

LE BULLETIN DE LA BIPEDIE INITIALE

***Editée par le Centre d'Etude et de Recherche sur la
Bipédie Initiale :***

BIPEDIA

A Review from the STUDY and RESEARCH CENTER for INITIAL BIPEDALISM

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BIPEDIA N° 1

(septembre 1988)

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INITIAL BIPEDALISM : AN INQUIRY INTO ZOOLOGICAL EVIDENCE

by François de SARRE

ABSTRACTS : *The explanation of man's special nature is to be sought in the original combination formed by a primordial brain, the globular form of the skull and initial bipedalism.*

The ape, when compared with man, appears to be rather a vestige of man's ancestral line than his predecessor, according to the views of Max Westenhöfer, Serge Frechkop, Klaas de Snoo and Bernard Heuvelmans.

The study of the human morphology allows logically to carry the problem of man's origins back to a very early stage of the evolution, and not to which has been reached by apes.

From chromosomal and DNA comparison in the cells of living apes and people, several researches argue today that humans are genetically more like the common ancestor than are either Chimpanzees or another apes.

The array of facts and considerations should be sufficient for an unbiased mind to discount away any idea of simian antecedents in man's ascent.

INTRODUCTION

The theory of ***initial bipedalism***, when the ancestral lineages leading to modern man are concerned, allows us to disregard all the different types of hominin fossils which were previously accepted as the links binding the *Homo sapiens* to his presumed simian ancestors.

These hominin fossils include various species, such as *Australopithecus afarensis*, *A. africanus*, *A. robustus*, *A. boisei*, *Homo habilis* and the Pithecanthropus (these are usually classified under the title of *Homo erectus*). We should consider them rather as forms which evolved from ***our*** direct ancestry and ***changed*** physically in different ways according to their different needs. This accounts for the fact that they were able to survive in remote parts of the globe, ***until the present time***.

Bernard Heuvelmans, the founder of ***Cryptozoology*** (or science of the ***hidden animals***) is the world specialist of the problem of relic hominids. In his famous book "*L'Homme de Néanderthal est toujours vivant*" (Plon, 1974), where he speaks about the discovery of a Neanderthal creature originating probably from Viet-Nam, Bernard Heuvelmans picks up the thread of his master Serge Frechkop and brings the theory of ***initial bipedalism*** into line with recent discoveries of modern science by introducing the dual idea of 2 antagonistic tendencies in the evolution of Mammals : ***cerebralisation*** on one part, and ***dehumanization*** on the other hand. The second factor contributes to the slowing down and to the restriction of the free development of the first one.

I would like to express here my gratitude to Bernard Heuvelmans and thank him for providing me with information on initial bipedalism, and for his correspondence and bringing certain literature to my attention.

If man has remained more or less morphologically and anatomically the same through out the course of geologic ages, this may be due to **cerebralisation**, which is centered in the brain and acts on a cellular level, hence its implication as regards behaviour and mind, whereas the principal evolutive current of **dehumanization** (which also affects *Homo sapiens*), tends to reduce the human skull and change the shape of the face.

Different groups of Hominoids have followed their own evolution progressing parallel to man's progression and at the same time **branching out**.

Further, the different forms of superior animals have come about as a result of a **more** (anatomically) advanced evolution **than man has followed**.

In every day life, there are indeed numerous occasions for us to confirm the soundness of the theory of **initial bipedalism** principally by watching the various familiar animals and pets that we come up against. **These animals are quadruped by adaptation**, they originally belong to our bipedal line of ascent !

In the remain of this *exposé* we will examen proofs which the author has brought together and which he considers as most significant. The list provided however is far from being complete.

My demonstration is based on 3 main points :

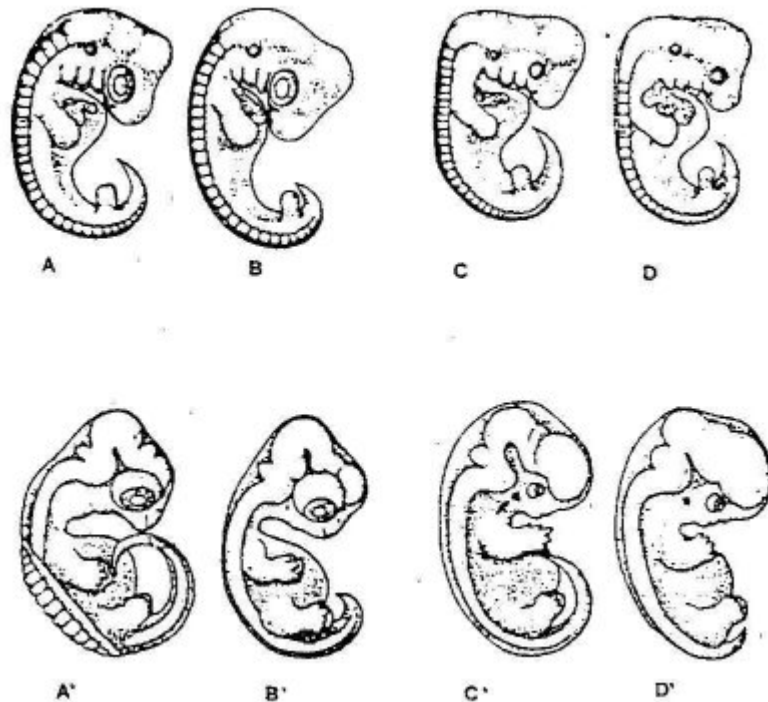
- the facts of **embryogenesis** (vertebrate embryos represent ancient stages in evolution),
- **comparative anatomy** (with detailed studies of the skull, the hand and the foot),
- **phylogenesis** (the history of the evolution of the species).

