

Thoughts on the Revolution in Anthropology

I. What is Holding the Revolution Back?

I was moved to write this paper by Dr. John Bindernagel's book *The Discovery of the Sasquatch*, 2010, Beachcomber Books, 307 pages. The author is a Canadian biologist with over forty years of experience in wildlife research and conservation and an active investigator of the Sasquatch/Bigfoot phenomenon. Dr. Bindernagel writes that discovery in science is a process and must take time. "But even acknowledging discovery as a process, the discovery of the sasquatch may appear to have been abnormally prolonged." (p.145). "One reason that discoveries become prolonged is that they may have been neglected or ignored, in which case rediscovery may be necessary before they are finally acknowledged."(p.127). "For the few scientists with 'relevant research agendas,' the patterns of great ape anatomy and behavior and the capability of the great ape hypothesis to explain the evidence suggest the possibility that the sasquatch has already been discovered, though it has not yet been officially cataloged." (p.128). Final words of Epilogue: "It is hoped that the attempted reconciliation of the diverse facets of this unique discovery process as presented here, will contribute not only towards the completion of the discovery process, but, in addition, to a greater understanding of its prolonged nature." (p.236).

To my mind, for a greater understanding of the whole phenomenon, discovery and rediscovery, on one side, and their acknowledgement, on the other, must be clearly set apart. Yes, discoveries may be neglected and followed by rediscoveries. The motion of the Earth was stated by Aristarchus of Samos, 3d century B.C., and 'rediscovered' by Copernicus in the 16th century A.C. The acknowledgement process then took over a hundred years and became known as the Copernican revolution. The origin of the science of meteoritics is closer to our situation. Stones falling from heaven have always been known to people around the world, but not always to scientists. So it cannot be said that meteorites were discovered in the 18th century, when their nature as such was acknowledged by science in a process of several decades. "Wild men", i.e., wild hairy bipedal primates, have also been known to people around the world throughout history. So who can literally claim their discovery? It can be said that the process of their rediscovery by Western scientists began in the 1950s with the Yeti Himalayan expeditions and ended with the validation by hominologists of the Patterson-Gimlin film. Thus, as a hominologist, I can firmly state today that wild bipedal higher primates, i.e., hominids different from *Homo sapiens*, still inhabit all continents, with the exception of Antarctica. That this fact is not acknowledged by non-hominologists is a totally different matter, and it is this that calls for clarification and explanation.

One of the most important works on the process and progress of science is Thomas Kuhn's book *The Structure of Scientific Revolutions*, 1962. Key terms and notions introduced by Kuhn are normal science, revolutionary science and the paradigm shift. Bindernagel cites Kuhn on several pages, but only in regard to normal science, but not a word is to be found in his book about revolutionary science and the paradigm shift. For example, he offers these quotes from Thomas Kuhn's book: "Normal science, the activity in which most scientists inevitably spend almost all their time, is predicated on the assumption that the scientific community knows what the world is like. (...) Normal science, for example, often suppresses fundamental novelties because they are necessarily subversive of its basic commitments."(*The Discovery of the Sasquatch*, p.269).

In contrast, my teacher of hominology, Professor Boris Porshnev (1905-1972), referred to Thomas Kuhn's book and spelled out scientific revolution in the very first sentence of the article "Is a Scientific Revolution in Primatology Possible Today?" The article was published in 1966 in the Russian journal *Questions of Philosophy*, issued by the Institute of Philosophy under the auspices of the Soviet Academy of Sciences.

Porshnev said in it that the information about so-called relict hominoids ("abominable snowmen") that surfaced at the time, and was analyzed by him in the volume *The Present State of the Question of Relict Hominoids*,

1963, could not be explained and understood without a paradigm shift -- therefore a scientific revolution was the order of the day.

Porshnev knew well what he was doing -- a Scientific Revolution -- and therefore he was a revolutionary in science. Regrettably, I am not aware of any other professor or PhD scientist in the world who could be called a conscious and deliberate revolutionary in our field of research. The only other scientist who foresaw, albeit reluctantly, a tectonic transformation in store for primatology and anthropology was primatologist and paleoanthropologist Dr. John Napier (1917-1987). In his book *Bigfoot: The Yeti and Sasquatch In Myth and Reality*, 1973, he wrote that if bigfoot was real, "then as scientists we have a lot to explain. Among other things we shall have to re-write the story of human evolution. We shall have to accept that *Homo sapiens* is not the one and only living product of the hominid line, and we shall have to admit that there are still major mysteries to be solved in a world we thought we knew so well." (p.204).

