

ACADEMY OF SCIENCES OF THE U.S.S.R.

Mikhail Nesturkh
The **ORIGIN**
of **MAN**

FOREIGN LANGUAGES PUBLISHING HOUSE

Moscow. 1959

ACADEMY OF SCIENCES OF THE U.S.S.R.

Mikhail Nesturkh
The ORIGIN
of MAN

FOREIGN LANGUAGES PUBLISHING HOUSE

Moscow. 1959

TRANSLATED FROM THE RUSSIAN BY GEORGE H. HANNA

The Russian edition of this book, edited by Professor Y. Roginsky, was published by the Academy of Sciences of the U.S.S.R. in 1958. The present translation has been read and approved by the author.

CONTENTS

	<i>Page</i>
Preface	5

PART ONE

THE DARWIN AND OTHER HYPOTHESES CONCERNING ANTHROPOGENESIS

Chapter One. DARWIN ON THE ORIGIN OF MAN

1. Anthropogenesis Before Darwin	9
2. Darwin on the Evolution of the Animal Kingdom	14
3. Darwin's Genealogy of Man.	18

Chapter Two. THE ANTHROPOID APES AND THEIR ORIGIN

1. Living Anthropoids	30
2. Extinct Anthropoids	45

Chapter Three. CRITICISM OF THE LATER HYPOTHESES CONCERNING THE ORIGIN OF MAN

1. Religious Explanations of Anthropogenesis	64
2. The Tarsier Hypothesis	68
3. Some Simian Hypotheses	73
4. Osborne's Hypothesis	80
5. Weidenreich's Hypothesis of Anthropogenesis	88

PART TWO

PHYSICAL PECULIARITIES OF THE HUMAN BODY AND THE EMERGENCE OF MAN

Chapter One. THE ROLE OF WORK AND ERECT LOCOMOTION IN ANTHROPOGENESIS

1 The Role of Work	97
2. Methods of Locomotion of the Great Apes	100
3. The Weight of the Body and the Centre of Gravity in Man and the Apes	108
4. The Inferior Extremities	110
5. The Pelvis, Spine and Thorax	116
6 The Superior Extremities	122
7 The Proportions of the Body and Asymmetry	128
8. The Skull	131

Chapter Two. THE BRAIN AND HIGHER NERVOUS ACTIVITY IN MAN AND THE APES

1. The Brain and Analysers of Man and the Apes	142
2. Development of the Peripheral Regions of the Analysers	153
3. Higher Nervous Activity in Monkeys	168
4. The Second Signalling System—the Distinguishing Feature of Human Thought	185

Chapter Three. THE HERD INSTINCT IN MONKEYS AND RUDIMENTARY
FORMS OF LABOUR

1. The Herd Instinct in Monkeys.	189
2. Inceptual Forms of Labour	208

PART THREE

PALAEANTHROPOLOGICAL DATA ON THE MAKING OF MAN

Chapter One. THE FIRST STAGE: THE EARLIEST MEN (PITHECANTHROPI)

1. The Java Pithecanthropus	215
2. The Sinanthropus	224
3. The Heidelberg Man	236

Chapter Two. THE SECOND STAGE: EARLY MEN (PALAEANTHROPI)

1. The Ice Age	239
2. Neanderthals and Their Physical Type	244
3. Neanderthals on U.S.S.R. Territory	254
4. The Palestine Neanderthals	262
5. Primitive Man's Way of Life	271
6. The Development of Fossil Man's Brain	276

Chapter Three. MODERN MAN (NEANTHROPUS)

1. Upper Palaeolithic Man	288
2. False Hypotheses Concerning the Origin of Modern Man and Their Criticism	304
3. The Races of Mankind	314
4. Science Against Racism	325

Bibliography	329
------------------------	-----

*I dedicate this book to my wife,
Ekaterina Mikhailovna Nesturkh*

PREFACE

The problem of the origin of the human race is one that has been awaiting a solution for thousands of years. Religion had shed a false light on it and it remained a mystery until the last century when biological knowledge had become more extensive and Darwin was able to propound a materialist theory of the evolution of the organic world.