The reader should keep in mind that the *exposé* which follows do not constitute in itself a treatise of comparative anatomy of the Vertebrates, but an essay on the morphogenesis of man. All that the author demands is that his thesis be accorded the same credibility as is usually given to other theories, for example that of the simian origins of man which is for the moment surely the most well-known.

THE FACTS OF EMBRYOGENESIS

When we compare the early embryonic stages of different mammals (even of the other vertebrates !), we are amazed to find **how much they resemble one another**. The German zoologist Ernst Haeckel produced in 1868 a famous

illustration of the different embryonic stages of a series of different vertebrates - man, dog, bird and tortoise - side by side.



Embryonic stages of man, dog, bird and tortoise
(after E. Haeckel, 1868)

As a matter of fact, the younger these stages are the greater the resemblance. As professor Max Westenhöfer remarked :
Their rounded heads are extremely large compared with their bodies ; the snout barely emerges from under the cerebral capsule (1) .

According to the Dutch biologist Louis Bolk (2), their growing teeth are set ***vertically***.

As Bernard Heuvelmans explained (3), this last point is of the utmost importance because the fact that the growing teeth are set vertically in the jaws (*unquestionably a primitive feature in vertebrates*) is a phenomenon which only occurs in ***adulthood*** for humans.

During the growth of other mammals the teeth become inclined. In the case of the apes this phenomenon occurs after a certain time, first they must lose their milk-teeth : the final set of teeth cause a ***lengthening of the snout***... This is why an adult ape has a "dog profil" whereas the face of young specimens ***remains*** very human-like !

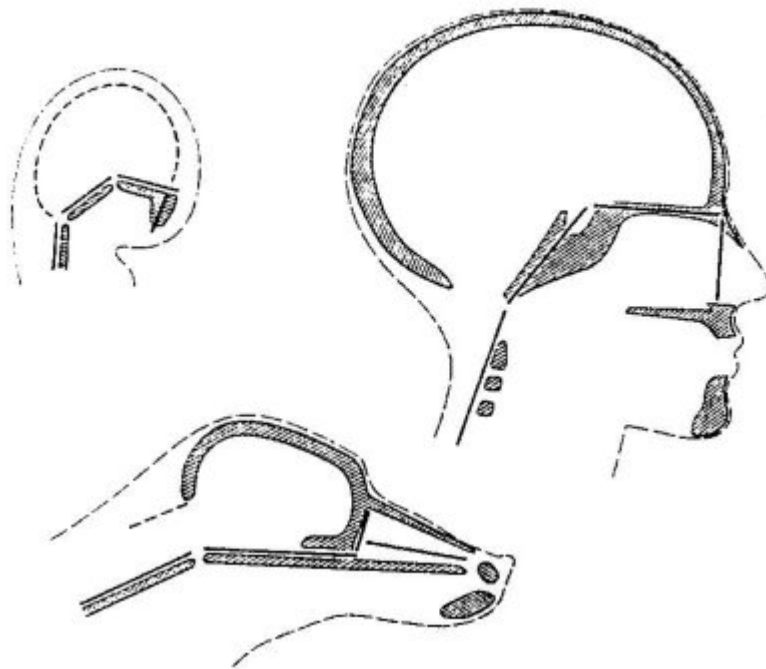
In 1853, the German anatomist Ludwig Fick expressed the idea that the skulls of the Mammals, in their early stages, provide evidence which suggests they are capable of a higher organization than they ever actually achieve when they fully

mature... It would seem that at a certain point in their embryogenesis **they carried on developing after the point where the human embryo was complete !**

In short we must logically start any study of **man's** morphogenesis **at the very beginning** of the vertebrate evolution, and not, as maintained by mainstream Zoology, starting with specialized mammals such as Insectivores or tree-living ones.

We must bear in mind that the cerebral hemispheres of the human brain proceed from embryonic vesicles which twist round backwards and upwards. This rotation causes the occipital hole (*foramen magnum*) in the skull to be placed at a lower level.

It can be argued that it is on account of the pressingback of the *foramen magnum* under the skull that **man has to stand erect**. Indeed, it is this low position of the occipital hole which determines where the spinal column begins **and the way the head is held**. And this brings about man's upright position.



