The mystery of humankind – in the light of some background considerations

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Opsomming

Ten spyte van al die verwagtinge rakende "oorgangsfossiele" verteenwoordig die veronderstelde(!) *oorgang van "lewe" van molekule tot menslike wesens waarskynlik die grootste verleentheid in die afwesigheid van fossiele wat tot die mens sou lei. Die verdediging van 'n "gebrekkige fossiel-rekord" is nie meer "steekhoudend" – soos Gould dit stel nie. Selfs een van die mees prominente figure van die* New Synthesis*, Ernst Mayr, moes toegee enigiets wat werklik* nuut *is verskyn altyd plotseling in die fossiel-rekord. In plaas van* verandering *karakteriseer* stasis *(konstansie) die paleontologiese rekord. In die besonder is die fossiel-gegewens rakende die menslike ontstaan 'n groot hindernis in die ontrafeling van die misterie van die herkoms van die mens. Watson (1982) wys daarop dat dit in 'n enkele koffer geplaas kan word – "with room to spare". Die bedrogspul van die Piltdown-mens het vir 'n tydlank 'n optimistiese interpretasie van die Suidelike ape (die* Australopithecines*) as regstreekse voorgangers van die mens verhinder. Tydens die sewentigerjare van die vorige eeu, met die ontdekking van Homo habilis en die fossiel wat die registrasienommer 1470 ontvang het, het dit gelyk asof die sukessie-prentjie soos volg daar uitsien:* Austra-

lopithecus, Homo habilis, Homo erectus, Homo sapiens, *met die 14 miljoenjaar-oue* Kenyapithecus *as waarskynlike lid van die* hominidae *familie. Nogtans het dit geblyk dat laasgenoemde niks meer as 'n aap was nie, terwyl die toetse wat Spoor en sy vriende gedoen het aangetoon het dat* Homo habilis *normaalweg glad nie regop geloop het nie. Uiteindelik het die* Australopithecines *die wedloop verloor, want Gould het geargumenteer vir die "removal of the different members of this relatively small-brained, curiously unique genus* Australopithecus *into one or more parallel side lines away from a direct link with man". Die aanhaling van Portmann aan die einde van hierdie artikel belig na die een kant toe die beperkings van natuurwetenskaplike (biologiese) ondersoek, en aan die ander kant lewer dit 'n pleidooi vir die erkenning van die onderskeidende perspektief van die geesteswetenskappe waarin die menslike geskiedenis, taal en tradisie 'n plek vind wat nie volledig deur die biologie omvat kan word nie. Die misterie van die menslike bestaan word daarom tereg beklemtoon in sy aangehaalde uitspraak, naamlik dat "the currently accepted version of the theory [of evolution] has nothing certain to say".*

Abstract

In spite of all the expectations regarding finding the "transitional fossils" representing the assumed *(!) transition of "life" from molecules to human beings, perhaps the most embarrassing absence of fossil forms is found in connection with humans. The defence of an "imperfect" fossil record "no longer wash" – as Gould phrased it. Even one of the champions of the* New Synthesis*, Ernst Mayr, conceded that anything truly novel always seemed to appear quite abruptly in the fossil record. Instead of change, stasis (constancy) characterizes the paleontological record. Particularly the fossil evidence for human origins, which fit inside a single coffin with room to spare (Watson, 1982), proved to be a huge obstacle in unraveling the mystery of human origins. The Piltdown hoax obstructed for some time an optimistic interpretation of the status of the* Australopithecines *as the direct ancestors of humans. During the early*

seventies of the previous century, with the discovery of Homo habilis *and the fossil which received the registration number 1470, it seemed as if the picture may be captured in the succession* of Australopithecus, Homo habilis, Homo erectus, Homo sapiens*, with the 14 million-year-old* Kenyapithecus *as a probable member of the hominidae family. However, the latter turned out to be nothing more than an ape and the tests of Spoor and his friends have shown that* Homo habilis *habitually did not walk upright at all. Eventually also the* Australopithecines *lost the race, because Gould argued for "the removal of the different members of this relatively small-brained, curiously unique genus Australopithecus into one or more parallel side lines away from a direct link with man". The quotation at the end of this article, from Adolf Portmann, on the one hand, admits the limitations of natural scientific (biological) research, and on the other, makes a plea for acknowledging the distinct scope of the humanities in which human history, language and tradition find a place that cannot be encompassed by the discipline of biology. The mystery of human existence is therefore underscored in his quoted statement that "the currently accepted version of the theory [of evolution] has nothing certain to say".*

> "The remarkable fact is that all the physical evidence we have for human evolution can still be placed, with room to spare, inside a single coffin" (Lyall Watson, 1982).
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> Regarding human origins "all we have is a huge question mark" (Richard Leakey, 1990).
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> "Needless to say, no true consensus exists in this most contentious of all scientific professions – an almost inevitable situation, given the high stakes of scientific importance and several well known propensities of human nature, in a field that features more minds at work than bones to study" (Stephan Gould, 2002).

