalists who have studied how animals react in certain circumstances have often been surprised by the meaningful nature of these "reactions." One could cite so many authors, de la Chant,

day.oem, pî,nă la JUJng, oare ,se 1arată f,o.airite di1spuşi de .a .aitri- innate "knowledge" to a particular animal. A fact of historical interest remains that Kant speaks

with great determination about "innate knowledge" in animals. Unlike so many previous philosophers, who were determined to attribute certain "innate ideas" to humans, Kant did not agree

such a hypothesis (the concepts of " priori" are not, according to Kant's opinion, innate to humans, but rather constituted by "experience," although not entirely covered by it). Kan1: concede therefore living beings necuvîn - namely "knowledge" innate, but not man.

Certainly, observations regarding instinctual phenomena led Kiant to such a statement. Everyone acknowledges that the intrinsic contradictions, entirely isolated, characteristic of instinctual reactions prior to any experience, suggest such a hypothesis. There are other authors, as I said, who yield to the suggestion, and more recently the Swiss Jung, the well-known theorist of psychic unconscious, a developed, in a way, the hypothesis in ohes1ti1rnne, under the form of a theory called "archetypes". The Swiss psychologist expresses the opinion that there is a factor of great and vast efficiency, present in the constitution of animal species and the human species, an unconscious of a psychic nature ("collective" for a species or even coextensive with all forms life

This unconscious would be equipped with a memory that at passes from generation in generation. The ancestral experience of organic beings,' condensed in the form of "m·heti-puri" and impregnated as such memory unconscious collective, s-1ar transmit de to ancestors to descendants. throughout millennia and even geological eras 1•

However seductive the hypothesis of "innate knowledge" or the theory of "archetypes" may be for a fabulous fantasy hereditary, not ni se par necessary for lă-muri1rea flaptel or .ce ne ,5101l idtă a1tenția. Negireşi,t, dnd observi un animal reacționînd întîia oară „instinc tiv ", adică mai înainte de orice experiență, ce l-ar îndruma în s ensul actelor sale, te vezi aproape constrîns ·Să admiți that an ă what"· intervenes in any case in the chain of reactions . The question is whether this innate "something" must unconditionally be imagined as a kind of "knowledge" or as

1 Cf. C. G. Jung, La theorie psyhoanalytique, Ed. Montaigue, Paris, 1912; Die Psychologie der unbewussten Prozesse, Ed. Rascher, Zurich, 1918. Psychologische Typen, Ed. Rascher, Zurich, 1921.

'A positive archetype, clearly defined and of a psychological nature. Could we not come up with a less excessive hypothesis? What would be, in an explanatory approach, the minimum number of assumptions necessary to deal with the phenomena under discussion? Obviously, we must admit that the animal that acts "instinctively" has a system of possible reactions that is "innate". This is a hypothetical minimum without which we cannot reach our goal. But even such a system of possible reactions, admitted as innate, requires an additional assumption in order t ally become truly useful in explaining instinctive behaviour. The possible reactions, as an innate system specific to the animal, must be imagined as r.ap ortate perception future and overall view of certain moments and aspects of the environment. In the phase prior to the realisation of instinctive actions, the system f reactions represents an organised virtuality, innate to the animal, but in this phase, the organisation of these possible reactions should not be imagined as being built around a positive psychological moment ("knowledge" or "archetype" inborn), but around the theme.

"p· e emerges-missing", around a "void", a "negative", in its own way, but is still only a "absence". This "negative" serves as a receptacle into which the future "perception" or "perceptual ensemble" will fall, destined to fill the "void". When the perceptive process actually takes place, then the intrinsic circuit of the "instinctive" organic complex is completed with the missing "piece" and the reactions are triggered. The "missing piece", the "outlined void" is a "negative" framed at the beginning exclusively by a system of rea possible actions and is destined to be completed by a psychic quantity (a set of perceptions).

This system of possible reactions, i n n a t e, and which frames a certain "psychic ambience", configuring it solely through their organic presence, plays a special role in the organisation of animal "experience". Instinctive reactions, arranged in a configuration around a "absent", become, at the moment of their triggering, a kind of element of comprehension of the "perceptions" that come to complete the "absence" within the reactive system. Perceptions, which will make up the animal's "experience," will be organised according to an "archetypal" scheme, due to the innate factor that allows it to be defined by elements.

organic and through a kind of psychological "void". The archetype, considered in its positive sense, is therefore not an innate factor. An "archetype" is only formed through the organisation of "real perceptions" according to that innate factor which we define as a system of possible organic reactions, filling, through their virtuality, a missing psychological piece. The experience of any animal is organised according to one of several archetypal patterns, specific to its species and only to its species. The caterpillar embodies such an archetypal pattern for the anophilus species of the . The nettle leaf becomes an archetype.

for cutare viespe. In tapt, and to express ourselves more precisely, animal experience is somewhat divided into two classes of perceptions: one group of perceptions is based archetypal patterns, while the second group, insofar as it exists, has an indifferent pattern: · In any case, it would be inappropriate to say that animal experience is dominated by a single archetype; a plurality of archetypes, a plurality that varies depending on the organisational level and the volume of the environment specific to each animal, remains the most plausible hypothesis. In our opinion, "archetypes" do not therefore arise from factors in their fi innate, hereditary memory, as Jung assumes. Archetypes are resulting, produced by encounter between a system of possible reactions, which outlines a "missing piece", namely "perceptions". In relation to archetypes, or more precisely in relation to experience organised on archetypal schemes, the animal is biologically engaged, that which means engaging with one's whole body and psyche. This engagement of the animal is influenced by instincts and phobias, with an emotional intensity that is all the stronger because the animal is superior. The animal behaves as if it were completely possessed by "archetypes". It should be noted that the animal behaves indifferently in all situations that do not include specific archetypes, but almost like a "p01serlart" in situations that do include these archetypes. One could almost say that the animal is brought, through its encounter with an archetype, into conditions conducive to triggering its system of instinctive reactions, somewhat like a state of hypnosis. The archetype plays the role of a hypnotist, and the animal plays the role of the victim. In order not to distort the facts, we must add that this quasi-hypnosis is achieved through the principle of

advantage of the animal. Admitting in principle that animal experience is organised according to archetypal patterns, in correlation with reactive systems: innate, organic in nature, we do not deny that in

organic, we do not deny that in the organisation of this and experience

am.imale intervenes subsidiarily and "intelligence", more or less rudimentary, available to animals. Animal intelligence is found, however, at the orders of the instinct. With this, we have moved on to our considerations la o chesUne oare cere o schimbare de per-

spective. We often talk about "intelligence". However, since intelligence is developed in its most intense form in humans, it is necessary to study it in its actions and nature, as it manifests itself in humans.

Intelligence, viewed in its relative autonomy and emancipation from

has given rise to entirely particular aptitudes. Intelligence, in order to highlight an important aspect,

organises otherwise the experience of instinct. Reaction-nea intelligence in fiația "perception" not se effect:uează,

, in the case of instinct, through a system of coordinated acts in a certain biological sense, but through processes of spiritual elaboration, which aim both to broaden and dominate experience. In , in relation to , instinctive reactions

possible instinctive reactions, perception is more of a psychological state, integrated into a biological circuit : in relation to inteli-

Intelligence, perception becomes "sign,} " al "obielC\tului " and gains an accent in this sense. Intelligence " pr ecta" perceptions in a detached environment.at de exigencies imedri:a vitale and constitutes with their help objects" that are juxtaposed in a horizon coniore:t : ifl1Jteligența organizes, in a functional way, experience by categories and ultimately creates "concepts" as representative exponents of "objects". Through all of these

approaches, intelligence actually affirms its relative self-

relative autonomy from biology. Animals organise their perceptions on an instinctual basis, through biological reactions that are broadly c1o ordonat1e, se closed:tises î:nltr -o eXiperie:nță

absorbed by airheitipuri, of which he is cva,si-hypnotic dominated. Man, who organises his perceptions

on an intellectual basis, through processes of objectification and through

conceptual elaborations, are at the centre of an ever-expanding experience that he, man, dominates. The disbandment, ce exists between being dominated by experience and

to dominate experience, measures the distance that declares itself between animal and man, under the ratio of their possible abilities to ,org1anize experience: the first through instinct, the second through intelligence. With this I have not yet said everything that can be said about "intelligence." Intelligence does not assert its being only through its individual possibilities, which it is ensures its relative autonomy from biology; intelligence, in turn, enters :and she too is in "service", namely in the higher service that is the specific human ontological mode, which is the productive-creative mode, the productive mode of civilisation and creator of culture. "Intelligence" will appear, along with other qualities, placed at the service of human "genius". It is necessary, of course, at this point to broaden the meaning of the term ·"genius". Like animals, humans are endowed with with "genius", oeea which means, for this reason, to circumscribe in a single word the structure, conformation, the behaviour, the ontological mode specific to humans and the attitudes that humans manifest in relation to their horizons, which characterise them and distinguish them from animals. It is almost superfluous to emphasise that the "genius" we attribute to humans in a definitive way is subject to human limitations. ,of various degrees and complexities which differ from individual to individual. In the human sphere, a restriction is necessary a aicoepție'i. the term of "genius". Ad, in plan uma'll , it is clear that, quite rightly, language follows suit. Indeed, in everyday speech and in the terminology of specfol11tate a studies ce sie occupy, in a fol or al1tul , of productive-creative manifestations of human beings, the epithet "genius" is attributed not to human genius itself, but only to individuals who excel in the highest degree in all arts, structures, modes and aptitudes-tudini, pe care în chip definiltoiriu şi spre deosebke față de ființa animală, noi le conferim omului în general. Mai înainte îns a arărt1a unele }aturi 1sine q:u a non 10e ca- racterizează manifestările geniulrni uman, ne vedem ne-

addressed in this chapter: instinct, intelligence, genius.

The animal being appears to be highlighted by the dominance of instinctive behaviour over all other manifestations of life, whether they are of a purely We will not animals possess, to varying degrees on the evolutionary scale, sensitivity and even an affective life. Intelligence of likewise, when more vague,

dnd more clearly defined. However, the intelligence, undeniable but highly diverse, of animal beings,
It manifests itself in animal life through complete submission to the biological-instinctive cycle. The biological-instinctive cycle therefore remains the vertebral column of animal beings. In the case of humans, intelligence acquires, beyond instinct, a level of complexity and independence that ensures a certain autonomy. Humans can use their intelligence, offering it broader possibilities for conceptual elaboration within the ever-expanding horizon of consciousness that is given to them. But humans also have
the possibility, another characteristic feature of his, to express himself in a way that is supported by "will", the sovereignty of intelligence, pruning it, with its virtues, either in the service of his biological-instinctive behaviour and structures, of which he himself is not aware (although these are more subtle and uncertain in humans than in animals), or in the higher service of his "genius". Humans are therefore given the possibility to make use of their "intelligence" on all planes of their existence. Human intelligence manifests a broad polyvalence, whereas animal intelligence remains unilaterally oriented, being subservient to a strictly biological order.