Bending of the skull basis
(after L. Bolk, 1926)

In other words, if this bend of the anterior part of the spinal column is the same in all mammal embryos, which is precisely the case, **we must refer to an original initial bipedalism** for all representatives of this Class !

It is worth noting that the **globular** form of the embryonic state of the brain controls the **flexion** forwards of the anterior part of the *chorda dorsalis*. We must not forget that from an ontogenic point of view **the brain precedes the skull**.

Thus as far as the four-legged mammals are concerned, the base of the skull will form a sort of **horizontal deck** in relation to the axis of their own bodies and the horizontal plane of the ground on which the animal is moving. In consequence the position of the *foramen magnum* at the back of the skull is raised, otherwise the animal would not be able to see where he was going !

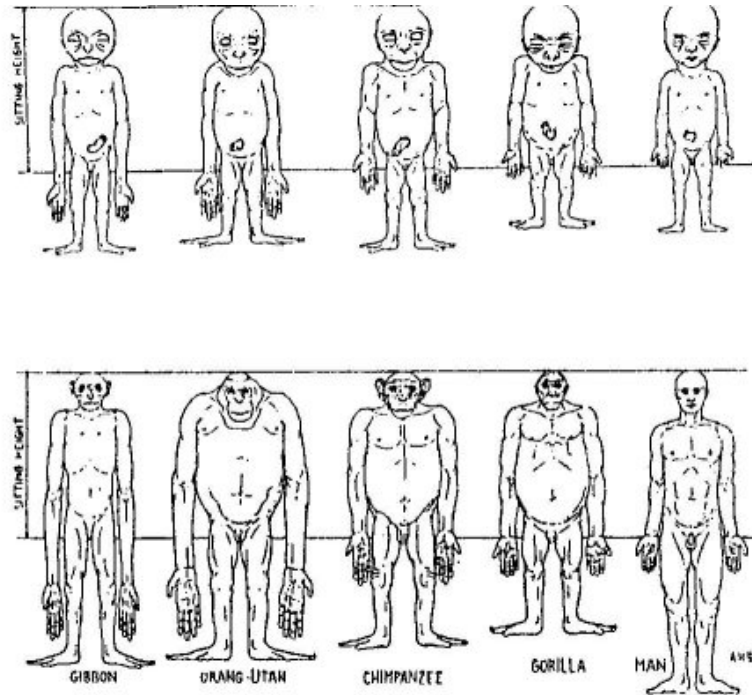
This feature is evidently a side issue : thus quadrupedal mammals **derived from bipedal ancestors** and started evolving from them, as their ontogenesis clearly shows us.

GROWTH AND INITIAL BIPEDALISM

Before beginning a detailed study of the human body, its organs and anatomical particularities in the light of the **initial bipedalism** theory it would be wise to re-examine certain facts concerning the growth of man and other primates, paying special attention to the work of Adolph M. Schultz.

In 1926 this American primatologist made some very interesting discoveries in this field. They concern the different relations between head, trunk and members during the growth of man and several apes, from the foetus stage right through until maturity.

The changes in body proportion are clearly illustrated in the diagram below. Professor Max Westenhöfer claimed that if we don't hold any pre-formed opinion, this diagram is sufficient proof to make us abandon all ideas of a simian ancestry to man.



Changes in body proportions during the growth of gibbon, orang, chimpanzee, gorilla and man.

above : foetus stage

below : adult

(after A. Schultz, 1926)

It seems clear throughout this *exposé* that in the case of the apes the development of their fore extremities occurred as a result of a specialization to life in the trees, whereas in man the connection with his *initial* proportion has remained much the same.

At the early stages of their foetal life, man and apes show a striking likeness. They both have proportionnately huge heads, short limbs with hands and feet resembling paddles.

COMPARATIVE ANATOMY

The purpose of this science is to compare a same organ or a same anatomical fitness among a series of forms belonging to one *phylum*, either in the aim of classification, or with the view to determine the probable evolution of this anatomical type throughout the history of the species under observation.

We shall make a further study of the skull and the brain, we shall consider the teeth and the pharynx and look again at the problem of man's hands and feet. Our conclusions will not be the same as those of the classical evolution theory which tends, against all evidence, that the human form is derived from a stage of a tree-living quadrupedal simian.

SKULL AND BRAIN

From an embryological point of view ***the brain comes before the skull***. That is what makes it is very unlikely that the "big head" of the *Homo sapiens* is a result of the swelling process of an australopithecian brain !

The latter has a receding chin and a reduced back-skull and also super-structures of bones such as the *supra-orbital torus* and the median crest - features which have been developed for a specific need. It seems highly improbable that man went from such a skull structure !
Nevertheless mainstream anthropologists still persist in their beliefs which are now more than a hundred years old.

Even more important is the fact that the base of the australopithecian skull is ***flat***, whereas man's one, as we have seen above, is ***curved***. We will go into this point in more detail later when we come to discuss the pharynx and articulate language.