1. Introductory remark

Since the appearance of his *Origin of Species* in 1859, the modern scientific world is constantly wrestling with his legacy, particularly in the

shape it assumed in Neo-Darwinism. Two implicit influences gave a particular direction to these developments. First of all, Darwin was influenced by the modern humanistic science ideal with its inherent postulate concerning the power of human thinking to bridge all gaps in reality theoretically. Secondly, Darwin did not succeed in freeing himself from the conservative layer of British society within which he was shaped. Particularly the first influence faced a serious challenge from the angle of the discipline of paleontology which came up with fossil findings contradicting the expectations Darwin had on the basis of the belief (trust) in the assumed continuity of incremental change (known as gradualism) over millions of years. We commence with this last issue before we empark upon reasons why today we still have to consider the appearance of human beings as a *mystery*.

2. The failure of Darwin's *a priori* faith in the continuity of transitional forms

After more than hundred years of fossil-collecting, Gould still categorically says in 1980: "The extreme rarity of transitional forms in the fossil record persists as the trade secret of paleontology. The evolutionary trees that adorn our textbooks have data only at the tips and nodes of their branches; the rest is inference, however reasonable, not evidence of fossils" (Gould, 1980:179 ff.). It may be instructive to mention a few more quotes regarding the *discontinuities* of the fossil record. In 1989 Gould mentions the famous Cambrian explosion which "marks the inception of modern multicellular life" – where within "just a few million years, nearly every major kind of animal anatomy appears in the fossil record for the first time … The Precambrian record is now sufficiently good that the old rationale about undiscovered sequences of smoothly transitional forms will no longer wash" (Gould, 1989:65).

Even one of the most prominent representatives of the "New Synthesis", Ernst Mayr, had to concede this situation. He writes in 1991: "Paleontologists had long been aware of a seeming contradiction between Darwin's postulate of gradualism … and the actual findings of paleontology. Following phyletic lines through time seemed to reveal only minimal gradual changes but no clear evidence for any

change of a species into a different genus or for the gradual origin of an evolutionary novelty. Anything truly novel always seemed to appear quite abruptly in the fossil record" (Mayr, 1991:138).[1]

In 1992 Jeffrey S. Levinton states in *The Big Bang of Animal Evolution*: "Evolutionary biology's deepest paradox concerns this strange discontinuity. Why haven't new animal body plans continued to crawl out of the evolutionary cauldron during the past hundreds of millions of years? Why are the ancient body plans so stable?" (Levinton, 1992:84).

To these statements we may add the significant remark of Eldredge on evolution that is never happening:

> No wonder paleontologists shied away from evolution for so long. It never seemed to have happened. Assiduous collecting up cliff faces yields zigzags, minor oscillations, and the very occasional slight accumulation of change over millions of years, at a rate too slow to account for all the prodigious change that has occurred in evolutionary history. When we do see the introduction of evolutionary novelty, it usually shows up with a bang, and often with no firm evidence that the fossils did not evolve elsewhere! Evolution cannot for ever be going on somewhere else. Yet that's how the fossil record has struck many a forlorn paleontologist looking to learn something about evolution (Eldredge, 1995:95).[2]

1 Already in 1982 he wrote: "What one actually found was nothing but discontinuities. All species are separated from each other by bridgeless gaps; intermediates between species are not observed. … The problem was even more serious at the level of the higher categories" (Mayr, 1982:524). Raff and Kaufman claim: "The lack of ancestral or intermediate forms between fossil species is not a bizarre peculiarity of early metazoan history. Gaps are general and prevalent throughout the fossil record. … Gaps between higher taxonomic levels are general and large" (Raff & Kaufman, 1991:34-35). "The gaps in the record are real, however. The absence of a record of any important branching is quite phenomenal" (Wesson, 1991: 45).