So many philosophers throughout history have been driven by the ambition to understand the nature of "genius." They have attributed to "genius" certain "intuitive" gifts, through which it excels in comparison with other people. An entire anthology could be compiled with texts in this vein, from
starting with Goethe, through Schopenhauer, to Bergson or H. Poincaré, aspiring to characterise genius primarily through the gift of intuition. We can cite considerations that enlighten us, but also the corresponding criticisms. One
from erorHe those more grrave, on whether a thinker as
H. Bergson could link them, reflecting on "intuition", is the proximity he proposes between it and "instinct". "Intuition" would be a kind of instinct, illuminated by consciousness, and could it broaden its scope at will? An "instinct" that would be illuminated by consciousness and at the same time capable of broadening its scope at will is, however, an area of contradictions in 1a:dj eoto. We have seen that instinct

, through , has, , a rare strid delimiiJ:iată,
its implications being at the same time mdirne preda-

biological intuition (instinctive actions ensure animal existence in the natural environment). But "intuition", if we insist on calling it the revelatory gift of human genius, has nothing to do with instinctive actions. Intuition, as a revelatory gift, targets any object of existence and is realised in coordinates that qualitatively transcend the biological order. "Intuition", aspiring rightly towards an adequate existence, has fact rmn character

much more uncertain and creative than Bergson or, even earlier, Schopenhauer claimed.

Genius is stimulation: it spurs creativity and leads to its creations, among other things, by placing itself in advance on the horizon of the unknown (of a ne;kunos crU1t not only superfluous, but first and foremost profound). We have had the opportunity to examine in other works the various aspects, intertwined, of the creations of civilisation and culture of the human race. We cannot unfold once again, even briefly, what has been shown in previous studies regarding certain aspects of "reaţia" (the creation of the Romanian nation). We are content with the statement that the "c reaţia" genre creates totide1au1na în1ir-un anrume

" stilistic", propdu locului and timpului istoric, în

which, through circumstances, genius is given the opportunity to act. The creations of genius always bear the mark of such a "stylistic dmp". We note, however, that none of the elements that characterise these implications

is found or asserts its effectiveness in instinctive compositions

.

In perspective, given the above distinctions and coordination, we are offered the possibility to address the much more difficult question, which at first glance seems to be the origin of animal and human technology. We take "technique" in its broadest sense, as the totality of the tools and all the material means that animals and humans use to ensure their existence as such. We undoubtedly find "technology" in this broad sense in animals as well as, obviously, in humans. The presence of technology in the lives of both animals and humans has led researchers to consider animal technology as a rudimentary form of human technology. Moreover, this circumstance has led some researchers to the idea that there are only simple gradations and only through these, it would be possible to move from animal technique to human technique. From an incomprehensible exoes de

zeal, which is used to simplify matters, too avoids taking into account the difference between the two techniques. oaUtate" And yet, unlike animal technique, human technique appears to be a product of human genius, implying in this case completely different coordinates and having in the latter a different meaning.

human genius, implying in this sense completely different coordinates and having in the latter a different meaning. We believe we have sufficiently demonstrated in the preceding lines

in light of the fact that animal existence is structured, in all its aspects and through all its parts, on a vertebral column, organs that are in constant motion, and that intelligence, memory, affectivity, all these psychic factors are present in animal life a irviţi cir-cuitului vital-ins tiinctiv. Sum.t enu1er.ate aci toart:e e1e-men1t1ele de apreciern ale tehnidi animale. Animal technique is the result of a certain treatment of matter, of a retraction in the sense of vital-instinctive interests, even if, in the pre-treatment of matter, intelligence also intervenes. The crustacean Uoa lives in the sea. It makes its home, a cavity adapted to the volume of its body, in the water. The entrance to the dwelling, an aperture of a certain shape, is closed by the crustacean with a stone, which fits like a plug. We invite readers to admire in the illustration.

the skill with which Uca brings this operation to a successful conclusion r,ation. We find ourselves here, of course, in the presence of an animal technique, although the stone is not carved from the living creature, but only chosen by it from among the debris in its landscape; (plate XI). There are animal techniques that are much more complex than the one presented here, cases in which the animal actively intervenes in the processing and adjustment of the material. For example (plate XIV), a collective dwelling of a species of birds, built among the branches of a tree, a dwelling whose appearance strongly suggests human intervention. I stand, as if to remember and an example chi'a!r from ooo[:ul experience

In our daily lives, we focus our attention on honeycombs, and not only on the cellular structure of the combs, but also on their arrangement in a hive.

What do all these forms of animal technique ultimately represent? However much goodwill we may have, we cannot see in these forms of technique anything other than ways of "adapting" the organism to a given environment. All this technique amounts to the various means by which the animal passes from a state of "sufficient harmony" in relation to its environment to a state of "pre-harmony".

cizie " in relation to the same environment. Animal technology appears as part of the process of organic "specialisation" of the animal, which it complements without detracting from it.

However, the significance is clear. In other words, this technique allows the animal to be placed, sometimes with astonishing precision, in its strictly defined environment. Hence the general impression of "organicity" in animal technique, even when it makes use only of inert matter. The situation changes as soon as we take into account

derar,e 1human technique. PII"among the first products of human technique we encounter the "pmnmaruJ", a type of flint knife. The pumnar was not, as we know, a weapon for slaughtering animals, but first and foremost a tool for preparing other tools, in other words, a tool that was both "analytical" and "constructive" at the same time. It is this pumnar, this tool for preparing other tools, that is eloquent proof that human technique makes its appearance in broader coordinates than animal technique. In the process of its invention, it obviously plays a role.

individual intelligence and ingenuity, collaboration between individuals, social, experience. In its essential forms, this human technique does not serve to trap humans in a harmony of perception with a certain "environment" from which there is no escape, as is the case with animal techniques

human technique , serves d1n c1apul }orcului l,a domination of nature, so that man can cope with an increasingly wider environment. Human technology does not represent an extension or fulfilment of the organs, a completion of them along an inherent line; Human technology means going beyond the organic and is meant to help humans dominate nature and gradually expand their environment, and ultimately ensure

and at the same time promote human autonomy in relation to nature. Animals, which through their techniques, however impressive they may sometimes be, fit into their environment with precision and harmony, remain deprived of any autonomous accent in relation to nature. We do not therefore argue that there is no such thing as animal technology: it exists, just as there is human technology, but the two technologies differ qualitatively, having heterogeneous meanings .. Spu-

We know that animal technology generally gives the impression of "organicity" that human technology is foreign to. With the specific products of his ingenuity, 11 intelligent" . CU tools made tools, man has opened up possibilities that were previously unattainable.

ly in terms of technical inventions, those once achieved being susceptible to modifications, amplifications, and improvements. Animal technology remains relatively stable for the same species over millennia or sometimes even geological eras. Human technology varies from era to era, bringing improvements or new inventions, and appears, in fact, as human cultural phenomena, imbued with stylistic aspects, which also

vary in function of places and Umpuri istO!rke. If Animal technology gives more of an impression of stereotypical organicity, while human technology gives an impression of permanently effervescent historicity.

Due to its general particularity, human technology asserts itself not as a means of framing man in nature, based on a relationship of harmony and precision, but as a means of human domination over nature, of emancipating humans from external constraints.

and the broadening of the human horizon. Human technology requires that we take into consideration and promote everything that contributes to the fulfilment of man as a "human being".

A strange theory on the issue of tools, brought into connection with the origin of man, was presented a century ago by Paul Alsberg in a study entitled "The Enigma of Humanity" 1• Alsberg argues for the thesis that is debatable in itself, that both animals and humans are beings adapted to nature, namely animals

the animal through its body itself, and man, extraliminal, through his tools. The author considers tools to be means extra-corporeal means, intended to be used in place of organs. Alsberg goes on to argue that tools do not

ly strengthen the organs, but would gradually them out of use. No matter how much tools are perfected, the organs would suffer a decline. Man" with his current biological characteristics, would be the result of such a process. Man took up the fight against his environment with the help of the tools he had at his disposal as an animal. The conclusion to which Alisberg comes

i s that modern man, in terms of his particular biological" characteristics, a product of his own technology. We know that Marx and Engels attribute great importance to labour and technology for the development positive view of humanity. It seems that Alsberg distorts the entire

Paul Alsberg, Das Menschheitsriitsel, Dresden, 1922.

'a. In this situation, in an 'illegal' sense, we are talking exclusively about the biological dependence of man under the influence of technology. Here are some curious and imaginative ideas and theories that can be ed, starting from initial definitions that are insufficient or even downright erroneous. One definition, which is clearly flawed, but which AJlsberg nevertheless insists on taking as a starting point, is that of "Uilel", understood as an artificial means used in the treatment of bodily organs. Let us reply that, to our knowledge, only "prostheses" are used in place of organs and that, obviously, not every tool is a "prosthesis". It should also be noted that the meaning of the tool in animals (which Aisberg seems to make a point of in his "theory") is different from the meaning of the tool in humans. It is curious that it is precisely the animal tool that Alsberg does not deal with in a primary way, that is given an "organic" meaning in all respects: the animal tool is indeed a projection of some organs, taking the place of organs. With the help of its senses, the animal fits into its environment, in the sense of a "prediction" of the world around it. Human beings, however, have no more than a few words that have a significant meaning, such as

they, having other imrpilioat,e,· SU1J.1t destined to lead not [,a o

"tnoadriar,e" in nature, d J.a a determined domination over

the people and a progressive deterioration of the environment.

## Archetypes and stylistic factors

We have touched upon the problem of instinct

A matter that invites us to reconsider some of its new aspects. We refer to those mental processes that, using a term coined by Fort, have been called "

He dealt with this issue in his work with the Swiss psychologist C. G. Jung. The Swiss psychologist made the archetypal aspects of human life the object of a theory which, under its exclusive and spectacular appearance, may be repudiated, but which, reduced to its essential elements, presents a coherent and convincing picture of the human psyche.spectacular appearance, it may be rejected, but when reduced to its essential elements, it presents a real interest for certain anthropological considerations.

logioe ia.Le ours.