I developed at great length in my preceding articles (4) the theory that man's large and globular brain existed ***very early on*** and this fact represented the final evolution of a marine animalcule's ***floating and sustenance*** organ.

Between this ectodermal bag on the top of the body and the outer skin a strengthening mesodermal membrane developed. ***And it was this which shaped the form of the brain-pan and the whole skull.***

We have seen that the embryonic *chorda dorsalis* advanced into the osseous base of the skull, and induced the primitive bending and the lower position of the *foramen magnum*.

PHARYNX

But man is not determined by merely a big brain and bipedal habits. Articulate language is also needed to express human thinking. We shall see that the two questions are closely linked.

Ancient theories on the origin of the spoken language are often exclusively based on the development of the central nervous system, without giving any consideration to the need for a sufficient bucca-phonetic apparatus. On the endocranial casts of fossil *Homo* many discoveries have been made of the small protuberance on the cortex which is clear proof of a functional Broca's area. This forms man's motorial language zone and synchronizes the actions of the muscles concerned.

This is an embarrassing discovery, indeed, because anthropologists are now of one mind in stating that even *Homo erectus*, whose larynx was set at the level of the 4th cervical vertebra, was not capable of using a real articulate language. And yet, on the castings, the Broca's area is well developed and clearly visible.

Doesn't this provide us with sufficient proof that the hominins of the type *H. erectus* or *H. habilis* descend from an original lineage *Homo spec.* ?

This latter possessed a large brain ; likewise he had a round skull, a perfect bipedal stride and a vocal apparatus that allowed him to use an articulate form of language !

In the apes' encephalon there is **also** a language area which shows the same histological structure as ours ; however, they don't make use of it... Indeed, why is it that apes and different hominins are not able to speak despite the fact that the language areas in their brains **have remained** well developed ? We will be helped in this matter by the research work of Jeffroy T. Laitman (**5**). He made a specialized study of the larynx which by its "high" or "low" position determines the volume and properties of the pharynx.

When there is only a small pharyngeal space, as it is the case among apes, the sounds that are produced by the vocal chords in the larynx cannot be greatly modulated. What then determines the high or low position of the larynx ? Purely and simply the degree to which the base of the skull can be tilted... Once again we come across this very important anatomical feature.

Indeed if the angle formed by the base of the skull tends to become flat, as we find in non- *sapiens* hominins - as a result of their reduced brain-pan and the prominence of their face - it is obvious that the larynx in accordance with this movement is situated in a higher position (for instance opposite the 3 first cervical vertebrae). By contrast in adult man we find the larynx at the level of the 6th or 7th cervical vertebra. Hence man is able to form articulate language because he employs the pharynx to its full capacity with complete co-ordination of the movements of the tongue, the glottis, the jaws and the lips.

TEETH

In comparison with the teeth of other mammals, the regular disposition of human teeth, vertically planted in **semi-circular** jaws, is particularly striking.

If we believe all the usual theories on primate evolution, they would have us believe that man developed from Insectivores with longitudinal and almost parallel rows of incisors, we should then admit that the individual evolution of Mammals is no longer connected with ontogenetic development, **but contradicts all these facts !**

When we look at all these jaws we may well wonder firstly how an animal snout has grown shorter to form a human face, and secondly how such a harmonious arrangement of the human teeth in a half-circle could possibly have developed monkey-like man's antecedents ?

To understand this we have to take into account the concept that ***the mammal skull was round in form from the very beginning !*** This is closely linked to bipedalism and upright standing : ***thus such a shape could only develop naturally at the top of a spinal column that was completely upright*** - just like the flower at the top of its stem.

As Dr. Bernard Heuvelmans wrote to me some years ago, it follows on from this idea of the roundness of the skull that as far the dental arch is concerned ***the must primitive shape is the circle*** and not the V shape that we find in Insectivores and other quadrupedal Mammals ! The development of the teeth occurred later on in relation to ***this*** dental arch in a shape of a ***semi-circle***. In the beginning all the teeth must have been similar and no doubt ***hemispheric***. Then they became more square (*molars*), more spatulate (*incisors*) or more sharp pointed (*canines*).

So we can see that the animal head is a deformation of a primitive type of ***human*** head, with the appearance of very differently shaped teeth in the jaws in accordance with the different alimentary specializations and also the further evolution of the skull. For more information on this subject the interested reader can refer to the works of Serge Frechkop on the evolution of the dentition of the Primates (**6**).

THE HAND

People have always praised the human hand as a marvelous development of Nature while considering it as having been formed, evolutionally speaking, from an animal extremity - paw or claw, etc... Was this really so ?

Man's thumb is well developed, relatively long and in opposition with the other fingers. This is an essential factor because it permits the hand to perform fine and delicate movements.

The thumb of non-human primates is short, often emaciated or missing entirely, for the hand serves as a "sustenance hook" with the other four fingers curved inside towards the palm.