2 Jones points out that the fossil record defies the idea of gradual change: "The fossil record – in defiance of Darwin's whole idea of gradual change – often makes great leaps from one form to the next. Far from the display of intermediates to be expected from slow advance through natural selection, many species appear without warning, persist in fixed form and disappear, leaving no descendants. Geology assuredly does not reveal any finely graduated organic chain, and this is the most obvious and gravest objection which can be urged against the theory of evolution" (Jones, 1999:252).

3. The quest for human origins

The three authoritative quotes mentioned at the beginning of this article, successively formulated about a decade apart of each other, are quite suitable for starting a discussion of this burning issue. We now add the bibliographical detail as well.

The first quotation was from Lyall Watson who highlighted the scarcity of fossil material in 1982. We now insert the full quote: "The remarkable fact is that all the physical evidence we have for human evolution can still be placed, with room to spare, inside a single coffin. … Modern apes, for instance, seem to have sprung out of nowhere. They have no yesterday, no fossil record. And the true origin of modern humans … is, if we were to be honest with ourselves, an equally mysterious matter" (Watson, 1982:44). In 1990 Richard Leakey, perhaps the most famous paleo-anthropologist in the world, honestly confessed that regarding human origins "all we have is a huge question mark" (Leakey, 1990). And twelve years later Gould added the cherry on the cake: "Needless to say, no true consensus exists in this most contentious of all scientific professions – an almost inevitable situation, given the high stakes of scientific importance and several well known propensities of human nature, in a field that features more minds at work than bones to study" (Gould, 2002:910).

Let us investigate the picture of human origins as it unfolded during the 20th century.

With the announcement of the discovery of the Taung child skull by Raymond Dart in 1924, designated as *Australopithecus africanus*, a new picture of human origins started to take shape The southern apes (*Australopithecines*) were promptly interpreted as the direct ancestors of humans.

Yet the Piltdown hoax complicated the matter for quite a while. Found in a gravel pit on the Sussex Downs of England between 1908 and 1913, these remains, in the words of Tobias "showed the astonishing combination of a large-brain cranium, or rather modern aspect, with an ape-like jawbone (now known to have belonged to

an orangutan – Lowenstein, this volume) and lower canine tooth. As long as Piltdown was accepted as genuine and considered an ancient human precursor, it was impossible to accept that *Australopithecus* was ancestral to man" (Tobias, 1985a:37).

> ***Remark*:** The story about the Piltdown "man" is not a good one for the scientific reliability of evolutionary scientists (cf. Weiner, 1955). During the twenties strong claims were made by prominent scientists as to the reliability and belonging together of the jaw and the skull of the Piltdown "man" (like the anatomist, Arthur Keith, and anthropologist George G. MacCurdy from Yale University). Without acknowledging at all that this forgery simply showed that evolutionary authorities can fantasize what they want to find (by ignoring what they don't want to recognize), Tobias simply writes: "When the hoax had been perpetrated more than 40 years earlier, its features had been in conformity with the then fixed ideas about human evolution" (1985a:38). If, at a certain stage, it was possible for a forgery to 'fit' "then fixed ideas", how certain are we that, at another stage, we are not the victims of a "theoretically forgerous" interpretation 'fitting' the then known 'facts/fossils'?

By the early fifties, according to Tobias, almost all obstacles to the acceptance of the *Australopithecus* disappeared, since it gained pretty well universal acceptance as a member of the hominids "and as a genus, one of more whose species were on the direct lineage of modern man" (Tobias, 1985a:38).

In the fifties and sixties this meant that the evolutionary line advanced from the Australopithecines and via the Java- and Peking Ape-men (currently classified as belonging to *Homo erectus*) to *Homo neanderthalensis* and to *Homo sapiens* (cf. Le Gros Clark, 1964:168). During the sixties and early seventies L.S.B. Leakey (working near Lake Rudolph in East Africa together with his son Richard), discovered a new species, called *Homo habilis*. Similarities with modern human beings caused Leakey to reject *Homo erectus* as a human ancestor (Leakey, 1970:172). At the same time, he argues that one cannot see the *Australopithecines* as ancestral to *Homo habilis* since they were for the greater part contemporaries.