Jrung attributes to the human psyche the possibility of constructing a "typology" of "faces" (BiLde!r), "fian1:(asme11", which 1a!l" j uica rolliuil unm centres of oriistlaldzar1e vieţii sufleteşlti. Arheitipuri1e 1 pot obţine a self-sufficient, independent life, whose essence is 1a1r deiter-

milila o, a collection of psychological phenomena, some normal, some abnormal. It is true that Jung expresses himself very hesitantly when it comes to the intimate nature of these "archetypes". he sometimes regards them as simple symbols. and at other times as mere expressions of possibilities. which he then guides towards the imagination.Some are concentrated representations, while others are merely expressions of dispositions that guide the human imagination to create.

images of certain kind. In that light, which allows us to see them, whether they are "images" or "dispositions," there would be nothing to say against the existence

1 See in particular C. G. Jung, Psychologische Typen, Rasche11 Verl'ag, Zurich, 1921, p. 597 ff.

psychological aspects of certain alleged "archetypes" . But Jung did not limit himself to this: he developed a comprehensive theory, according to which archetypes originate in a very special pre-conscious aspect of psychological life, namely in the collective unconscious or "Absolute," based on ancestral experiences.[}Jsă zionă cu totul specială ,a vieţii psihkie, şi ,an ,an ,an

We are determined to discuss the others. Archetypes, in order to achieve real effectiveness in psychic life, should be brought into connection with the problem of instinct in the first place and only secondarily, afterwards, with other problems. In any case, we are convinced that we can dispense with the theory of "hereditary memory" if we treat the question of archetypes as a separate issue.

types linking it with firmness of problemaUca in-

instinctcui .

All.lailizîrnd, in capifl:•olul .arnteirior, insrtinotul, we saw how animraluJ — on haz.a um.rui ssJem biologic of po-sibilirtăţi J1eactive — organizes its experience on schemes

"archetypes" . In a certain sense,' omida is of course a "1ar-

heitip " for SfexuJ 1amo.fil, equipped with a reactive system thanks to which it attacks the victim in a few seconds with nervous stings and unnecessary stings to kill it. In the same sense, frunz.ă de stej1ar becomes an archetype for the wasp. Perhaps through her stinginess she encourages the production of doughnuts. In the same sense, the woman is an archetype for any man, and vice versa. Sirtu.ați.a aoea1s1t1a: the organisation of experience

animals on "archetypal" schemes, 11 implies only the existence of certain reactive biological systems in the brain. This does not mean, however, that in order to understand instinct we can completely disregard the psychological element. The innate reactive system itself, as a prerequisite for any instinct, which can be conceived strictly biologically. appears to be constituted with reference to a group of possible perceptions,' which, when they come into play, w i l l The animal, after it begins to make contact with its world, organises its perceptions in an "archetypal" sense, as required by its innate reactive system. The animal thus manages to effectively construct an experience based on archetypal patterns. The animal thus manages to effectively construct an experience based on archetypal patterns. However, this does not mean that archetypes are "contained" in the brain, like some kind of hereditary memory. Archetypes are "results": the results of the interaction of reactive systems (of a biological nature) with the "perceptions" that make up the "missing pieces" of the intuitive circuit. According to all biological and psychological indications, uninfluenced by any theory, sun-

We are justified in saying that "archetypes" are '

"resulting", meaning that it does not prevent them from obtaining the role. with the remarkable cake, which they have in their animal and human life. However, nothing leads us to imagine archetypes as a hereditary psychological trait.

Arh!etipur  1e fii11td fotdeau  a Î!rLrăJdăcina!tle in biological systems of p o s s i b l e reactions, absorb to a large extent the animal's internal environment, and it is suspected that any perception made by the animal, on a par with archetypal, Sltîr-neşte 1în vi.aţa sa o deosebdită mişoare af,eotivă s au cel puţin stă!l":i de tensiune ool1011alte î11 sernsul unor alperti-turi sau fobii. Cu atîrt mai oo1oriatuna aoeastla se via

ac1centu1a î,n oiroumstanţe 1U1mane. In vi1arţa 'sulfletea,scă .a
a1rhetipurHe 1s1e vor manri.  eSI!Ja aa r'eprezeillltări
accompanied by a powerful halo af,eotli'V.

In the animal's life, there are parts that play a role in the biological mechanism of the organs. Dèpending on this mechanism, we must also understand the meaning of their primordial role.
their primordial meaning.

However, we know that in human life, the "psyche" acquires a relative autonomy from biology. Is this a circumstance due to which archetypes can also obtain relative independence and begin to work on their own? Thus, in human psychic life, we find archetypes. for example. as nuclei around which images, fantasies, dreams, and dreams come into being and take shape. Jung made it his ambition to show the presence and effectiveness of archetypes in all these normal processes of psychic life. but Jung claims to have proven the presence and efficiency of archetypes 1lor and îm. cmaţiHe mitlQllogice aJe
human beings and. likewise, in the minds of psychopaths *. Ana-
Jung's analyses of this kind are extremely interesting. We cannot understand, however, how Jung can speak of the "daltogirilii" of intelligence (for example, of "oauz1a;1'icity", of "subrsitanţa" etc.) as if they were some kind of "arhmipuri". Jum.g, a sign of
excess of zeal. this time mixes in the theory of archetypes
These issues, however. originally have nothing to do with "instinct." This is because they stem from the concept of "ideas" in the category of "innate ideas."

* This refers only to certain psychopathies.

cute". The fragility of Jung's position is sufficiently revealed, even without this historical context. We believe we have shown sufficiently that intelligence is of a different nature from instinct. Intelligence works with "concrete" objects, not "concepts", with "schemes" and "patterns".

categorical frameworks. Intelligence organises its experience on "categories" rather than "archetypes". Archetypes are rooted in instinctive drives: they delimit the horizon of human beings, keeping them within a "world

from which there is no escape for an animal. Archetypes represent one of the most effective means, as the animal's flesh "fixes" itself in its environment. Intelligence is expressed through excellence.

lenţă u: a means of breaking away from the environment and, consequently, of emancipation from the constraints of society. Its functions, its nature and its purpose (categories, concepts, objects) cannot be assimilated in any way to other meanings that have

have their origin in biological-instinctive circuits.

We will bring back ·aioum in di,souţie ·Another issue. In various 1ltuc'l' countries, ours included, from the publications published over the years, we have insisted on l1arg ·on certain "factors" that are not at all particular, which are implied in any cultural creation (we list among the cultural creations of humanity throughout its history: myths, religious concepts, metaphysical visions

, scientific theories, works of art, sis-

moral systems and norms, etc.). These are the factors of srf:Histk , which also leave their mark on creation.

culture. Te01ri1a footorilor s1tiliisit id, exposed in 'al1te lu-crăiri, we consider it under at11Jea licuturi susoepti:bilă still by c·o mplet ări. In consideration of the above, intended to highlight the distinction between the animal and the human being

human, we will observe,a that efi cienţa ,, faotori,}or stilis,U,ci "

We are only concerned with the creative activity of "man"; no "orientational" element can be found in

any of the possible sectors of animal activity. With this, however, we have indicated one of the most important particularities that contribute to human complexity. Evidently, the ideas developed in this paper aim to show the difference between "r'âJrhetirpuri" and "fo1dtorii st.Histioi". Jung himself n-a parven în nici una din lu-

orari1e sale at ideiea un,or fiaatiari stă.lirstici ce ,ar inrtria

in comp onem. ţa fi:iJnţei umane, în calitatea ei singul1ară de creaţ toare die cu1tură. We will proceed to establish the most appropriate distinctions that can be made between "archetypes" and "stylistic features". In order to facilitate a comprehensive view of them, we will divide them into two columns.

| Archetypes | Stylistic factors |
|---|---|
| 1. Archetypes represent the crystallisation of experiences in the biological-instinctive core, al of the animal being, within the horizon of the sensible world (within the environment). | 1. Stylistic factors represent some factors :nrodeLatori ai 1spirHului uman, situat în or.izontul specific al ba tu-, which is to be revealed through cultural creations. |
| 2. Archetypes are generic and stereotypical for an animal species and imply certain reactive possibilities of biological nature inherent in it. | 2. The stylistic factors specific to human genius vary from era to era. from one historical place to another, from one community to another, and sometimes even from one individual to another, which means that they do not imply new possibilities of a universal nature. collectivity to another, and sometimes even from one individual to another, which means that they do not imply biological possibilities that are inherent and immutable. |
| 3. ' archetypes are "icons", "fantasy", de- o <Jonsider1abi, plastic expansion, complex emotions, with a strong affective component; means of adaptation to the concrete, sensitive world. | 3. Stylistic features have o eminent simpliitate and o function exclusively as modellers, in relation to the pleasures through which the human spirit strives for the revelation of the unknown. |

Guided by some suggestions from us, a former student of ours, Mr. I. D. Sîrbu addressed this issue in his bachelor's thesis of the distinction between "archetypes" and "stylistic factors," reaching some conclusions that we take into account, according to the needs dictated by the economy of the present study.

4. Archetypes endure in the psychological realm of humans, known as "transvestism," appearing through the variability of these travesties, sometimes more clearly, sometimes more obscurely.

5. Archetypes are rhapsodic, meaning they have a biological-psychological existence without any special relationship between them, apart from that of a commonality of the animal's own ensemble in relation to its surrounding world.

6. Archetypes are rooted in biological-instinctive circuits, Such stereotypes exist for a species, an animal, and since they also appear in human life ps ihică a omului, they connect humans to nature, making them natural beings.

4. Stylistic factors do not endure nid an kind of "disguises".

5. stylistic factors are, in their cold relationship - proc, architectural com- complementary, together forming a "stylistic field" that leaves its mark on a whole range of cultural creations.

6. Stylistic factors are variable. I n their power to determine the forms and structures of cultural creations, they are among the factors that make om o ființă emina- mewte istorică.

From this comparative exposition, we can conclude that "archetypes" and "stylistic figures" are completely heterogeneous, irreducible, and therefore unassimilable to either of the two columns. In human life, archetypes and instincts can coexist. In human life, all archetypes, regardless of their instinctive origin, retain these animal roots. It is it is that in humans, in general, instinctive behaviour it no longer remains in its genuine form. Instinct undergoes certain attenuations in humans, which is a natural consequence of the complication of intelligence and free will, at least intentionally, taking on moral forms.as soon as man becomes man, that is, a being of "culture". In life

The human psyche's "archetypes" relax their connection with the senses, trying to broaden their sphere of influence. In the psychic life of man, archetypes begin to appear more autonomously, colouring the affective part and di-
;rij up to a point imagined by 1ace1stui1a . Moreover, he is right to argue that even in the realm of spiritual creation, of which man is capable, archetypes often come into play, forming the very nuclei of creation. especially in the mythological and artistic creations of human genius. Jung's analyses have, however, revealed this circumstance to be sufficiently convincing. We must also emphasise the role that archetypes seem to play. in the processes and pathological forms of human mental life. Research in this direction, carried out by Jung and his school, has revealed the similarities that may exist

between psychopathic fantasies and mythical creations.
logical. 1al1e peoples. Jung's theories are not entirely foreign to reality; however, they must be verified step by step. Once verified, they must be integrated into a much broader theory, built on different foundations than Jung's.