In other quadrupedal mammals, the hand is used more and more as a new support for locomotion. As Serge Frechkop brought to our attention the use of the hand as a support organ seems to be ***more recent*** than the analogous use of the foot : in the case of ungulates (hoofed animals), for instance, the loss of marginal toes in the course of evolution ***precedes the loss of marginal fingers*** (**7**).

The structure of the human hand serves as a starting point to several series of transformations. One series led to the anterior extremities of the diverse quadrupedal mammals, other series led to the wings of bats or the pectoral fin of cetaceans...

Only man's hand preserves all the proportions of the primitive anatomical form, **derived from the natatory paddle** of the marine animalcule which is at the origin of the whole *phylum* of the Vertebrates ! This creature had five fingers too with the median also the longest, when it once settled on land. **This is of course logical for the anterior extremity of a creature that has been a biped since the beginning and whose hand has never been burdened with any locomotion function !**

Before ending this study on the hand let us look at the case of "Lucy". The skeleton of this female Australopithecian has provided the subject matter for many reports. It reveals human- like fingers. According to her discoverer, Donald Johanson, the muscles situated at the base of the thumb were rather small (8). This signifies that "Lucy" in spite of her facies of a circus chimpanzee, was able to seize very tiny objects between thumb and forefinger, with extreme accuracy. On the contrary, she was less adept of grasping them by sheer force : an attribute we might surely have expected of her. The good condition of the fossil authenticates this astonishing fact, when considering Australopithecians are half-way between apes and man, in evolution "towards the latter" !

This all becomes marvellously clear if we examine it under the light of the **initial bipedalism** theory : Australopithecians are rather "pre-pongids", and have evolved to a stage of development linking with actual apes.

THE FOOT

It is a typical human feature, and man is the only full bipedal plantigrade repertoried by Zoology. This is what makes our lower extremity so original. The French prehistorian André Leroi-Gourhan said : "Humanization began with the foot".

Indeed there are other plantigrade mammals : such as bears, but they are not habitual bipeds, and there are bipeds like birds which are not plantigrade...

Other bipedal and plantigrade Hominids **may still** exist, but they are unknown to official science. At any rate they existed in the past (*Pithecanthropos*, *Neanderthals*).

The classical problem is to decide whether the human foot is a posterior ape's hand which has been transformed and adapted to a permanently erect position, or whether it is a primitive stage in the Primates' evolution, in this case the inferior

extremity of apes and monkeys would be a human foot which has been adapted to prehension and to life in high trees.

First of all, we have to admit, in spite of the opinions of many anthropologists, that the human foot which is a complex locomotion organ appears really much too specialized to have derived in the interval of a few million years from the prehensile foot of a tree living ape, similar to that of the anthropoids of the present time.

On the other side we must remember that although the foot of non-human primates is prehensile like a hand, it is so to a lesser degree; for example the mountain gorilla has one big toe that weakly diverges from other toes. Everything leads us to believe that the prehensile simian foot is phylogenetically **more recent** than man's foot !

In the early stages of Mammal's embryogenesis, the foot looks like a hand, or **rather like the natatory paddle of the marine animalcule** from which we all descend.

This surely has nothing to do with the lower "hand" of a tree-living ape or monkey. The main morphological features of man's foot still exist in the foetus, **and are therefore of ancient acquisition.**

Working from the likeness between apes and man most of the modern naturalists were led to the assumption that, in the course of evolution that gave birth to the human species, there was a stage of simian anthropoid preceding the definitive stadium. An objective study of man's foot makes nonsense of such an assertion.

The posterior extremity of tree-living primates (starting from the plantigrade foot of the human type) evolved towards a structure where the big toe was separated from the other toes, then towards a form more adapted for holding things, with an opposable big toe which had also become smaller.

As Serge Frechkop (9) remarked the position of the big toe opposite the other toes entailed its own disappearance ! On the contrary the big toe in man's foot got **bigger**, obviously as a result of the bipedal walk, **and this ever since the origin of our lineage.**

What are we to think of the australopithecian's foot ?

Much was made of the fact that "Lucy" walked on her two hind legs, in spite of the fact that her brain was hardly bigger than that of chimpanzee's (about 500 cm³, a third the size of ours). Lucy was also supposed to have been an excellent tree-climber. The recent discovery by Donald Johanson of a "*Homo habilis*" with long arms (10) comes at an opportune moment. We can hope that this discovery will at last put an end to this curious hypothesis of anthropological research that considers *Australopithecus* or "*Homo habilis*" as direct ancestors of today man...

PHYLOGENY

The groups of animals known by science are usually considered by evolutionists to be descended from more simple forms. Man, in the role of his own classifier, has set himself at the summit of the hierarchy. The animals closest to him morphologically speaking appear as the different stages through which humans "passed" to reach their present stage. This accounts for the fact that the majority of actual scientists, contrary to all proven evidence, believe that man developed from a big anthropoid of the Miocene forests. Fable and hoax start from the moment when they have to explain how such an ape could have straightened its hind legs, how it acquired a large brain and a skull shaped consequently.