Perhaps the most remarkable finding in this category was a skull which received the registration number 1470 at the National Museum of Kenya. Eventually this skull was classified as belonging to *Homo habilis* (cf. Henke & Rothe, 1980:95). Leakey remarks: "after its careful reconstruction, it is the most complete specimen of its type: its cranium and face are virtually intact, but the lower jaw (the mandible) is missing" (1978:52). According to the description of this specimen by Richard Leakey in the well-known journal *National Geographic* (June 1973),[3] which estimated its age at 2,8 million years, it "leaves in ruins the notion that all early fossils can be arranged in an orderly sequence of evolutionary change. It appears that there were several different kinds of early man, some of whom developed larger brains than had been supposed" (Leakey, 1973:819). In terms of Leakey's interpretation the *Australopithecines* and *Homo habilis* they were, after all, contemporaries (cf. Leakey, 1978:52). Furthermore, in Leakey's case, the speculative common ancestor should be pushed back to at least 14 million years (*Kenaypithecus wickeri* – found near Fort Kernan in East Africa), providing the starting-point for two lines of development: (i) the one leading to *Homo sapiens* while (ii) the other (including the Australopithecines) became extinct (Leakey, 1973:829).

However, at the 1985 Conference on *Hominid Evolution* Pickford gave his assessment of *Kenaypithecus* (*wickeri* and *africanus*). Frequently *Kenaypithecus* has also been referred to as the genus *Ramapithecus*. Initially these two forms were included in the *Hominidae*. Several of the features supporting this view were "inferred from reconstructions based on fragmentary material" and in the ensuing debate nonetheless were "frequently used as evidence in support of the hominid status of *Ramapithecus*" – "and have been widely publicized, particularly in textbooks" (Pickford,

3 See page 820 as well as pages 822, 823, and 828. Later Kamoya Kimieu, a colleague of Richard Leakey, discovered a well-preserved *Homo habilis* skeleton on the west side of Lake Turkana in Kenya – it is about 1,6 million years old and according to an article in Newsweek is probably that of a young boy of about 12 years old (cf. *Newsweek,* October 29, 1984:39).

1985:107). Pickford adds the significant remark: “In view of the very fragmentary nature of the fossil evidence, the reconstructions probably reveal more about the scientists who made them than they do about the species they purport to represent” (Pickford, 1985:107-108).

New evidence weakened the hominid status of *Kenaypithecus africanus* because it “possesses none of the apomorphic characters which define the *Hominidae*. It is therefore unlikely to belong to that family” (Pickford, 1985:110-111).[4] Currently the optimistic hominid fantasies of the second half of the 20th century are outlived because *Kenyapithecus wickeri* is simply described as a *fossil ape*: “*Kenyapithecus wickeri* was a fossil ape discovered by Louis Leakey in 1961 at a site called Fort Ternan in Kenya. The upper jaw and teeth were dated to 14 million years ago. One theory states that *Kenyapithecus* may be the common ancestor of all the great apes. More recent investigations suggest *Kenyapithecus* is more primitive than that and is only slightly more modern than when Proconsul is considered to be an ape (Kenyapithecus, 2011).

Since the discovery of the Taung child in 1924 claims were constantly made that it fits into the linage of modern humans, classified as a young *Australopithecus africanus*.

Seemingly in order to transcend these problems, some scholars have eventually focused their attention in more detail on the (mentioned) possibilities of establishing relationships between human beings and their supposed relatives on the basis of molecular and chromosomal evidence. However, also on this level we can discern serious difficulties. Not too long ago directly opposing views were defended in the above-mentioned work. First of all, Schwartz (1985:268) points out that chromosomal phylogenies and some molecular and chromosomal evidence support the relationship between the human being and the orangutan – a perspective which is, according to him, also consistent with morphology. This means that, according to this analysis, the large Hominids differentiate into

4 Pickford remarks: “The position of *Kenyapithenuc wickeri* will remain problematic until better fossil material is found” (Pickford, 1985:111).

human/urangutan and chimpanzee/gorilla sister groups (Schwartz, 1985:268). In the same volume, however, we read the following conclusion from Chiarelli in connection with a figure which shows the number and types of chromosome mutations detectable in the karyotype of the different apes compared to the human being: “The type and number of changes, up to now detected, demonstrate that the orangutan is the most conservative and the most unrelated to man, among apes, while the African apes (especially the chimpanzee) share a number of derived changes with the human karyotype” (Chiarelli, 1985:400). With reference to different investigations, these two scholars therefore indeed reach directly opposing conclusions: the first one relates humans to the orangutan (explicitly rejecting the chimpanzee as a candidate), and the second one relates them to the chimpanzee!

The most recent attempt to explore molecular and chromosomal evidence “revived” the so-called “junk-DNA” and currently argues that it contains evidence for the common ancestors of all living things. However, the biologist Geoff Barnard has recently questioned the view that the genome provides evidence for a common ancestry. He remarks that retroviral arguments pointing at common ancestry could be interpreted alternatively “on the basis of independent species infection” (Barnard, 2009:186).