In our new theory, which we have already outlined in other works and which we will complete in the following pages, the emphasis is not only on stylistic factors, but more importantly on "archetypes", fall, if not exclusively, on stylistic factors, but more strongly on "archetypes" than on "archetypes-types". It is worth noting that these factors intervene only in the spiritual life of man and never in the life of animals. As has been shown, stylistic factors have no connection with the biological-instinctive circuits of the animal's mind, in which, through their presence, all "archetypes" are subsumed. The stylistic factors belong par excellence to man, as man, which means, in an emphatic way, "historical being". If the source of archetypes is animality, the source of stylistic factors remains historicity. As a historical being, man always participates in a " field of style", a stylistic field that leaves its mark on his actions. Man, viewed as an individual, is an integral part of the historical flow. However, in our opinion, the historical flow is the bearer of those stylistic factors in the zone of
influence of which we are divided, yes, but the river of history is also a factor: the conditions of the motherland.

pure styles"[1]. There is a close relationship between the normal human individual and history, in the sense that history shapes the individual's style. However, the individual can modify this through his or her own intervention in the stylistic orientation. Within this relationship between history and the individual, the mutual exchange of stylistic orientations is a continuous and endless process.

We have established, through these ideas, the foundations of a theory that allows us to look at the problem of "airhe1tipurHor" in a new light. There is no doubt that often in cultural creations (mythology, art, metaphysics, idri gioa1Sre, idrei morale etc.) presents nudeară ra humour "archetypes" can be suspected and then disembodied behind the travesties they endure. And it is not surprising that the naked presence of certain archetypes: can be discovered even in the fantasies of psychopaths. However, there is a difference between the ways in which "archetypes" manifest themselves in the creative processes of culture and the ways in which they manifest themselves in f, you advance psychopaths, a capital distinction, which escaped Jrung's observation. The German psychologist did not have at his disposal the theoretical elements necessary for a more precise definition and assessment of the peculiar race, which, however, should have been the main motive for any possible "theory". In the most diverse archetypes, we can glimpse effective themes around which so many cultural creations are formed, but in these creative processes, archetypes always appear as models in stylistic patterns, being dominated by them, while in the fantasies of psychopaths, archetypes make their presence felt as autonomous complexes. The psychopath, unlike the "creator", appears isolated from the stylistic flow of history in which he should rightfully participate. either in a rudimentary sense or by being merely receptive. The psychopath is the man who withdraws from "history" and lives in a world of fantasies.

governed by archetypes rather than stylistic trends. We can say that only those individuals who participate in history and interpret archetypes within the ever-changing stylistic frameworks of race are oriented in a creative and moral sense.

[1] We will deal with these conditions of "history" in a future study, history understood as a dimension in which human productivity, work and creation unfold.

In light of such considerations, one may hypothesise that in the psychological and spiritual life of every human being, archetypes and stylistic factors are effectively present as "powers." When these powers become unbalanced, in the sense that, due to their inherent energy, stylistic factors are no longer able to dominate archetypes, the possibility of the individual's descent into psychopathy arises. A psychopathological divorce between the individual and history can be based on archetypes, but not on stylistic factors. On the contrary, stylistic factors represent one of the most solid links between the individual and history. Anyone who is sufficiently familiar with certain phenomena belonging to the realm of psychopathology has the distinct impression that archetypes can sometimes take on a manifest intensity on their own,on their own, which makes them downright dangerous for the individual, ultimately leading to their separation from their social roles. How to strengthen the psychological factors so that they maintain their dominance over the archetypes is a question that goes beyond the scope of this study.

## CLOSING REMARKS

Various elements of "anthropology" are scattered throughout our philosophical studies prior to the present one. Most of the studies to which we refer appeared between 1931 and 1937. The problem of the distinction that must be made between humans and animals has preoccupied us, at least in passing, in our more important works. In the present study we have sought to examine this problem in all its breadth, even th . The problem of the distinction between efeotuart: between human beings and animals.

However, given that in recent years a number of "anthropologies" have appeared in recent years, published by various authors, we have been faced with the task of taking a stance on certain theories put forward regarding certain biological and psycho-spiritual aspects that would single out human beings in the universe.

That man is a unique being in the universe, we agree, and we have stated this many times in the studies we have published. However, we happen to see this "singularity" a little differently than the authors whose ideas we have had occasion to deal with.

Priei sitori danul soviert:ic lefimenko presents aiil!tropo-genesis as a leap from "bioJogic" to "social". No words could have been found that were more accurate to encapsulate, in a formula as simple as it is comprehensive, the transition from

animal to human. But the "leap" in ches.Uurne was undoubtedly conditioned by a number of implications, whose clarification requires the efforts of researchers. The desire that drove us was to try to outline at least some of the many implications, without which the leap from "biological," in its fullest sense, to "social," in its fullest meaning, could not be imagined.

Plate I

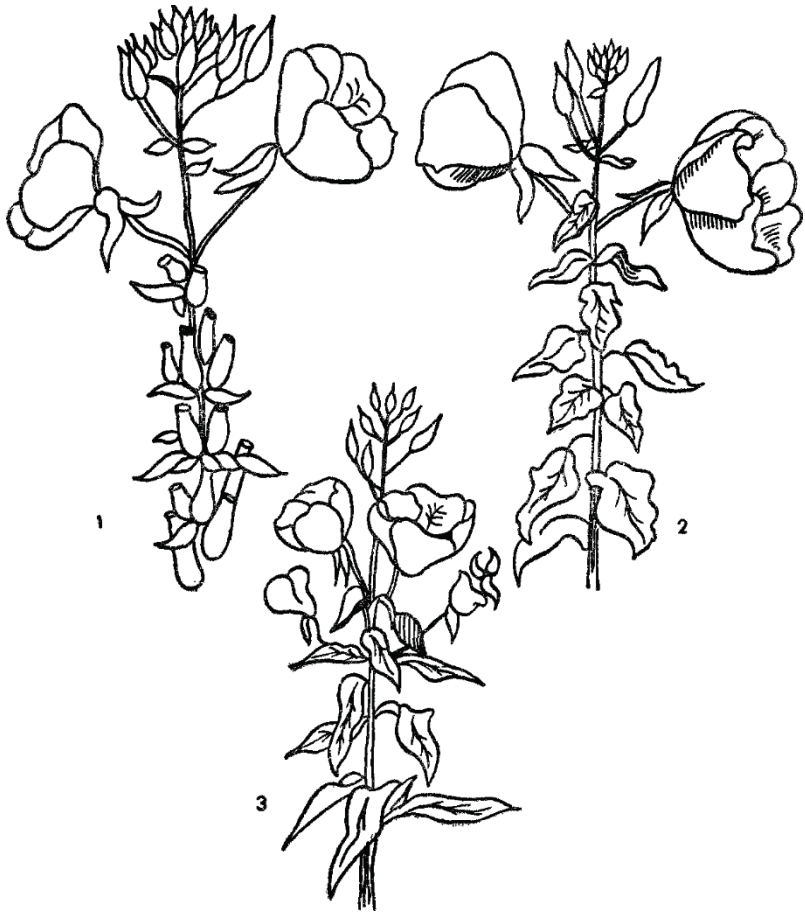



Fig. 1. Oenothera lamarckiana

Fig. 2. Oenothera Gigas, first recorded in 1895

Fig. 3. Oenothera albida (annual)

Plate II

Fig. 1. Euglena with an eye spot

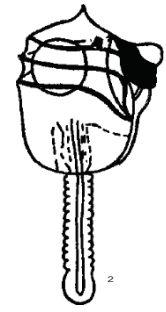
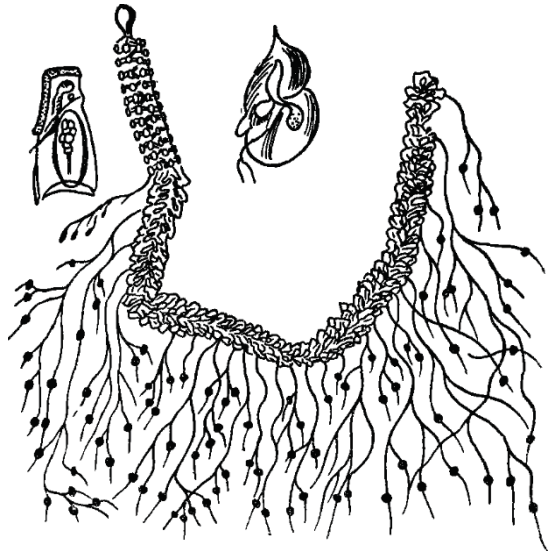


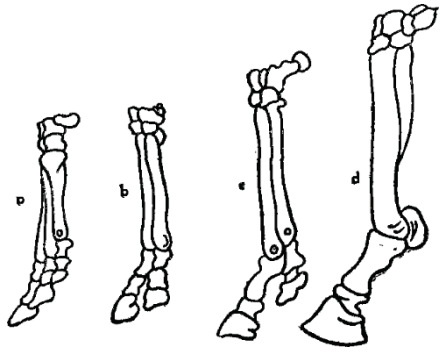
Fig. 2. O Peri-dinee: Pouchetia with large eye, with lens

Plate III



Siphonophore (agalma) with "gas bottle", swimming clo-pote and trunk bearing po-lipi, of differentiated individuals into food gatherers , consumers, reproducers, etc. Above, two groups of original siphonophores, each with one individual representing all types of individuals, which will form new colonies

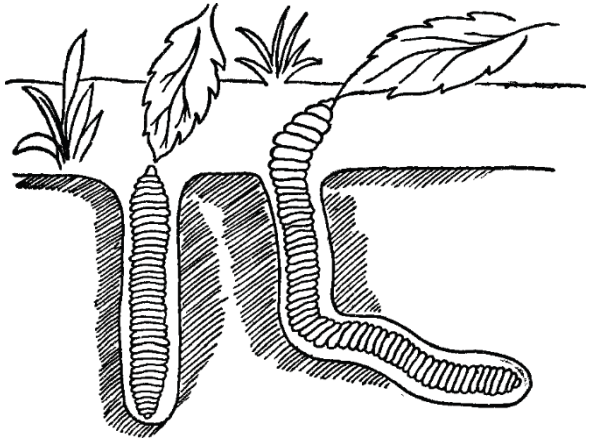
Plate IV




Transformation of the horse fa
the Tertiary period, from the three-toed form to the
current hoof:

a and b should be imagined as much smaller in relation
to shapes c and d

Plate V



The worm catching the leaves from the end

Plate VI

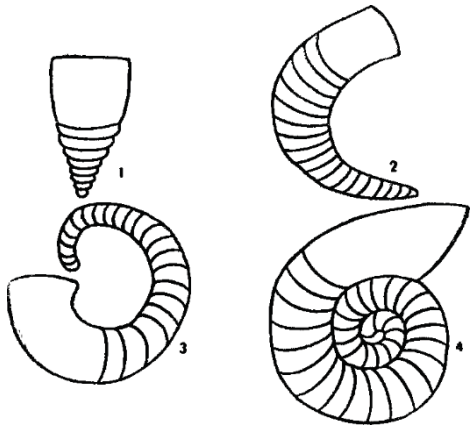



Fig. 1. Nautilus shell (Silur) Fig. 4. Nautilus shell (Carbon)