The logical outcome of this theory was the proof that man and the animals have a common origin. Darwin assembled a vast amount of data confirming the idea of man's natural origin and established beyond all doubt that a species of the most highly developed, extinct bipedal ground apes was the immediate ancestor of man.

The thesis of man's descent from an ape became basic in anthropogenesis; it is the corner-stone of anthropology.

The materialist theory of the origin of man is diametrically opposed to the idealist, religious conception of the miraculous creation of "first men." Biology and anthropology, however, were unable to provide a complete explanation of the process of anthropogenesis because social as well as biological factors played their part in the development of the human race.

This is particularly true of the last phase in the formation of man, when the body acquired its present structure and the species *Homo sapiens* branched out into different races.

The process of anthropogenesis is vastly different from the phylogenic development of any species of the higher vertebrates, even of the apes. The problem, therefore, requires a complex approach employing data established by the social sciences that have Marxist philosophy as their basis.

A comprehensive solution of the problem under discussion can only be made from the standpoint of dialectical and historical materialism; Marxism-Leninism has enabled anthropologists to make a profound and truly scientific analysis of the very essence of anthropogenesis. Dialectical materialism, a method the present author has endeavoured to apply in his work, is a most powerful weapon in the struggle against idealist concepts of the origin of man.

The primary purpose of this book is to provide readers with concrete facts, drawn from present-day biology, to serve as proofs in the materialist theory of anthropogenesis. These include the most important information on the living anthropoid apes necessary to make a correct study of the fossil remains of their extinct ancestors, to find among them the immediate precursors of man and to discover the main features of their palaeobiology.

The second task which the author has set himself is to outline the more significant stages in the development of fossil man.

The third task is to explain the anthropological viewpoint of the way in which fossil man developed, using for this purpose the labour theory of anthropogenesis, and also to criticize the idealist concepts of the formation of man and the races of mankind.

The author has made extensive use of the investigations of anthropologists, anatomists and physiologists studying the structure of the human body, as well as the work of archaeologists and ethnographers. He has also drawn material from his *Man and His Ancestors* (1934) and other works.

M. F. NESTURKH
Institute and Museum of Anthropology,
Moscow State University

P A R T O N E

THE DARWIN
AND OTHER HYPOTHESES
CONCERNING ANTHROPOGENESIS

Henry July 1967

Oppenheimer

DARWIN ON THE ORIGIN OF MAN

1. ANTHROPOGENESIS BEFORE DARWIN

From the earliest times various peoples have created legends about the miraculous creation of the first man by some deity. In these myths we may trace the influence of the natural, social and economic environment of those who created them. The biblical legend of the creation of the first man by God who breathed some part of his own spirit into him and gave him his "immortal soul," for example, is a clear reflection of the potter's craft and the sculptor's art, both of which were widespread in Assyria, Babylon, Egypt, Judea, and other countries at the time the myth took form.

The Muslim myth of the creation has points of similarity with that of the Bible: "He excelled in the making of all things. He first created man of clay, then bred his offspring from a drop of paltry fluid. He moulded him and breathed into him of his spirit."

Nevertheless, from time immemorial people had noticed the great resemblance between man and the other animals and this led them to the idea that man had a natural rather than a supernatural origin. The idea was first broached in the times of antiquity by Lucretius (95-51 B.C.) in his materialist poem *On the Nature of Things* (*De Rerum Natura*). His idea was that the first people were born directly out of the Earth at a time when it possessed mighty fertility; the Earth produced animals, birds and other living beings after it had become covered with all kinds of vegetation.

Although Lucretius' concept of the appearance of people as babies born of the "wombs of Earth" is absolutely fallacious, it is significant that he rebelled against the stultifying influence of religion: in his poem man was born of the Earth in a natural manner.