Immuno-biological evidence (blood antigen studies) and protein homologies provide another indirect way to relate humans and animals. Nevertheless, right from the start both the direct and the indirect methods of analysis and comparison only gave rise to what Henke and Rothe indicated as a “Similarity-phenogram”: “Since biochemical analyses do not provide the time factor necessary for any construction of a phylogenetic tree” all “attempts until now, trying to establish phylogenetic trees on the basis of biochemical evidence, are not satisfactory in view of the numerous and not yet proven presuppositions made in connection with the tempo of evolution in the molecular field” (Henke and Rothe, 1980:17). They also “show important deviations from those phylogenetic trees which are constructed on the basis of morphological criteria” (Henke & Rothe, 1980:17).

There are even well-known and important scholars who deny the justifiability to work at all with a genetic mode of expression in paleontology and in the construction of phylogenentic trees. Already Schindewolf stated that the introduction of a genetic reasoning in phylogeny is not justified simply because all the necessary presuppositions are absent (Schindewolf, 1969:69). He also rejects Simpson's notion of "quantum evolution" (explosive development), since we have no certain knowledge about the adaptive zones or the "everything-or-nothing-reactions" (Schindewolf, 1969:69).

The crucial point in mentioning these data and differences of opinion is to show that there are extreme difficulties and problems present in the attempt to come to a coherent and rationally justified picture of human origins even if one accepts the assumptions of Neo-Darwinism.

Remark: That theoretical presuppositions are inevitably part and parcel of the science of paleontology and the construction of phylogenetic trees (just compare Grene's analysis of the radical opposition between Simpson and Schindewolf – see Grene, 1974:130), is explicitly conceded by Schwartz in the final paragraph of his mentioned article: "Sophisticated technology does not provide more accurate phylogenies than conventional means. Phylogenetic interpretation is ultimately a reflection of the theoretical predisposition of the investigator" (Schwartz, 1985:268). The biologist, Paul Overhage, goes even further by emphasizing that such an essential and penetrating question as that concerning the origin of human beings, by its very nature, reaches into the sphere of our world and life view. Therefore, also the answers given to questions like these are necessarily co-determined by pre-suppositions and pre-decisions which are non-scientific in nature. Especially natural scientists misled many with their supposed 'objectivity' and 'unprejudicedness' by accusing alternative conceptions of evolution as being restricted by a world and life view. Precisely these convictions, however, make it very difficult for these scientists to realize that mostly the opposite is the case. So many diverging interpretations of fossil findings and so many differences in the evaluation of phylogenetic coherences, evinced foremost in the "trees

of descent", are not explainable purely in terms of the current state of affairs (A. Meyer straightforwardly disqualifies "all these phylogenetic trees" because they proceed from "purely idealistic constructions" – Meyer, 1964:113, cf.59-60). Much rather, it makes an appeal to fundamental convictions and suppositions which influence theory construction from the underlying philosophical and world-and-life-view attitude, as well as from the tradition within which the scientist is working (Overhage, 1959:287).

To illustrate this point we mention some initial differences of opinion regarding *Homo habilis*. Whereas Clarke (1985:296) emphatically claims that "all indications are that *Homo habilis* probably developed into *Homo erectus* some time before 1.5 m.y.", Jelínek argues that the difference from *Homo sapiens* to *Homo erectus* is not on the species level, but on the subspecies level, implying that the correct name should be *Homo sapiens erectus* (Jelínek, 1985:345). Aguirre also writes: "The separation between *Homo sapiens* and 'Homo erectus' vanishes. The authors propose that all populations from the Far East, Africa and Europe, currently referred to as 'Homo erectus', should be considered *Homo sapiens*" (Aguirre, 1985:328).

One of the crucial questions is whether we can really rely on anatomical and morphological studies to explain the differences between humans and their supposed *Hominid* ancestors. It frequently happens that recourse is taken to the presence of *tools* in order to determine the human nature of fossil findings. But if we consider archaeological evidence as an aid to interpret fossil findings, are we still working within the framework of paleo-biology? Schindewolf warns us that obviously the paleontologist should 'disregard' the "technical and cultural achievements of man" because considering them would take us "outside a biological approach" (Schindewolf, 1969:67). Seemingly without being aware of the fact that they are transcending the limits of biological research, as the archaeologist Narr establishes, even scholars inclined to follow a natural scientific approach now once more started to look for the line between humans and animals where signs of the typical human spirituality are seen in *cultural activities* (Narr, 1959:393).