Plate VI

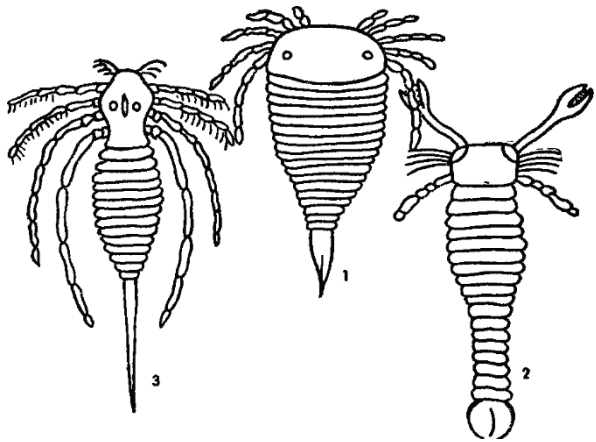



Fig. 1. Merostomate animal "Strabops" from the Upper Cambrian (lived on the sea floor, crawling)

Fig. 2. Merostom not only marine, but also adapted to fresh water: Pterygotus, adapted to swimming (Devonian-Silurian)

Fig. 3. Merostom highly adapted to life on the soft bottom of the water Stylonurus (Devonian-Silurian)

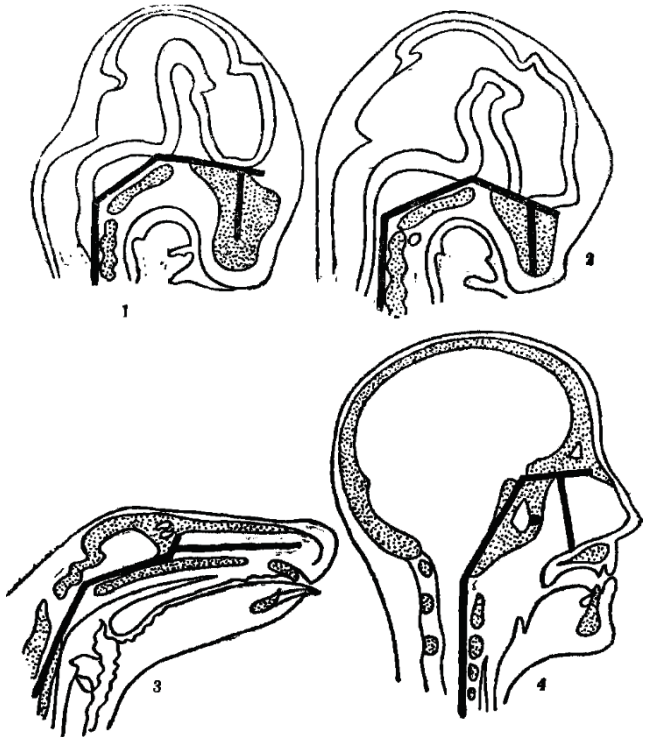


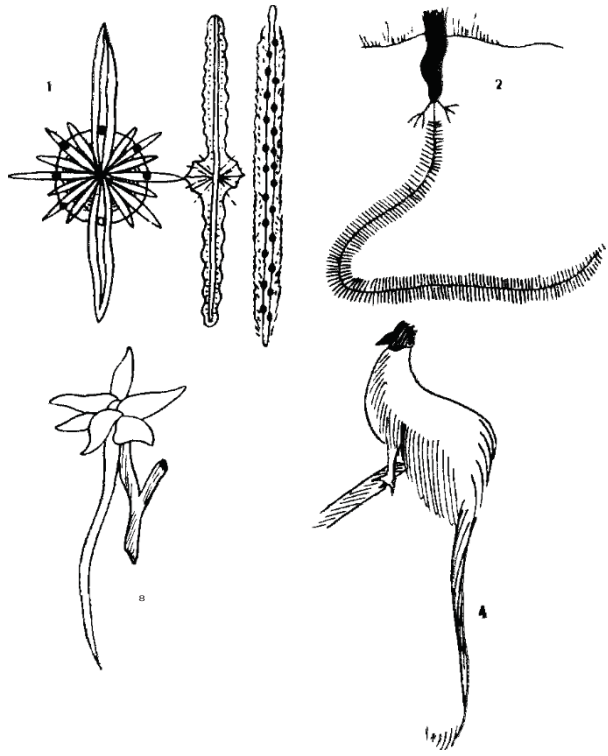

Fig. 1. Canine embryo (skull) Fig. 2. Human

embryo (skull)

Fig. 3. Canine skull (see how the axes evolve)

Fig. 4. Human skull (see how the axes evolve). The cranial axes in adult dogs diverge much more from the embryonic axes than the cranial axes in adult humans from the embryonic axes.
much further from the embryonic axes than the cranial axes in adult humans do from the embryonic axes

Plate IX




1. Progressive hypermorphosis of two equatorial rays
radii in Acantharia (radiolarian)

Fig. 2. Hypermorphosis of the abdominal appendage in the Mediterranean copepod

Fig. 3. Hypermorphosis of a spur in the Madagascar orchid

Fig. 4. Hypermorphosis of the tail in the Japanese Phoenix cock

Plate X

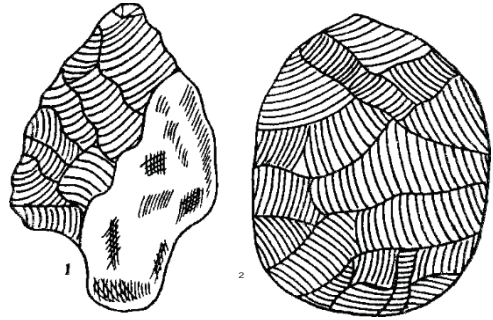
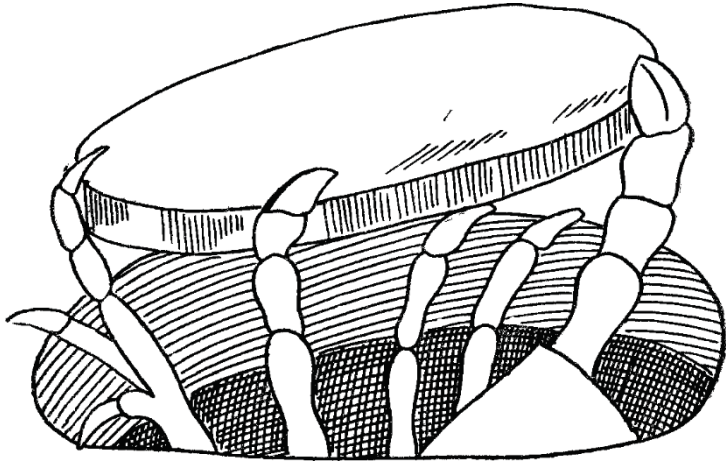


Fig. 1. Palaeolithic fist axe Fig. 2.
Palaeolithic oval fist axe

Plate XI



The crustacean Uca closing the opening of its burrow with a stone

Plate XII

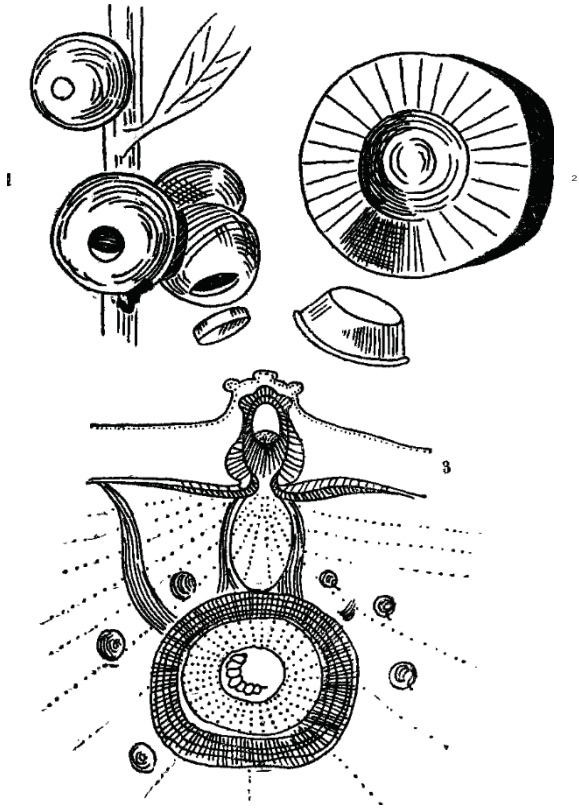
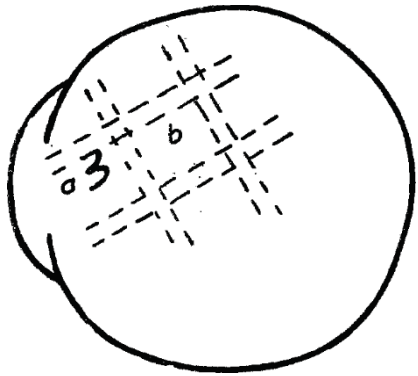



Fig. 1. The galls of the Duvalia longifolia plant for the larvae of the Cecidomya eremita insect

Fig. 2. A gall cut open to reveal its interior

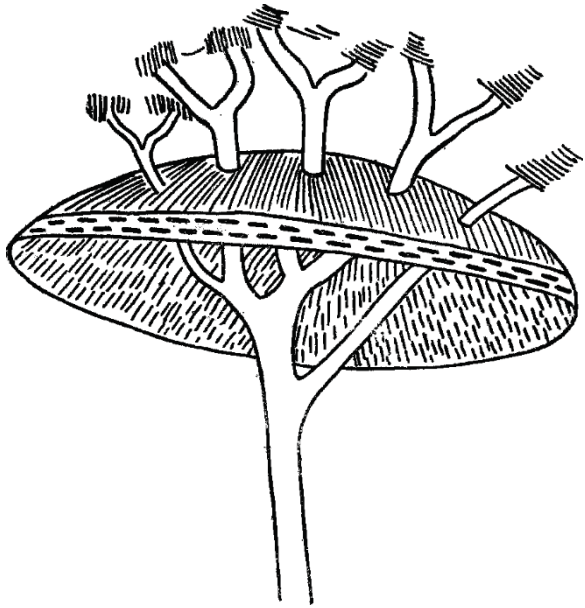
Fig. 3. A section through the gall of the Glechoma hederaceea plant to see the complexity of the tissues and conformation

Plate XIII




The eye of the Triton:
a – a fragment of the iris, b – the biological field (dotted)

Plate XIV



Collective umbrella-shaped nest of African birds

Afterword

# PHILOSOPHICAL ANTHROPOLOGY IN THE VISION OF LUCIAN BLAGA

Even during the interwar period, Lucian Blaga's work contained profound humanistic meanings as well as an astonishing openness to scientific and ph al thinking, even to a more rationalist view of the world. UimitOlilife especially if we take into account the accusations that have been levelled at him so many times — accusations that are at least exaggerated — that he is a mystical and irrationalist philosopher, a philosopher of orthodoxy. Pirea was a great thinker and a great poet, thanks to his work, which was mainly devoted to the concept of culture, science and art, and did not contain assessments, observations or pervasive analyses guided not by the Great Anonymous, nor by the idea of a world saturated with eternal mysteries, but by the worlds of reason and creative intelligence, which know how to delve ever deeper into the mysteries of the world, converting them into philosophical knowledge or artistic images. That this is so is proven by the difficult, painful but progressive evolution of the last years of his life, in the new conditions of the creation of socialism in Romania.