I will not return for the moment to the whole of my theory on the evolution of the Vertebrates (*archepagoge*-type, as the earliest water dwelling pre-hominid, then *phytophore*-type as the first land living Vertebrate, from which all others involved), apart from a particular point concerning the *early* development in man and other vertebrates *of a nervous system* in comparison to the brain, or rather the early development of a *peripheral* nervous system (nerves and spinal chord) **before** that of the central nervous system (brain and other connections).

Man's globular brain, which in fact caused the shape of the human skull, is a recent organ in phylogeny (all this is relative because we are talking of "classical" 500 hundred million years ago !), an organ which developed from the sustentation float of a marine animalcule. If we accept this theory we must assume that the creature in question already had a functional nervous system **before** the development of what eventually became its brain, in the upper part of the body.

The theory which I propose logically shows that it is man who has remained morphologically and anatomically *the nearest* in relation to *the original type of vertebrate* from which all others descend.

And so it is in the human form that we will find the best "clues" to an *ancient* nervous system - a system which is no doubt still functioning but not implicitly connected to the brain, *rather to the spinal chord* and other different points in our bodies !

This brought me to think of the *meridian lines*, as described in acupuncture.

Embryologically the skin develops from ectodermal cells during the *gastrula* stadium. The brain is formed in the same way, in the course of ontological development. In the skin, we find many nerve ends which all link back to the hind part of the spinal chord. As a matter of fact, *histologically* speaking there are 2 sorts of nervous fibres in the skin :

- first those that are very small and very prolific, they intercept all our sensations and reflect them in the direction of the brain, *via* the spinal chord ;

- then there are other nervous fibres which are bigger but not so numerous, these come to an end ***within the spinal chord***.

In case of intensive stimulation or direct action by acupuncture these nervous fibres can block the path of the normal nervous impulse which is conveyed by the smaller fibres. This phenomenon is easy to see in the case of too strong a physical pain.

It would seem as though these big fibres and the acupuncture meridians (the courses of which we still have not yet been able to establish by histological cuttings) represent ***all that remains of a former nervous system*** belonging to the acephalic pre-Vertebrate : a nervous system which ***preceded the brain*** !

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LES GRANDS NOMS DE LA THEORIE DE LA BIPEDIE INITIALE

Max WESTENHÖFER

(au centre, en blouse
de chirurgien)



Photo prise en 1902
ou 1903 lors de la
prise de fonction de
Johannes Orth,
successeur de
Rudolf Virchow à
l'Université de Berlin.
Je remercie ici le
Dr. Peter Krietzsch,
Conservateur à
l'Institut de Pathologie
de Berlin (Rudolf-
Virchow-Haus) et le
Dr. D. Wagner de
l'Institut de l'Histoire
de la Médecine,
Humbold-Universität à
Berlin, de m'avoir fait
parvenir ce cliché.



Serge FRECHKOP

(dans son
laboratoire de
l'Institut Royal
des Sciences
Naturelles de
Belgique, à
Bruxelles)

Photo de B.
Heuvelmans,
reproduite avec
l'autorisation de
ce dernier.



Klaas de SNOO

(à l'âge de 70 ans)

Reproduite avec
l'autorisation du
professeur
G.K. Kloosterman,
son élève, qui m'a fait
gracieusement
parvenir ce cliché.



Bernard HEUVELMANS

Cliché confié par
lui-même, avec
mes plus vifs
remerciements.

CONSIDERATIONS PRELIMINAIRES SUR LA STRUCTURE PHYLETIQUE DU GENRE HUMAIN EN REFERENCE A UN BIPEDISME INITIAL

par François de SARRE

L'Homme révèle, dans son organisation, les traces d'une bien longue histoire. Il a su conserver dans sa structure anatomique de nombreuses caractéristiques d'un âge ancien du monde, quand aucune des formes d'Animaux supérieurs que nous connaissons n'existait encore de par les continents et les océans.

A la suite de Charles Darwin, T. Huxley et E. Haeckel, les chercheurs contemporains sont souvent enclins à représenter le passé évolutif de l'homme moderne (*Homo sapiens*) par une série de formes intermédiaires allant de quadrupèdes "primitifs" aux hominiens bipèdes sub-récents, en passant par le stade des simiens arboricoles.

C'est nier de toute évidence le **primitivisme structural** inhérent à la morphologie humaine.

D'autre part, on ne saurait passer sous silence le fait qu'il est pour le moins malaisé de faire procéder l'Homme de formes aussi spécialisées que sont les Singes, même si la collecte actuelle de fossiles **semble** abonder de preuves allant dans ce sens ! Le grand zoologiste français Pierre-Paul Grassé écrivait dans *L'Homme en accusation* (Albin Michel, Paris, 1980) : "On a soutenu que le rameau humain s'est détaché d'une forme simienne archaïque. De cela nous ne sommes point assurés car les Primates les plus anciennement connus portent déjà la marque d'une spécialisation arboricole, qu'on ne retrouve dans l'anatomie ni de l'Homme, ni de l'Australopithèque".