The Swiss biologist, Portmann, warns that, in order to get a better understanding of the origin of humankind, we should dispense of the unwarranted and unproven assumption that human spirituality is a late phenomenon in the development of the human body. If this assumption is rejected, however, and human nature is considered in its totality, then the distance between the human being and animals will come to the fore in its full magnitude (Portmann, 1965:57-58). To this we may add his acknowledgement of the fact that his own investigations into the ontogenetic uniqueness of humankind are "guided by the conviction that what can biologically be grasped is essentially co-determined by those aspects of humankind, which have to be investigated with methods different from those employed by the experimental biologist" (Portmann, 1969:23-24). The anthropologist, A. Gehlen, also points out that a total view on being human functions as the guiding philosophical view-point in his research – and this total-view cannot be deduced from the view-point of any special science (Gehlen, 1971:13). In one of his earlier publications, Overhage displays a similar sensitivity: "To reduce the whole question about the human origins simply to the biotical-bodily (morphological-anatomical) facet, witnesses an astonishingly one-sided approach and implies a radical simplification of the total depth of the problem" (Overhage, 1959a:5).

To this we may add the confession of Gould regarding the unfounded idea of progress combined with increasing complexity and in connection with the dominant paleontological pattern of stasis (constancy). He writes:

> I believe that the most knowledgeable students of life's history have always sensed the failure of the fossil record to supply the most desired ingredient of Western comfort: a clear signal of progress measured as some form of steadily increasing complexity for life as a whole through time. The basic evidence cannot support such a view, for simple forms still predominate in most environments, as they always have. Faced with this undeniable fact, supporters of progress (that is, nearly all of us throughout the history of evolutionary thought)

> have shifted criteria and ended up grasping at straws (Gould, 1996:166-167).[5]

This embarrassing situation caused by the idea of progress is actually rooted in Darwins *a priori* commitment to the continuity postulate of modern humanism (see Strauss, 2010). Gould connects this *a priori* commitment to the widespread and generally defended Neo-Darwinian basic definition of evolution as *continuous flux*. The stories we hear, so Gould argues, "begin from the same foundational fallacy and then proceed in an identical erroneous way. They start with the most dangerous of mental traps: a hidden assumption, depicted as self-evident, if recognized at all – namely, a basic definition of evolution as continuous flux" (Gould, 2002:913).

4. *Australopithecines* and *Homo habilis*

Earlier we quoted Tobias holding that almost all obstacles to the acceptance of the *Australopithecus* disappeared, since it gained pretty well universal acceptance as a member of the hominids "and as a genus, one of more whose species were on the direct lineage of modern man" (Tobias, 1985a:38). This assessment also has to reflect on several fossil finds that were made known since the sixties of the previous century. According to some specialists they belong to a separate species within the genus *Homo* – *Homo habilis*. This form, however, was supposed to be two million years old, while being contemporary with humankind's supposed ancestors, the southern apes (*Australopithecines*). In 1972, Richard Leakey found skull fragments (given the registration number 1470) which, though almost three times older than the Peking and Java forms (grouped together by Leakey as the *Homo erectus*), still had a brain volume almost as large, and without the prominent brow of the erectus-forms. But although skull 1470 is considered to be a

5 "The problem that spawns this confusion within the Darwinian tradition may be simply stated as a paradox. The basic theory of natural selection offers no statement about general progress, and supplies no mechanism whereby overall advance might be expected. Yet both Western culture and the undeniable facts of a fossil record that started with bacteria alone, and has now exalted us, cry out in unison for a rationale that will place progress into the center of evolutionary theory" (Gould 1996:136).

Homo habilis type (cf. Henke & Rothe, 1980:95), it was still not quite clear what the comparative relationship between it and modern human beings really amounts to.

According to a web article discussing the status of *Homo habilis*, it turned out that "although 1470 is usually placed in the genus *Homo*, it is definitely not a modern human" (see the web reference to *Homo habilis 1997* in the bibliography). There is a reference in this article to Leakey who notes in 1973 that the upper jaw and facial region of *Homo habilis* are unlike those of any known form of hominid. Brace (1979) is quoted saying "that ER 1470 retained a fully Australopithecus-sized face and dentition." He also mentions a remark by Cronin (1981) stating that KNM-ER 1470, "like other early *Homo* specimens, shows many morphological characteristics in common with gracile australopithecines that are not shared with later specimens of the genus *Homo*." It goes on to mention the more recent assessment of Walker and Shipman (1996): "Ignoring cranial capacity, the overall shape of the specimen and that huge face grafted onto the braincase were undeniably australopithecine". Although the author of this web article concedes that "[S]orting out the exact relationships of these fossils is very difficult," he is convinced that the various *Homo* habilis finds discussed are all similar to "a mixture of *Homo* and Australopithecus features". He claims that "there is no 'significant gap' separating 1470 from the others".