Blagă's work was not completed during the interwar period — the period when his great trilogies appeared or were republished. It continued in the years after Liberation, evolving mainly in the direction of consolidating and amplifying humanistic and patriotic elements. A real change occurred in terms of rationalism, especially in gnoseology, which had previously been dominated by irrational elements, in the theory of science and in other areas of his philosophy. Blaga's work in this period should be reported in one of these works — On the Consciousness of Philosophy.

safică, university course held in Cluj in 1 946/1 947 and, thanks to the "Fada" Publishing House, was published for the first time in 1974; this work marks a turning point in the history of Blaga's thought, the concentrated effect of a process of philosophical clarification, the new self-awareness of a restless spirit, de mare Amplitude and depth create, in a moment: a historical moment of serious reconsideration and redimensioning, of revolutionising all systems of "values". It is a testimony to the creative turmoil of a lucid philosophical consciousness and, above all, to the efforts to connect with the new imperatives of the history of the homeland. This work marks a significant step in his efforts t o get closer to of a îu understanding 1! 0Uă of the world, of man , ,of life and culture. Especially with regard to the method of teaching thinking, social and philosophical knowledge of it.

From the point of view of his preferential orientations, he reveals his desire to continue and "complete" the fundamental edifice of his philosophical thought, especially from a methodological and scientific point of view. If On Philosophical Consciousness is particularly significant for The philosophical relevance of the method and the attempt to make philosophical consciousness a cornerstone of his entire edifice of thought, Romanian Thought in Transylvania in the 18th Century, Experiment and the Mathematical Spirit, as well as the present work, are particularly telling in terms of the philosophical and scientific relevance of the method, the philosopher's receptiveness to the great problems of contemporary science, and the philosophical and scientific relevance of the method, the philosopher's receptiveness to the great problems of contemporary science.for the philosophical and scientific relevance of the method, for the philosopher's sensitivity to the great problems of the science of the time, which he addresses in a spirit very close to Marxist thinking.

Anthropological aspects are, in my opinion, of threefold importance: first, because they allow us to better judge the extent to which the new stage of Bliaga's thinking represents a discontinuity but also a continuity with his previous work, with the basic concept of the completed and published trilogies; secondly, because of the shift in the centre of gravity of his theoretical interest towards the problems of contemporary science, allied to the philosophy and methodology of science; thirdly for his effort to respond, in an original and novel way, to one of the philosophical demands of the era — which remains relevant to this day: the development of a philosophical anthropology — a philosophy of man that takes into account

the vast amount of data on biological, psychological, and ethnological knowledge

psychological, ethnological , and even sociological knowledge of human ,
to go beyond them in a synthetic, integrative, philosophical vision.

Blaga's concern for scientific issues is therefore older th . In fact, it was one of the constants of his spirit, and in a special work, part of the Trilogy of Values and entitled Ştiinţd (The Science of the Spirit), he
and creation, Blaga examines manifestations of the scientific spirit in various cultures, in the works of some great philosophers, or in relation to certain stylistic trends in modern culture. The affirmation of the scientific spirit is traced in Babylonian cosmology, in Indian and Greek atomism, in models of Greek scientific thought, particularly in Plato and Aristotle, in Arab culture, and in Leonardo da Vinci, in whom he highlights valuable elements of scientific anticipation. 's interest in undiminished actual,i1tate ia this work — despite many assessments that we cannot accept (such as that concerning the Greek spirit's adherence to and even resistance to the idea of becoming) — consists, on the one hand , in the author's receptiveness to the dimension and scientific response to numerous problems in ancient and modern thought, and on the other hand in promoting an original perspective in examining all these problems integrating the phenomenon of scientific in c onte)The quantity of a certain culture, within a certain system of values — specific and original. Blaga does not take into account in his work cited the factors of social, economic and political order that determine the structure and orientation of the scientific spirit, but he sheds light on this order of ideas the modelling and guiding role that the stylistic categories of culture have. This allowed him to make interesting considerations , even if debatable, with regarding the relationship between Baroque and the biological theory of preformation, between Romanticism as a cultural style, Delacroix's painting and Ouvi.er's scientific activity, between Impressionism and Monet, Re[}:oir etc., and 's psychology.
Ber g1s:an, Mach's philosophy and physics, among Brâncuşi's sculpture, associated with other trends in modern art, and the constructive tendencies in relativity theory and quantum theory, in general between scientific knowledge and stylistic categories. All these ideas were developed

in a series of studies and essays included in the volume Zări şi etape (On Romanticism, On Naturalism, Impressionism, The New Style, etc.). On closer examination, which I cannot undertake here, it can be seen that some associations are a little forced, but the process of capturing such different cultural factsIt is from a unified and unifying perspective that can give the style of a culture (in B1aga's conception, the categories of sitmsrtioe are not reducible to the field of art) remains seductive and particularly suggestive for all those who believe that a culture is more or lessthan a conglomerate of tastes and values, of autonomous structures, that in the sphere of culture neither ideological and moral contradictions nor enormous qualitative diversity prevent the action of a principle of unity.

One of the premises of anthropology is the idea of evolution, which caught his attention in Science and Creation, but even more so in Anthropological Aspects. In the former 's stylistic perspective is evident; he shows a very constructive idea of evolution, Darwin's, guided by the spirit of the age ; he inherited this idea of biological transformation , of romantic or pre-romantic origin, and adjusted it to the tendencies of the naturalist style. After quoting Buffon. Goethe, St. Hil.aire and J. B. Lamapck. Magia writes:

" T h e idea of transformation arose and could only arise from the spirit of romanticism . . . a great idea born more from the attitude of the spirit towards reality empirical reality, than from reality itself . . . Romantic scientists, guided by their sense of analogy, discovered many phenomena that could be invoked as evidence for the existence of transformism."

In Anthropological Aspects. Blaga becomes more cautious in his judgements'. Without ceasing to be a philosopher of culture – for whom the human phenomenon and the cultural status of man are paramount — he nevertheless extends his field of investigation and value judgements to scientific facts, their succession and significance. The idea of evo' tion is presented in . . . its evolution from Nicolaus Cus.anus to Darwin, trednd through Buffon, Kant, Herder, Erasmus, Darwin and Lamarck, taking into account especially the ideological-scientific climate and not just the general cultural one. It is a postulate be o-

absolutely necessary, without which "no progress can be made in the problems related to the nature and origin of man". "This opens up a field of research," he goes on to say, "which we would like to explore without any dogmatic preconceptions." A profession of faith of which he is aware always take into account. In Lamar CK's case, it doesn't he's satisfied to bring him closer to Romanian literature through the manner of "-building," but rather discusses his merits and shortcomings according to scientific criteria, his role and value in the foundation of the idea of evolution. On the one hand, there is a wealth of observational material, and on the other, the formulation of revolutionary ideas, highlighting certain factors and conditions of the transformation of living beings — in particular the influence of the environment and changing living conditions. Its exceptional merit "cannot be disputed. And here's why. We have the impression that the idea of evolution, with its inherent possibilities of speculation, could not take shape in the mind of a man of romantic disposition . . . Only in a romantic spirit, still unburdened by the ballast of empiricism, could such a new perspective be conceived, one that unleashed so many possibilities for reinterpreting the observational material gathered up to that point and, above all, the material that would be gathered from then on . Darwin, an unrivalled scientific mind, highly controlled, inductive, almost obsessed with the demon of observation, might never have been able to formulate on his own an idea so horizon-broadening as the one of transformationism . . . The idea of transformism was, therefore, in its structure , a huge anticipation that could only take shape in a mind capable of great discoveries but also of great errors, through its very orientation and habits.

I have given a longer explanation in order to see to what extent this work continues Bliag1a's Trilogy of Cultures and Trilogy of Values, only this time the romantic and monumental tone is absent. Theoretical constructs are no longer sufficient to give scientific credence to an idea. Only in the light of scientific criteria was Bliag1a able to reveal Lamarrck's limitations and the progress analysed by Darwin . At oel dtntîi, we are told, we find fantasised procedures, hasty hypotheses, improvisations with everything confusing, pTom ovarrea some ideas

of medieval chemistry, during a period in which modern chemistry was in the process of being established (he believed in all kinds of de Nuide oa naturi 1al,e Focului and attributing them an overwhelming role in the production of life phenomena), as well as defending "elements" presocr1atice with almost 50 years after the discovery of oxygen ( ŏa fault for which it will be difficult to find other circumstances") etc.

As is well known, Darwin, along with Marx, was the main target of attacks by ideologues and reactionary ideologies of all shades. Ludan Blaga, on the contrary, considers natural selection to be one of the great ideas of the 19th century . Even though it had precursors ——— cited by Darwin himself—Romanian philosopher L1a 1c1arn adds Empedocles, who argued that nature randomly produces all kinds of organs that cannot live in isolation, and that nature then makes a selection.

In modern times s-a arrived at this idea on empirical rather than speculative, through the rich experience of their cultivators and growers, who made artificial selections based on criteria of utility and efficiency. Narturia also carries out such a selection, accumulating variations in certain directions. From this idea — which floated in the atmosphere of the era – associated with the idea of sexual selection , Darwin made a principle on which he based his entire theory of the descent of species. After the publication of On the Origin of Species by Means of Natural Selection, all sorts of objections were raised against it — among other things, that it transposes onto nature the processes and criteria of human society.