Il y aurait beaucoup à dire de *Propliopithecus*, *Proconsul*, *Dryopithecus* ou *Ramapithecus*, qui présentent tous d'indiscutables traits **humains**, en plus des caractères qu'ils ont acquis **postérieurement** au sein de leurs lignées respectives. Quant à *Oreopithecus bambolii* qui, voici 10 millions d'années, menait dans les forêts de Toscane une vie semblable à celle de nos Gibbons actuels, il était si riche en caractères humains **reliques** que le Dr. J. Hürzeler était prêt à le considérer comme un **Hominidé** : fort raccourcissement de la face, prémolaires molarisées comme chez l'Homme, **bassin large et court** pas du tout de type simien. Le problème était qu'*Oreopithecus* avait des bras immenses de brachiateur et des jambes courtes... Cette structure **composite** (en fait, un véritable paradoxe phylétique dans la perspective d'une ascendance simienne de l'Homme !) s'explique merveilleusement **si l'on se réfère à un bipédisme initial !**

Cela n'est pas sans rappeler le cas de l'*Homo habilis* OH 62 de Donald Johanson, découvert en juillet 1986 à Olduvai... Les Australopithèques, ainsi que certaines formes à l'apparence voisine, représentent bien des lignées **qui divergent de la souche humaine** en évoluant vers un stade de singe anthropomorphe.

Ce qui ne veut pas dire que les Gorilles et Chimpanzés actuels descendent de l'*Australopithecus afarensis*, par exemple. Ce serait tomber dans l'excès des paléontologues qui, sur la foi d'une simple convergence de forme, assignaient jadis *Proconsul major* comme l'ancêtre du Gorille, et *Proconsul africanus* comme celui du Chimpanzé...

Tout au long de mes études de Zoologie, dans les années soixante, j'ai souvent entendu la fable du singe qui se met debout sur ses pattes de derrière "pour mieux épier ses ennemis et ses proies potentielles par dessus les hautes herbes de la savane"... Le tout n'était pas de rester debout, mais d'acquérir une démarche bipède **permanente** !

Je ne connaissais pas encore Bernard Heuvelmans (sinon par ses premiers livres de 1955 sur les **Animaux ignorés** qui avaient décidé de ma vocation de naturaliste), ni les travaux des grands promoteurs de la théorie de la **bipédie initiale** : Max Westenhöfer, Serge Frechkop et Klaas de Snoo, mais je pensais qu'on sous-estimait largement le problème mécanique et **psychomoteur** d'un bipédisme parfait !

Les australopithèques, du fait de la réduction de leur boîte crânienne, et du faible volume de leur cerveau, m'apparaissaient comme des formes ayant conservé une bipédie "résiduelle", comme à un degré moindre les singes anthropomorphes...

Les observations de l'éthologue hollandais Adriaan Kortlandt [*Protohominid Behaviour in Primates*, Symp.Zool.Soc., London, 10 : 61-88, 1963] étaient explicites : "Les singes anthropomorphes descendent d'ancêtres plus humains qui hantaient la savane. Les chimpanzés se déshominisèrent en s'enfonçant dans la forêt ". Ces observations montraient la réalité du phénomène de **déshominisation**, sur lequel Bernard Heuvelmans allait s'étendre, quand il écrit de façon significative dans son fameux livre *L'Homme de Néanderthal est toujours vivant* (Plon, 1974) :

<< Le front devient plus fuyant, les mâchoires se développent, l'appareil masticateur plus puissant entraîne une amplification des crêtes osseuses du crâne auxquelles s'accrochent les muscles intéressés. La silhouette toute entière peut même se modifier: la tête s'enfonce dans les épaules, l'attitude devient de plus en plus penchée vers l'avant, elle tend vers l'horizontalité de la locomotion quadrupède. Tous les êtres atteints de déshominisation, non seulement cessent d'agir comme des Hommes, mais ils ressemblent de plus en plus à l'image qu'on se fait de la Bête >>.

Considérons maintenant le genre *Homo* des systématiciens. Anatomiquement, l'Homme actuel, dit *sapiens*, est pour le zoologiste le seul représentant vivant (répertorié !) de la famille des **Hominidés**. Il se caractérise par la station debout parfaite et le volume élevé du cerveau. L'Homme est un Mammifère, et appartient à l'ordre des Primates. Avec les Singes sans queue, il constitue le sous-ordre des Anthropomorphes.

Ce qu'on décrit, sur la base d'évidents critères de parenté, comme un "enracinement de l'Homme dans le monde animal", devrait être plutôt reconsidéré comme **le résultat de filiations successives de Simiens déshominisés à partir de la souche humaine primitive !**

Biologiquement, l'Homme est un être **non-spécialisé** à l'extrême, capable néanmoins de s'adapter à des milieux très divers, non point par des modifications de son corps, mais **en imaginant** différents moyens de remédier à ses insuffisances physiques ; alors que chez l'Animal, l'outil fait partie du corps (museau et griffes du quadrupède, bec de l'oiseau, nageoires du poisson, etc.), chez l'Homme l'outil est **extérieur au corps**.