Note the words that the reality of bigfoot would mean "that *Homo sapiens* is not the one and only living product of the hominid line", which invalidate John Bindernagel's great ape hypothesis to explain the bigfoot/sasquatch phenomenon. The discovery of an uncataloged great ape would not make a revolution in science and would not make anthropologists re-write the story of human evolution. The discovery of a living hominid different from *Homo sapiens* would certainly have such an effect, because it's a long held dogma of anthropology that *Homo sapiens* is "the one and only living product of the hominid line." As I argued at length in the paper "Is a Manimal more Man than Animal?", 2005, the great ape hypothesis is inconsistent and misleading for our research. To date no counter-arguments have been offered. Unfortunately, the names of such books as *Sasquatch: The Apes Among Us* 1978, *North America's Great Ape: the Sasquatch* 1998, *Bigfoot! The True Story of Apes in America* 2003, authored by the leading hominologists of North America, present bigfoot/sasquatch as real, not hypothetical, apes.

As for John Napier, being a typical worker of normal science, he tried to blacklist all evidence of our revolutionary science, including the Patterson/Gimlin documentary. So it's the depth of transformations in anthropology, the perspective of an actual revolution in science, which is the main cause of the "abnormally prolonged" delay of official acknowledgement of the existence of sasquatch and other non-*Homo sapiens* hominids. The scope and tactics of the counter-revolutionary resistance by academics was not foreseen even by Boris Porshnev. His provocative paper in a philosophy journal was printed under the rubric For discussion, and he sincerely looked forward to reading the opinions of his peers. Their reaction was unprecedented in the history of the journal: complete silence and neglect of the professor's challenge. Ever since this tactic and reaction of the academic circles have become predominant in regard to hominological investigations. This is not to say that direct personal attacks have been lacking. Four zoologists, in an article in their academic journal, accused Porshnev of spreading pseudoscience, hinted that his mind was abnormal, and asked whether persons "circulating such yarns have the right to bear the honorary title of a Soviet scientific worker" (*Vestnik Zoologii*, 1969, No.4, pp.69-80). Porshnev's ideas on the subject then became and still remain taboo in the Russian academic circles.

As I said, "wild men" were rediscovered by Western scientists in the middle of last century, and the credit for rediscovery, on a theoretical and scientific level, definitely goes to Professor Porshnev. It is in his "semi-secret" volume of 416 pages, *The Present State of the Question of Relict Hominoids*, that he named and honored his predecessor in the research: Carl Linnaeus (1707-1778). I call the book "semi-secret" because it exists only in 180 copies printed for the Soviet Academy of Sciences high officials, and its contents are still unknown to most biologists in the world. Thanks to my acquaintance with the Professor in 1964, I read the book and became riveted to the subject. As to Linnaeus, he was as great a natural science celebrity in the 18th century as Charles Darwin was in the 19th. Linnaeus established the binominal system of designation of plants and animals, and it was said at the time, "God created things, Linnaeus put them in order." All educated people are aware of two

fundamental scientific revolutions in the history of modern civilization: the Copernican and the Darwinian. But few know that the latter was preceded by a revolutionary deed of Carl Linnaeus. To the dismay and anger of the Establishment, this deed was tantamount to three intellectual "outrages". First, he instituted a zoological taxon, which included apes and monkeys, and called them by the name used by churchmen for their seniors - Primates. Second, he placed man side by side with apes and monkeys in that taxon - the Order of Primates. Third, he "invented" a second species of man, *Homo troglodytes*, when it is known that God created a single man, Adam, and all people descend from him. *Homo troglodytes* was at the time a much greater pain in the back of the Establishment than Bigfoot is at present.

Also known only by few is the fact that it was Linnaeus who introduced in science the central term of anthropology -- *Homo sapiens*, and did so a century before the discovery and study of fossil hominids. Nobody wonders today why man was given such an incongruous scientific name. Well, as mentioned above, the Linnaean nomenclature, published in the 10th edition of his *Systema Naturae* (1758), included not one but TWO living species of man: *Homo sapiens* (man the wise) and *Homo troglodytes* (the caveman). Importantly, the latter term was not coined by Linnaeus -- he borrowed it from ancient naturalists, and he described *Homo troglodytes* as *nocturnus* and *sylvestris*, two characteristics ringing the bell for all hominologists. So there is no doubt that our kind owes its undeserved name of "man the wise" in contrast to the "caveman" in the Linnaean classification.