The atheistic essence of Lucretius' poem can be judged by the following remarkable lines:

*Humana ante oculos foede cum vita iaceret
In terris oppressa gravi sub religione
Quae caput a caeli regionibus ostendebat
Horribili super aspectu mortalibus instans,
Primum Graius homo mortalis tollere contra
Est oculos ausus primusque obsistere contra.**

Lucretius then goes on to say:

*Principium cuius hinc nobis exordis sumet,
Nullam rem ex nilo gigni divinitus umquam.***

With amazing intuition Lucretius drew a picture of the life of primitive man, his work and the beginnings of articulate speech. Lucretius' poem is in keeping with the materialist ideas of Epicurus (born 324 or 341, died 270 B.C.), the great Greek atheist and writer, and is significant as one of the first attempts to picture the appearance of man on Earth as a natural phenomenon and not by the miracle of divine creation.

In his poem Lucretius made use of the achievements of the thinkers and scholars of the preceding centuries. The great intellects of antiquity analysed the chief peculiarities of the human body and its organs and established the important fact that the hand is the organ of universally useful work. This fruitful idea is met with in the works of the philosophers Anaxagoras (500-428 B.C.) and Socrates (circa 469-circa 399 B.C.). Anaximander (sixth century B.C.) and Empedocles (490-430 B.C.) spoke of the natural development of man.

In the works of Aristotle (384-322 B.C.), Hippocrates (circa 460-circa 377 B.C.), and other great naturalists and physicians of the ancient world, we find some scientific foundations for the investigation and description of points of difference and similarity between man and the other mammals; these include the structure of the body, its development and functions. Of those mentioned above Aristotle made the greatest contribution: he was the first to make a detailed study of the human body and showed the place occupied by man in the animal kingdom; he also pointed out such cardinal differences between man and the other animals as his erect posture and gait, his big brain, speech and intellect, and conducted an analysis of those features.

Somewhat later the Roman physician and anatomist, Claudius Galen (circa 130-circa 200 B.C.), established the great similarity in the structure of the body of man and the monkeys and noted points of similarity and difference with the other animals. Galen's works, like those of Aristotle, brought him great prestige and fame that lasted

* When the life of man lay foully grovelling before our eyes, crushed beneath the weight of a Religion, who displayed her head from the regions of the sky, lowering over mortals with terrible aspect, a man of Greece was the first that dared to raise mortal eyes against her, and first to make a stand against her.

** ...Reason and the contemplation of nature; of which our first principle shall hence take its commencement, that nothing is ever divinely generated from nothing.

a thousand years. Knowledge of man and of the animal kingdom gradually increased as the productive forces in human society were developed.

The anatomy and physiology of man were gradually built up from scanty precise knowledge and a mass of vague assumptions. After the reform of research methods, mainly due to the work of Andreas Vesalius (1514-1564) and William Harvey (1578-1657), scientists began to gain real knowledge of the human body. They began to understand much of what had been, until then, incomprehensible in the structure of man's body. A materialist view of the human being began to gain ground amongst scholars.

Even in the darkest days of the Inquisition, advanced scholars propounded the truly materialistic idea of the natural and not miraculous origin of man. One of these, for example, was Lucilio Vanini (1585-1619) who was condemned by the Inquisition and burnt at the stake for his materialist and anti-religious conception of man and nature.

In the history of science, of special importance to anthropogenesis was the increasing knowledge of monkeys, especially the anthropoids. The chimpanzee was first brought to Europe at the beginning of the seventeenth century. In 1699, Edward Tyson, an English anatomist, published a full description of the structure of this ape in his monograph: *Ourang-outang, sive Homo sylvestris: or, the Anatomy of a Pygmie Compared with that of a Monkey, an Ape and a Man*.

In the eighteenth century the famous Swedish scholar, Carl Linnaeus (1707-1778), in his classification of the animal kingdom, included man and placed him in a special genus, *Homo*, with the species *Homo sapiens* next to the anthropoid apes.

Linnaeus' views, however, were those of a creationist: he believed the intellect to be a particle of divine wisdom in man.

At the end of the eighteenth century the idea of the natural origin of man is also seen in the works of James Monboddo (1784), where he dealt with the question of the origin and development of articulate speech. Later, J. E. Doornik (1808), like Monboddo, asserted that man had descended from the anthropoid apes.