Mais si par suite d'une baisse de son pouvoir imaginaire l'être humain en vient à utiliser son corps comme outil, il s'engage dans un processus évolutif qui le mène inéluctablement vers **l'animalité**... Comme l'ont suggéré les chercheurs américains E. Trinkaus et F. Smith, la plupart des caractères crâniens et mandibuliens de l'Homme de Néanderthal paraissent être en liaison avec une utilisation intensive de la denture antérieure à des fins non-masticatrices : la bouche devenant une sorte de "troisième main", ce qui ne reste pas sans conséquences sur la morphologie de la face et du crâne. Ainsi, la **déshominisation** va aller en s'accroissant... Des hominiens comme les pithécantropes et certains australopithécoïdes pouvaient bien sûr encore se servir de pierres taillées, tout comme le chimpanzé utilise parfois un bâtonnet pour déterrer des termites.

Phylogénétiquement, la distinction d'une famille des **Hominidés** (et plus précisément d'une sous-famille des **Homininés** avec le genre **Homo**) signifie pour le paléontologue que l'Homme dit moderne est l'ultime maillon d'une lignée de primates dont l'existence s'étend sur une longue durée, ce qui est strictement vrai.

La comparaison avec l'histoire évolutive de certaines formes animales, et une vision restreinte du phénomène, où des organismes élaborés paraissent nécessairement procéder de structures plus simples, ont poussé les naturalistes à affirmer que les éléments successifs menant à l'*Homo sapiens* ont différencié les uns des autres, dans un passé récent, comme le représentent les dessins suggestifs connus de tous [série "montante" de Time- Life].

Or au contraire, tout indique que le **morphotype humain est ancien** [= caractères originels de la sphéricité du crâne, de la marche bipède debout, de

la non-spécialisation anatomique] et **performant** [gros cerveau, comportement social, bipédie fonctionnelle, excellente protection thermique].

Pour en revenir aux Hominidés sub-récents, souvent affublés du nom générique *Homo*, une constatation s'impose : ces êtres, en voie de **déshominisation**, sans renier leur attachement à la souche humaine, n'en évoluaient pas moins vers l'animalité [dépassant le point d'aboutissement de la forme humaine *sapiens*, c'étaient en fait des **ultra**-humains !].

Le genre *Homo*, réservé à l'Homme moderne et aux ancêtres géologiques **dont il procède directement**, doit être redéfini selon les critères suivants : **crâne rond, front haut, menton bien développé, face réduite, langage articulé, position basse du larynx, pensée réfléchie, adaptation fonctionnelle des membres inférieurs à la marche ou à la course en terrain plat.**

L'Homme de "type moderne" est bien plus ancien qu'habituellement admis, et les anthropologues découvrant avec stupeur, comme à Qafzeh en Palestine, des vestiges dont le grand âge les surprend, ne sont pas au bout de leurs peines, ni de leurs émotions ! C'est toute une perception des origines de l'humanité qu'il nous faut revoir à la lumière des **faits** biologiques. A condition bien sûr qu'on veuille aborder le sujet sans idée préconçue ni parti pris.

Les prochains numéros de *BIPEDIA* verront la publication de toute une série d'articles sur l'évolution de l'Homme et la phylogenèse des Vertébrés, se référant à la notion de **bipédisme initial**, dont nous venons rapidement d'évoquer certains aspects.

EMOTIONAL THOUGHT AND THE ORIGIN OF MAN

by Michel RAYNAL

The theory of which François de SARRE comments at greater length in the present issue of *BIPEDIA* is quite revolutionary, as it is the most logical one, yet it is in contradiction with the commonly accepted ideas about human evolution !

The official theory on human origins is based on very rare palaeontological data, and numerous problems risen from other sciences such as comparative anatomy, embryology, genetics, etc., are not known to the specialists in palaeontology, or they are forgotten, or just ruled out as too embarrassing. It should be clear however, for everybody, that evolutionary biology will be understood and explained only through an interdisciplinary research : as fossilization is an highly unlikely process, palaeontological data will be always uncomplete.

Above all, a "free-thinking spirit", without any received idea, is necessary in science, particularly **for the study of our origin** ; but can it be possible when so many psychological, philosophical, metaphysical problems are involved - that is, when so many emotional criteria (not objective, scientific ones) are at work ?

With regards to early bipedalism itself, decoding man's and apes' DNA may provide new evidence for this theory : recent studies on mitochondrial DNA are indeed strongly suggestive of an early bipedalim... Another possible "field" of research might come from a reappraisal of the human-like footprints found in Tertiary or even Secondary layers. Though some of them have turned out to have been made by a Megatherium, a new study of the whole file would be welcome...

FIN

GRAND MERCI, à la fin de ce BIPEDIA-1, à Marc ANGEE,
qui a réalisé l'archivage on line des numéros anciens de [BIPEDIA](#) !
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