His answer is interesting from several points of view; strictly speaking, the term natural selection is incorrect, but chemists, for example, are not bothered by the fact that they use the no less erroneous term "elective affinities," understanding it to mean the way chemical elements combine, as if there were preferential selections in these strictly natural processes. However, there is even and in the most rigorous scientific thinking the tendency towards anthropomorphism that manifests itself in the more or less deliberate, but nevertheless inevitable, use of metaphor in scientific language . Blaga was, obviously, very sensitive to this aspect of the problem, but his main merit lies in the philosophical explanation of the concept of selection

natural, emphasising precisely the anti-finalist and anti-idealist value of the conception of Da:rwirn. "Viewed from a philosophical perspective, there is no doubt that the theory of natural selection brings a great novelty to the field of its appearance. With its help, attempts for the first time (in modern times) to explain the de facto vitality of organisms without resorting to a finalist principle, a conscious creator . . . Usually, explanations have been attempted over the centuries regarding the origin and the substrate of the nature of organisms. These explanations tend to accept the hypothetical principle of a creator finalist: God, the soul, the vital principle, the idea, 11aţiunea the creative force. Darwin er·a in modern times was the first to propose an explanation of the de facto finality of organisms in a non-finalist perspective, resorting to the idea of natural selection. These are statements that any Marxist commentator on Darwinism could sign today without reservation.

The philosophical reservations they raise concern insufficient theoretical elaboration and the admission of certain compromises which call into question the validity of the fundamental principles and the purity of the of their theory. "Marx and Engels — g;pu:nea Blaga — expressed their particular satisfaction with Darwin's evolutionary doctrine, which applied a transformist perspective to the vast domain of life, after Kant and Laplace had succeeded in imposing this perspective in the 18th century, considering matter to be the substrate of the evolution of celestial bodies. It is no less true that among the first to point out some shortcomings and even "gross errors" in Darwin's theory were Marx and Engels.

However receptive Bil1ag1a may be to the scientific value of Darwinian theory, he is equally critical of Hugo de V1ries's "law" of mutation, which he considers to be merely an apparent reflection of Darwin's theory of evolution, and especially of the "immutable law of evolution" - from man to apes.[)Jtă a oonJtinuaJTe ia Darwin's theory of evolution. and especially towards H. Spencer's "famous law of evolution" — from indefinite homogeneity to definite heterogeneity. In his opinion, the problem lies in the simplistic and superficial interpretation of evolution, as well as in the thesis that adaptation to the environment increases as we climb higher on the evolutionary ladder of life. This raises an essential question of anthropogenesis on which B1aga o

solves in a fully modern sense and in accordance with the latest data on anthropogenesis. The meanings of evolution, he argues, do not proceed linearly from states of inadaptation to states of adaptation, etc., but in divergent directions: a) through specialisation — a form of evolution that leads to a narrowing of the environmental horizon; b) the formation of new levels of organisation.

In problems, theories and hypotheses of the most diverse kinds have been formulated, some of them quite strange, either within the framework of the theory of evolution or through attacks against Darwin.

A Darwinian evolutionist was Hmmian K1aia:tsch. (The Genesis and Evolution of the Human Race — 1902, The Origin of Mankind and the Genesis of Culture) pushed back the genesis of man into the Mesozoic era, from a common ancestor of apes and humans — a prosimians, an original mammal. Even younger was L. Bolk's theory, taken up by Arnold Gehlen in another work (Der Mensch, 1940): The genesis of the human form lies in the perpetuation of certain foetal characteristics; man is a mature monkey foetus, the problem of anthropogenesis is ontogenetic and not phylogenetic. The essence of the human form is therefore the result of foetalisation, the essence of man's physiological existence is the coexistence of a functional retardation. To compare human specificity with that of anthropoids, on the basis of definitive foetal characteristics, or what other biologists call primitivism, seems to B1ag' n incredible torment; such ideas have aroused justified astonishment and repugnance.
However, they were quickly forgotten until certain events were reported by Gehlen.

For Blaga, the thesis of Srensuri 1a:le eV'olruţi·ei remains essential in the question of anthropogenesis, as it better reflects the complex dialectical relationship between organism and environment than the metaphorical biological theory of Baron von Uexki.ill, pen1trru carie biology attempts to write pantitf:ura vieţii and of :nature ; orgarri1smul is like a "joc dte olopotre", 10 musical composition, line life appears as a "melody", i1arr obieioteie dim. lrumea împrej-muiitoaire au "tonurile" 101r spedftoe. A seductive metaphor, observes Blaga, but it remains a metaphor, because the musicality of life does not elevate meoani smrul and the environment is not equal to itotaliititai conditions oosmioe, but o

'section cut out from ,aoestea and differentiated by species. In connection with the two major evolutionary processes — specialisation and organisation at an increasingly higher level, or tendencies towards nlartivă al.lltonomie — maga formulates a useful hypothesis, an important biological law — the law of biological ceilings, intended to explain the immense diversity ,of forms of life on earth, which cannot be reduced to the diversity of the environment. "From the moment a being has developed organically to the end in a certain direction, evolution can continue in a dangerous form through hypertrophy or it can lead to the "repression" e . . . According to this law, the height to which a "vertical evolution" can rise, , is inversely proportional to the degree of specialisation.Hz1aa-ie la 'oare ia ajuns o evo-luţie orizontală de hază" and "ev.oluţi1a oriz-onta1lă ajunsă l1a capăt fa.ce cu neputinţă orke evoluţie vertioală pe baza ei". Thedetween humans and other anthropoids must be sought precisely here, in these two types of evolution — the horizontal evolutionary mode and the vertical one.'

greater dependence on the environment, up to tobie,

and the vertical evolutionary mode, in which life retains its relative autonomy and spontaneity in ' relation to the environment.

* * *

It is the meeting point of Hor's naturalistic and humanistic preoccupations of of Bliaga. De fact, the former are subordinate to the latter precisely through the intermediary of anthropology. Man, with his existential attributes as a cultural and metaphorical being, remains the central focus of theoretical interest for Romanian philosophers. The connection with tradeas' aire, but on a new, higher level in terms of scientific interpretation, is all the more evident in this problem. In the construction of his system or philosophy, Blaga a accorded an exceptional place and a decisive role to man, respectively to human existence. The fundamental thesis of his conception of man and culture is that the pride of any humanistic profession of faith could be formulated as follows: the reason for man's existence as a human being, his supreme will, lies in culture, and reason of a to be a of culture, the source

The uniqueness of its formation and development is expressed in a way that is specific to human existence It is so intimately linked to the destiny of man in his creative function of culture, in that

the anthropological moment, which, as artare, does not ,a hold previously a distinct place in the articulation and structure, its finds appears in the work we are discussing, an independent elaboration. Blag:a ·aj ung.e to some conclusions similar to those in other works — in particular two main ideas: ia) the existence of in univern ia mai many ways morphological modes of existence, diar a f.oairte very few ontblogical modes ontological modes, principally di sititJ1ot1e ; b) the existence of two horizons of human existence — the universe of immediately given things and the horizon of the unknown. But the anthropological conception of Bliagra's is now enriched with new scientific determinations that complement or amend older ideas. First, the ontological leap through which a new mode of being is established in the universe of dobîndeşte o fundamentare ştiinţifică, o explicaţi Is it a coincidence? It appears to be the result of a vertical biological evolution, on a higher level of organisation. From this position, on which I would call evolutionary-dialectical, he ţraicele t·eorii bi:ologi1oe oare, pie-eîtnd de' J1a sensul orizont·al a] evoluţiei vi1eţii, foc dim insufficiencies biological ia1le human .oauza de 1an1s,amblu technology, civilisation and even culture, or, in any case, a factor that through direct compensation produces civil-

human culture and civilisation. It is not the result of a specialisation that increases dependence on the environment, but of a specific vertical adaptation. This means increasing autonomy from the environment, achieving increasingly higher levels of constitutional types (vertical mutations), man has the possibility to master it through intelligence, to constantly break away. Man has a concrete horizon which virtually is as wide as the world, not limited as the animal environment ; the human environment also has a 'non-existent aspect .1a oe1a 1animală — the horizon of the unknown, not only on the surface but especially in depth.

"The horizon of the unknown as o dimension specific to the human environment, becomes the main link that motivates man to make the most fertile attempts to reveal to himself what is still hidden."

The way humans exist in relation to their environment is exceptionally complex. Here we encounter once again that ontological distinction (of degree, of quality) made by Blaga between the concrete horizon of the world, whose data are converted by his superlative intelligence developed into a system of concepts, and the horizon of the unknown which his creative genius converts into myths, visions religious and metaphysical, theories scientific,
artistic creations. However, it is no longer , as in the past, a world saturated with mysteries that any cognitive or evaluative act cannot help but reveal, to increase their authenticity. Others are the premises, objectives and pillars of this world. On the one hand, the level of organisation from which the two horizons diverge finds its basis in a material element of a structure
and exceptionally developed conformation — the ear; on the other hand, new skills and possibilities for development are closely related to human language and sociability. The experience of human individuals in society, in an atmosphere of 1aitmosforă de comunicabil itate, esite in general, is the most powerful means of promoting possibilities.
human, since here, this one becomes a matter of concern for the community progressive of all efforts ". Precisely in and through society can one achieve specifically human productivity and " man becomes subject creator of civilisation and culture" . In this spirit, Bliag analyses some facts about the genesis of culture — ritual customs, magical thinking and techniques still present in the Palaeolithic era among hunters, then ritual objects and works of art related to
the cult of the dead. The harsh conditions of those early days led man to all kinds of material inventions to help him cope with his surroundings; Blag1a pays special attention to the flint hammer, a tool for making tools, which opens up a horizon of technical countless possibilities for man.

„ În pumnar îşi găseşte o întîie, cop,leşitoare
expression, intelligence analytical and constructive · of man. At the same time, since the Palaeolithic era, humans have been driven towards cultural acts of a spiritual nature, because, faced with the severity of conditions, humans are forced to attempt the impossible, to dream of magical powers or substances capable of correcting external shortcomings. "Magic is possible through will era can alone, hope that

o mai prnte.a 1avea ·omtul în condițiile crumpHte ale gla-ci arului . Și omiul se agăța ouprins de o panică îlilr-adevăr cosmkă, de acest unic gînd, în ciuda tuturor im.succese-lor tehrnicii spirirt1rnale, primare, el 'icerca să-și aser-

Some suggestions for the future. This is a spiritual matter, and it is right to expect daily experience... The effervescence of magical thinking in Palaeolithic remains is perhaps the most eloquent document of the spiritual world regarding the understanding of that man lived several hundreds thousands years

in conditions , external that required them to give up their existence

his existence. By the same token, considering the

In his study of the material and spiritual culture of the Palaeolithic , Bliaga wishes to emphasise that man, from the moment he appears as a subject in the world, associates himself with the fist and the game manifests himself as a subject of culture, which implies specific bio-psycho-spiritual structures, a product of vertical evolution.The author of the book, Bliaga, wishes to emphasise that humans, from the moment they appear as subjective beings in the world, associated with labour and play, manifest themselves as subjects of culture, which implies specific bio-psycho-spiritual structures, the product of a vertical evolution.