One of the most famous biologists of the latter half of the eighteenth century was Georges Buffon (1707-1788) who, as a transformist, devoted considerable attention in his works to man as well as to the anthropoid apes that he had personally observed. However, he very sharply differentiated man from the animal kingdom on account of his intellectual qualities which he believed to be of divine origin.

By the beginning of the nineteenth century considerably more knowledge of the people, fauna and flora of many countries had been accumulated. Greater knowledge of fossil animals and of the history of the Earth, had also been obtained as can be seen from the works of Georges Cuvier (1769-1832) and Charles Lyell (1797-1875). In addition to zoology and palaeontology, other branches of knowledge were extensively

developed. The idea of the immutability of species of animals and plants, supported by the majority of scholars after Linnaeus, gradually began to lose ground. Individual biologists began to get a clearer conception of certain signs of evolution in the organic world.

One of the earliest Russian scholars to give expression to the ideas of transformism was Afanasy Kaverznev (born 1748, date of death unknown). His dissertation on *The Transmutation of Animals* was published in 1775. In his book this progressive scholar cited numerous facts to support his theory of the natural origin and further transformation of species. Nor did he hesitate to apply his tenets to the development of man. Kaverznev placed man and the apes in one group and asserted that they and the other animals possessed similarities and were related: "... not only the cat, lion and tiger but man and the apes and the other animals constitute one single family" (*The Transmutation of Animals*, p. 507).

Somewhat later we find materialist ideas concerning man and his origin expressed in the works of one of the most outstanding public men and thinkers of his time A. Radishchev (1749-1802); in his *On Man, His Mortality and Immortality* he expresses the opinion that the science of man is the most important, is fundamental.

In the same treatise proof is offered that "the hands were man's guide to reason."

This perfectly just idea is met with several times in the works of N. G. Chernyshevsky (1828-1889), the nineteenth century Russian revolutionary democrat and thinker. He subjected such cardinal problems to analysis as man's place in the universe, the nature of man and man's origin as the result of the normal historical development of nature.

In his essay, *The Anthropological Principle in Philosophy*, Chernyshevsky, as a materialist philosopher, asserts the unity of man's body and spirit: this fundamental thesis was later confirmed by the researches of I. M. Sechenov (1825-1905) and I. P. Pavlov (1849-1936) who laid the foundations of Russian materialist physiology. Chernyshevsky said in his essay: "... a man must be regarded as a single being having only one nature; ... a human life must not be cut into two halves, each belonging to a different nature; ... every aspect of a man's activity must be regarded as the activity of his whole organism from head to foot inclusively, or if it is the special function of some particular organ of the human body we are dealing with, that organ must be regarded in its natural connection with the entire organism."*

In other countries Darwin's greatest predecessor in the field of biology was Jean Lamarck (1744-1829) who, in his *Philosophy of Zoology* (1809), gave proofs of evolution in the animal and vegetable kingdoms and thereby opposed the widespread metaphysical conceptions of his time.

* N. G. Chernyshevsky, *Selected Philosophical Essays*, Moscow 1953.

Lamarck maintained that all modern organisms derived from ancient forms by means of evolution. He believed it possible that in the course of time man himself could have descended from some kind of ape. The ancient anthropoid ape had been forced to abandon his arboreal life when the forests grew thinner and take to ground life on two legs. His upright gait wrought changes in his spine, muscles, feet, hands, jaws, teeth and brain. Social life soon led to the development of articulate speech. Lamarck expressed many correct ideas in his theory of a possible way for man to have developed naturally.

Engels, it will be remembered, had a very high opinion of Lamarck's work on evolution. In his criticism of idealistic conceptions of the development of nature, he wrote: "This absurdity of a development in space, but outside of time—the fundamental condition of all development—Hegel imposes upon nature just at the very time when geology, embryology, the physiology of plants and animals, and organic chemistry were being built up, and when everywhere on the basis of these new sciences brilliant foreshadowings of the later theory of evolution were appearing (for instance, Goethe and Lamarck)."*

And Lamarck really did propound, in addition to his conception of the mutability and perfection of organisms, the principle that the organism is affected by its environment and by training, as well as the thesis that individually acquired peculiarities are transmitted by heredity. At that time there was still insufficient proof available of the evolution of organisms in nature and of the natural origin of man. Lamarck did not touch on other important developmental factors so that his evolutionary theory was one-sided and could not overcome the old theory of the immutability of species.