Strangely enough, another perspective on this issue came from an unexpected angle. To appreciate this information, we have to remember that the artificially created category of proto-hominids is supposed to contain the "tree dwelling" forebears of humankind, as Zeitlin writes: "The proto-homonoids were predominantly tree dwellers" (Zeitlin, 1984:17). From this assumption it is 'natural' to say: "The single most important condition that accounts for the beginning of this process is the fact that they were forced to leave the trees and to make their way permanently on the ground" (Zeitlin, 1984:18).

Some years ago a Dutch paleontologist, Fred Spoor, who is particularly interested in the supposition that human forebears descended from trees to an erect posture on earth, did research in this domain

and came up with the modest confession that we do not know what is really going on.

Combined with the expertise of an ear, nose and throat specialist, and utilizing the CT technique of Wind and Zonneveld (CT = Computer Chromotography), De Burgh started to investigate the balance organ – located about three centimeters inside the human ear. It consists of the semi-circle like channels equipped with membranes, capable of containing fluid. Any head movement is registered by the nerve cells, enabling the balance organ to send the required signals to the muscles controlling the erect posture of the head. In the case of human beings, the two vertical channels are large – given the erect human bodily posture – whereas the horizontal channel is small. Since it is possible to investigate these channels in fossil findings, the method raised considerable interest, because it may help us find information otherwise inaccessible to paleontologists.

Spoor and his friend also visited South Africa, where the CT tests were performed on a specimen of *Homo* habilis found at Sterkfontein. The result was straightforward: this type of labyrinth is characterized by an exceptionally large horizontal channel, clearly indicating that this *Homo* habilis type never walked upright.

What is merely suggested by the labyrinth is that *Homo habilis* was not more and also not less bipedal than the australopithecines. Its structure looks like that of gibbons or apes, but in any case is not human (De Burgh, 1995:21 – see also Spoor, Wood & Zonneveld, 1994).

In the last couple of decades, the history of the emergence of the (human-like) hominids experienced so many alterations as a consequence of new discoveries, that it can be assumed that the situation will only become more complex. L.S.B. Leakey (with Napier and Tobias) abandoned, for example, brain volume as a characteristic of the genus *Homo*.

It has become increasingly clear that the features regarding the human build and form (i.e. anatomical and morphological features) are inadequate to define a human person.

Gould mentions Charles Oxnard who "studied the shoulder, pelvis, and foot of australopithecines, modern primates (great apes and some monkeys), and *Homo* with the rigorous techniques of multivariate analysis" and who concluded "that the australopithecines were 'uniquely different' from either apes or humans, and argues for 'the removal of the different members of this relatively small-brained, curiously unique genus Australopithecus into one or more parallel side lines away from a direct link with man'"(Gould, 1992: 60).[6] In their detailed discussion of *Australopithecus Sediba* Berger, De Ruyter, Churchill, Schmid, & Carlson (2010) concedes that the "identity of the direct ancestor of the genus *Homo*, and thus its link to earlier Australopithecus, remains controversial".

In 2002 Gould highlights in addition to this assessment that different species of the *Australopithecines* well-documented series of stasis – the dominant pattern of the fossil record where a type abruptly appears, remains constant for a long period of time and then disappears.

When we realize that the cave painters of Chauvet, Lascaux, and Altamira do not differ from us in any phenotypic features, their stunning achievement seems less mysterious. For the two more substantial cases, the 0.9 to 1.0 million years of stasis in the first well documented hominid species, *Australopithecus afarensis* (ala 'Lucy'), has been presented with much data and commentary (Kimbel, Johanson & Rak, 1994; see discussion of popular misapprehensions in Gould, 1996). Grine (1993) has also recorded 0.8 million years of stasis in *Australopithecus robustus* from Swartkrans cave in South Africa (Gould, 2002:834).