Without ignoring —— as we have seen —— the biological premises of human existence, Blaga adopts a critical stance towards the biological conception of culture, primarily towards the theory of Arnold Gehlen. He is justified in rejecting a conception that attempts to solve all the problems of culture and civilisation from a biological perspective. For Gehlen, only retardation, biological unfulfillment, or the embryonic stage of structure

'Human biology, primitive instincts and the absence of specialised biological organs are the premise of captivity, the starting point for the establishment of culture. Nature produces nothing superfluous; by endowing man with reason and free will , Kant says , it has deprived him of instincts and innate knowledge. And yet there is a grain of truth in Gehlen's conception that B1aga does not take into account. The former's thesis about man's impulse to action would have deserved more attention and receptivity. He wrote: . . . a consequence of his primitiveness and his lack of organic means, man is

It is impossible to live in a truly natural sphere

primary sphere. He is therefore called upon to surpass himself, the means by which he is organically connected, and this is achieved by actively shaping the world to serve his life. He must prepare himself the weapons of defence and attack that he lacks and that are not naturally available to him; he must for

aceaist1a to be objective and to invent technid of treatment objective of things . . . In order to become fit for existence, man is constituted with a view to processing and overcoming nature, and therefore also with a view to experiencing the world; he is an artificial being, because he is unnatural and because he lacks an environment to which he is naturally adapted. The symbol of the nature processed by him, which will serve him vitally, is called culture, and the world of culture is the human world.

It cannot be said that in the passage reproduced we find a satisfactory explanation of anthropogenesis and the genesis of culture, but nevertheless captures some real and significant moments from this millennial process. in accordance with ou 's concept more general about culture, Lucian Blaga However, he criticises Gehlen for treating culture only as "a second nature, as a process of compensation for biological adaptation". The fundamental error of Gehlen's consists in the fact that it does not analyse human culture in itself. with its structural implications, taking into account the implications of cultural oration — especially the aspiration towards revealing the unknown horizon in varied materials and stylistic patterns. However, regardless of the issue of this horizon of the unknown, which would merit separate treatment (and which we have addressed on another occasion), Blia ga puts more emphasis on well in the complex existence of man, the essential cultural dimension. In the etiology of culture, biological structural deficiencies can only be a stimulus to make possible the existence of man as a strictly biological being. But culture is something qualitatively different from nature — that

This implies higher levels of organisation. Man is no longer a being of "deficiencies" because, on the other hand, there is a paradox in his structure — the highest level of organisation and, at the same time, an archive of primitivism. Its weak points take on another meaning and fall within other existential dimensions. "Man alone has become a historical being, which means permanently historical, that is, a being who eternally surpasses his creation, but never surpasses his condition as an ' ' or 'oreafour'."

In the biological coordinates in which Gehlen places them,

and î.nrf:r ◆o "activity" 01rienit1ată :only in s ensul oom-pe nsării insufi cienţe de s·tructură, nu se poaite ex· pli c.a a ceasta jsforicitate ca dimensiune oara cteiri S:tică a

human existence. Historicity is a truly human mode of existence, and this mode manifests itself in the unfolding of temporal gener.ații ilior de oiaimeni Îil chip

increasingly emphasised". Blaga further emphasises that human existence is characterised from the outset, from a philosophical point of view, by the characteristics of historicity, however stereotypical life may seem at the time, analogous to that of the ancients.

. unra from ideas those more valuable of this work, which is to a large extent B11a.ga approached the position of historical materialism in the problems that caught our attention in the post-war period. From this position , the principle of permanent historicity and essential.

He examines the human being and white problems, such as those of instinct, intelligence and genius. With regard to instinct, the criticism levelled at H. Bergson is worthy of attention, as it primarily concerns the idealistic metaphysics of the French philosopher. From a historical perspective, is viewed and The theory of archetypes of by

C. G. Jung. Archetypes are crystallisations of spiritual life, possessing functional autonomy. Jung is hesitant regarding the intimate nature of these

tor.a — plastic icons, concentrated representations, bundles of possibilities that would guide the imagination of images. But Jung projects them all into a supposedly special area of psychic life, into the collective or absolute unconscious, based on ancestral experiences - a kind of hereditary memory xml-ph-0000@deepl.internal

ancestral experiences - a kind of hereditary memory

spedei, through archetypes (de folul "vrăjitorului", "eroului", "tatălui", "mamei", "şarpelui" etc.) ce se transmit

from gem.enați is in generați e. The unconscious is a storehouse of archetypes on which belief in gods or demons is based. Maga agrees that the archetype can

play a remarkable role in human life, but not limited to the memory of the psyche, which is hereditary, but also given stylistic factors that attest to the autonomy of the psyche from biology and leave their mark on cultural creations. Human activity is therefore guïded by stylistic factors rather than by the laws of nature, interpreted in a perspective...

biological. In humans———and only in humans—archetypes form the core of creativity. especially in mythological and religious creations. And this is where the historical perspective comes in.

"Stylistic factors belong par excellence to man. as man, which means, in a nutshell, as a historical being. If 's source of archetypes is animality, the source of stylistic factors remains historicity. As a historical being, man participates always in a "stylistic dmp" which he imposes on his creations. Man, viewed as an individual, is an integral part of the historical river. The historical river is, in our opinion, the bearer of those 'factors' in whose confluence we are included as individuals, but the historical river is also the purifier of the material conditions of the "stylistic fields". Between the normal human individual and history there is a close correlation, in the sense that concrete history imposes stylistic orientations on the human individual, and the individual, in turn, will be able to modify, through his creative intervention, the objective body of knowledge. Within the framework of this correlation between history and the individual, the mutual exchange of stylistic orientations is a continuous and uninterrupted process. . . . A psycho-morphological divorce between the individual and history can be declared based on archetypes, but not on facts or stylistic features. On the contrary, stylistic factors represent one of the most solid links between the individual and history".

CeroetăJt, the Marxist scholar, will have to continue this analysis with regard to the history of the stylistic features of culture, especially by defining more clearly the concept of coTIJcept, but his theses represent more than a starting point for a fruitful analysis. Even in the problem of technology, he says that it does not represent only a' ia of the organism, a fulfilment and completion of the organs along a line inherent to them, but a transcendence of the organic meant to ensure man's domination over nature. The progressive expansion of the balance is ultimately intended to ensure human autonomy from nature. So, unlike the stereotypical organicity of so-called animal "technique," human technique "gives off an aif ' e of permanent effervescent historicity,' a factor in the promotion and fulfilment of man as man. Luoi1an Blag'a contrasts Marx and Engels' thesis on the decisive importance of work and technology for the positive development of man (which, in his own interpretation, comes closeso much) to those pessimistic, agnostic and sceptical theories according to which man actual ar fi, sub raportul prartioul,arităților sale

biological and spiritual, in full decline, resulting in particular from his technique. The entire new situation created by technique is thus distorted. But technology is not and cannot be, according to Blaga, merely a tool for integrating man into nature, but a force for dominating nature, a progressive expansion of the environment, a factor of civilisation. It is a conclusion that is at once optimistic, rationalist and humanist; moreover, it is a more general characteristic of the present book, one of the most interesting and fruitful attempts to construct or reconstruct anthropology as a discipline that is both scientific and moral. The efforts of some contemporary Marxists in this direction will benefit from the remarkable, original contribution of Blaga's work, made accessible for the first time to a wide circle of readers.

AL. TĂNASE

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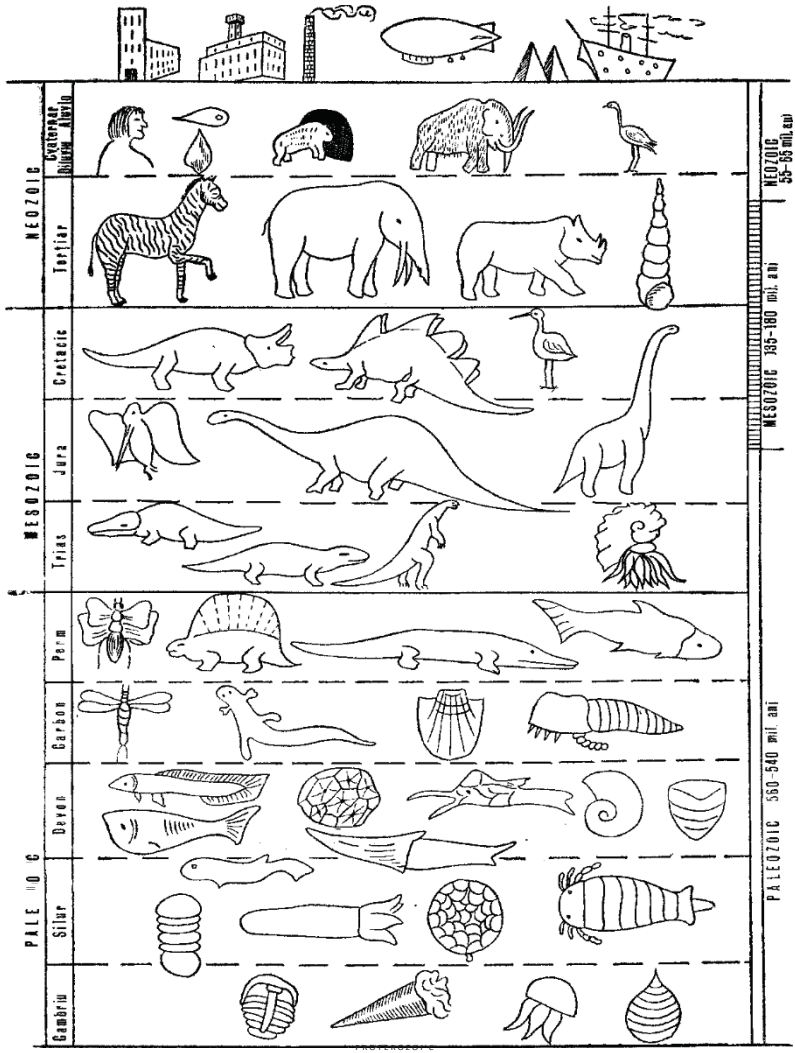


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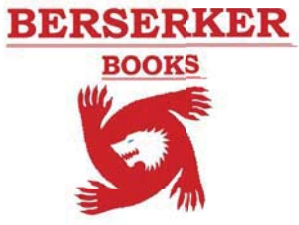
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