Other evolutionists of Lamarck's time such as Etienne Geoffroy Saint-Hilaire (1772-1844) also lacked sufficient data to support the theory of evolution. Georges Cuvier (1769-1832) was the most important of those who supported the theory of the immutability of species since the creation of the world; despite this, he was one of the greatest French naturalists and palaeontologists and he also worked on comparative anatomy. The evolutionists suffered a defeat in the dispute, held in the Paris Academy of Sciences in 1830 between Cuvier and Saint-Hilaire on the question of a single type of structure in vertebrates and invertebrates (Amlinsky, 1955).

Within half a century of the publication of Lamarck's *Philosophy of Zoology* great advances were made in man's knowledge of nature. The works of Charles Lyell marked great progress in geology in particular and there was a clearer understanding of changes taking place in the strata of the Earth's crust and of the fossil animals and plants it contains.

* F. Engels, *Ludwig Feuerbach and the End of Classical German Philosophy*. See K. Marx and F. Engels. *Selected Works*, Two-Vol. ed., Vol. II, Moscow 1958, p. 374.

The idea of evolution in man's environment became more frequently the subject of scientific thought. At last there appeared a great naturalist who was able to connect the tremendous accumulation of facts into a single whole on the basis of the laws of development in the organic and inorganic worlds. This was Charles Darwin whose writings are today amongst those of the greatest scientists of all times.

2. DARWIN ON THE EVOLUTION OF THE ANIMAL KINGDOM

Charles Darwin was born in 1809 in the town of Shrewsbury in England. In his youth he made a five-year voyage round the world as naturalist on board the *Beagle* and gathered an enormous amount of material on zoology, botany, palaeontology and geology that gave him the idea of the mutability of species and, in general, made a great impression on his receptive mind. On his return to England Darwin settled in the village of Down, not far from London, where he wrote his books. He died in 1882.

Darwin's great contribution to science was his establishment of the principle of artificial selection by means of which changes in the breeds of animals and plants are mainly effected by man. But still more important was Darwin's discovery of the natural selection that transforms species of animals and plants in nature and is closely bound up with mutation and heredity.

We must also mention that in later editions of his book *On the Origin of Species by Means of Natural Selection* he wrote that modifications acquired and constantly employed during many centuries for some useful purpose would most probably become stable and might be transmitted by heredity.

Engels did not attach such paramount importance to natural selection as Darwin did, but he stressed the importance of the influence of environment, mutation and heredity. Engels wrote that "... from the simple cell onwards the theory of evolution demonstrates how each advance up to the most complicated plant on the one side, and up to man on the other, is effected by the continual conflict between heredity and adaptation."*

Darwin's theory of evolution delivered a severe blow to the conception of the immutability of species that had been dominant before him. Darwinism was a theory that revolutionized all biology, and the idea of evolution began to enter with greater force into various branches of natural history and find its confirmation. Darwin's contemporaries likened his theory to a bomb thrown by the great scientist into the camp of the clericals.

In the following words D. I. Pisarev (1840-1868) describes the impression created on contemporaries by the theory of natural selection:

* F. Engels, *Dialectics of Nature*, Moscow 1954, p. 280.