The followers of Darwin who accepted his above-mentioned *a priori* continuity postulate ("gradualism") by and large tend to avoid the

6 Compare the following WEB remark in connection with the Taung child: "Examinations of the Taung Child fossil compared to that of an equivalent 9-year-old child suggest that *A. africanus* had a growth rate to adolescence more similar to that of modern apes like chimpanzees (genus *Pan*) than to that of modern *Homo sapiens*" (Taung child, 2011). A recent remark on the *Australopithecines* states: "*Australopithecus*, which is nothing but an old type of ape that has become extinct, is found in various different forms" (WEB-Site on the origin of humans, 2011).

stasis-realty of the fossil record by claiming that it is"imperfect". Gould understood the pervasive effect of the continuity postulate very well. He remarks that we often fail to realize "how much of the *Origin* presents [is] an exposition of gradualism, rather than a defence of natural selection" (Gould, 2002:151). However, if natural selection is the chief agent causing (incremental) change, then the dominant pattern of the paleontological record, given in *stasis* which, in many instances, stretches over a time-span of millions of years, generates a serious question. The constancy of fossil forms – which, as mentioned, most of the time appear fully formed and remain unchanged until they disappear – must be assessed against the ever changing natural conditions. Constancy (stasis) over millions of years inevitably had to face numerous "attacks" from environmental changes, providing *natural selection* with ample chances to cause *visible* (and in the long run or sometimes: *drastic*) changes to the adapting species. The empirical (paleontological) fact that this is not the case does not bypass the sharp insight of Gould either. He writes: "… if stasis merely reflects excellent adaptation to environment, then why do we frequently observe such profound stasis during major climatic shifts like ice-age cycles (Cronin, 1985), or through the largest environmental change in a major interval of time (Prothero & Heaton, 1996)?" (Gould, 2002:878).

5. Concluding remark

From a natural scientific point of view the origination of humankind appears to be concealed below the surface of what is accessible to us, similar to what Wilhelm Troll categorically states, in his standard text book on botany, namely that the question concerning the origination of life on earth, owing to its speculative nature, does not belong to the domain of biology as an empirical science (Troll, 1973:8-9). While distinguishing between organic evolution and the facts of historical life, Portmann displays a sound modesty regarding what we do not really know:

> The validity of the concept as it is used in biology has already ceased to exist at the point where we find the facts of

> historical life in operation. The biological concept of development would have us believe that man emerged as the result of an organic evolution; as to the "how" of this process, the currently accepted version of the theory has nothing certain to say. And, with the assertion that the organic form "man" exists, the usefulness of the biological evolutionary concept ceases to exist. For the riddle now lies behind us (we can consider it solved or not), and we go on to speak of things that paleontology alone can never reveal: we speak of a being that has at its command verbal language and tradition. Neither the relationships among the various types of pithecanthropus and prehistoric man nor those among contemporary races have been explained by biology. This has not been due to lack of evidence, but to a fundamental difficulty: every finding of prehistory or of research into race does not lend itself to explanation through the theory of organic evolution alone, but must be understood primarily through the explanatory methods of historical research. Every fact that the biologist working in this field would like to explain by ascribing it to the descent of one human type from another and to organic advancement, the historian understands, often more accurately, to be a result of migration, trade, miscegenation, and so on (Portmann, 1990:13).

We close our discussion with reference to an article in a recent issue of *National Geographic*. In Volume 220, Number 2, August 2011 Josh Fishman wrote an article with the title: "Part Ape, Part Human, A new ancestor emerges from the richest collection of fossil skeletons ever found". The recent finding of Australopithecus sediba occupies the centre of attention in it. Fishman remarks that the origins of the genus *Homo* are "murky" because only "a few scattered and fragmentary fossils older than two million years have been argued to belong to the genus" (Fishman, 2011:131). He then mentions two to three possible *Homo* species, such as *Homo habilis* and *Homo erectus* (the latter contemporaneous with *Homo habilis*), followed up by the question where did all these characters come from? He writes:

> Attempts to look deeper into the past only increase the frustration, says William Kimbel, a plaeoanthropologist at Arizo-

> na State University and Director of the Institute of Human Origins there. “There are only a handful of specimens. You could put them all into a small shoe box and still have room for a good pair of shoes,” he says.

The biggest problem with sediba is timing. “If two-million-year-old *sediba* is indeed the true ancestor of *Homo*, how could it give rise to those even older fossils assigned to *Homo* in Bill Kimbel’s shoe box? A fossil cannot be ancestral to something older than itself any more than a daugther can give birth to her own mother. One posibility is that the Malapa specimens represent a late stage of an enduring species that gave rise to *Homo* at an earlier date. But Berger’s team questions whether that shoe box really contains any *Homo* fossils in the first place – after all, they’re just fragments” (Fishman, 2011:133).

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