"In nearly all branches of natural science Darwin's ideas bring about a complete revolution: botany, zoology, anthropology, palaeontology, comparative anatomy and physiology and even experimental psychology find in his discoveries the guiding principle that will link up the numerous observations already made and put investigators on the way to new fruitful discoveries."*

Pisarev especially welcomed the application of the theory of evolution to man since he was convinced that "... the greatest number of errors, both theoretical and practical, should concern man as the most complex, the least known and at the same time the most interesting object in nature."**

Marx and Engels put a high value on Darwin's theory because it dealt a death blow to teleology and shattered the metaphysical theory of the purposefulness of living nature. "In this field teleology was still not crushed but now it has been," Engels wrote to Marx in 1859. Two years later Marx wrote to Lassalle on the same subject: "Darwin's book is very important and serves me as a natural-scientific basis for the class struggle in history."***

At the same time the founders of Marxism noted some significant shortcomings in Darwin's theory, especially his uncritical application of social laws to biology and, on the contrary, his biological approach to social phenomena. Darwin, for example, was uncritical in his attitude to the reactionary teachings of the English clergyman and economist Thomas Malthus, according to whom the human race tends to increase faster than the food supply which must inevitably lead to "a struggle of all against all," that is, to "competition within the species": under cover of the "struggle for existence" Malthus tried to take the sharp edge off the class struggle of the exploiters against the working population. Darwin succumbed to this theory and gave excessive importance to the intraspecies struggle and to competition in nature.

Soviet biologists have raised Darwinism to a higher level on the sound basis of the method of dialectical materialism, have shown the weakness of this side of Darwin's theory and have developed the conception of the interspecies struggle of organisms.

The confusion of biological and social categories was due to the bourgeois narrow-mindedness of Darwin himself. For this reason, also, Darwin was unable to provide a full solution to the problem of the origin of man. This was done later by Marx and Engels on the basis of dialectical materialism. The reactionary section of the bourgeoisie was extremely hostile to Darwin's theory of the evolution of the organic world. All the more hateful to them were his views on anthropogenesis

* Dmitry Pisarev, *Selected Philosophical, Social and Political Essays*, Moscow 1958, p. 304.

** *Ibid.*, p. 235.

*** Marx-Engels, *Selected Correspondence*, Moscow 1955, No. 52, p. 151.

since they dealt with man himself. Seeing, however, that Darwin's theory was built up on a sound foundation many reactionaries began to raise the level of the struggle for existence to the status of the chief law in nature and in human society.

At that time one of Darwin's most brilliant successors, Ernst Haeckel (1834-1918), played an important, positive part in spreading Darwinism in Germany and other countries. He developed the idea of man's relationship to the animal kingdom. Haeckel, however, carried the struggle for existence in nature into human society and thus facilitated the development of the so-called "social-Darwinism." The "scientific" concept of the social-Darwinists is that the exploiting classes are "biologically superior" and the working classes "inferior," in consequence of which the latter should be subordinated to the former.

From the viewpoint of the social-Darwinists the winning side is the more perfect. By treating social phenomena biologically the social-Darwinists tried to hide the real state of affairs and use Darwin's theory to strengthen the position of capitalism.

Darwin himself regarded natural selection as an evolutionary factor only in the early stages of man's formative period. As far as modern man is concerned Darwin admitted selection in a secondary form and on a very small scale.

K. A. Timiryazev, the great Russian biologist, said the following about social-Darwinism: "In part ... zealous thoughtless champions of Darwin's ideas, and to a greater extent his unconscionable or ignorant opponents hurried to ascribe to him the idea that the struggle for existence, as understood in its crudest, animal form, should be recognized as the guiding law and should direct human history, completely ignoring the conscious influence, the conscious reflex, of mankind on its future. ... Would he, whose every word breathes humanism, have preached the ideals of a cannibal?"

Many progressive Russian scholars, contemporaries of Darwin, carried out independent research in the field of evolution. Darwin showed great esteem for the work of the brothers Alexander and Vladimir Kovalevsky (1840-1901 and 1842-1883), embryologist and palaeontologist. The principles established by Vladimir Kovalevsky had and still have great importance for the understanding of the evolution of mammals, including fossil apes: he laid the foundations of evolutionary palaeontology and was one of the most brilliant representatives of Russian materialist biology in the latter half of the nineteenth century—the first period in which Darwinism flourished.

Darwin's works are profoundly materialist. His theory of the natural origin of man from the animal world is a powerful weapon in the struggle against religion.

Of great importance in this respect is his *Descent of Man and Selection in Relation to Sex* in which he mustered the more important proofs of man's descent from the animal kingdom.