Linnaeus based his description of *troglodytes* on the writings of ancient naturalists and the accounts of travelers of his epoch. Inevitably, his information was patchy and contradictory, which made him write in the dissertation *Anthropomorpha* (1760), that he dictated (which was usual at the time) to his student Christian Hoppius: "Is it not amazing that man, endowed by nature with curiosity, has left the *Troglodytes* in the dark and did not want to investigate the creatures that resemble him to such a high degree? (...) As for me, I remain in doubt what specific characteristic distinguishes the *Troglodyte* from man (*Homo sapiens* -- D.B.) within the scope of natural history." The questions posed by the great man of science are as relevant today as they were in his time. In the 18th century the fame and authority of Linnaeus were so great that his most unpalatable innovations in natural history were tolerated for some time by the Establishment, but a backlash was inevitable. It was led by Johann Blumenbach, who in his *Manual of Natural History* (1775) established the Order of *Bimanus* for man and the Order of *Quadrumanus* for apes and monkeys. As for *Homo troglodytes*, Blumenbach discarded the species altogether as 'an unintelligible mixture of pathological cases and the orangutan.' He moved the term 'troglodytes' to *Simia* and established '*Simia troglodytes* or *Chimpanzi*', which implied that chimps were cave-dwellers. According to S.J. Gould, 'Historical changes in classification are the fossilized indicators of conceptual revolutions.' Blumenbach's monumental change in the Linnaean classification was then a conceptual counterrevolution, which lasted nearly a hundred years, until resisted and reversed by Darwin's 'bulldog', Thomas Huxley (1825-95), who with *Man's Place in Nature* (1863) restored the single Order of Primates, as well as the term itself. But *Homo troglodytes* stayed in limbo for another hundred years, until resurrected and vindicated by Boris Porshnev, who proclaimed yet another conceptual revolution.

Every hominologist worth his salt must know the history of primatology, and the reason why it was not all sweet and easy. The problems of hominology would not seem so inscrutable then. As a matter of fact, most people don't even know they are also primates. (The best indication of that and that our animal ancestors were arboreal are dermal ridges on our palms and soles, the hallmark of primates; dermal ridges are also detected in some clear sasquatch footprints). When I am asked why living *Homo troglodytes* L. was not known to science after Linnaeus and until rediscovered by Porshnev, I reply: it was not known to science because there was no science to know it. I mean a natural, biological science. This is convincingly demonstrated by the case of the Russian zoologist, Professor Vitaly Khakhlov, who in 1914, as a college student, collected information on the wildman

in Central Asia, named it *Primihomo asiaticus*, and reported his findings to the Russian Academy of sciences. In the 1960s, his report was dug up by Professor Porshnev in the Academy's archive from the file labeled "Notes of no scientific significance."

And why did the living wildman stay in limbo in a century-long period between Thomas Huxley and Boris Porshnev? Mainly for two reasons. At the time, first Neanderthal and later other fossil hominids had been discovered, and the science of paleoanthropology, aimed at finding hominids in the ground, not on the ground, began coming into its own. Its origin and history were not straight and easy either (there were big problems and delays with the acknowledgement of early Neanderthal, *Homo erectus*, and *Australopithecus* fossils), which tended to make scholars of this discipline rather self-centered and "looking down more than around."

Paleoanthropology has since played and is playing a great and unique role in promoting man's self-knowledge, and it is a very respectable science today. The paleoanthropologist's inward attitude to our subject I tried to encapsulate in one chapter heading of my work: A Hominid Fossil in the Hand is Worth Two Homins in the Bush. Actually, paleoanthropology is the elder sister of hominology, but the latter's treatment by the former is much sterner than was the treatment of Cinderella by her sisters.

The second reason is that *Homo troglodytes* L., alias wildman, is one of the main, if not the main, hero of folklore, mythology and demonology the world over. Naturally, it was and is well known to humanitarian disciplines of knowledge, such as folkloristics and the study of mythology and demonology, but known not as reality but as myth. And this was the greatest impediment for the birth of hominology, and remains so for its acknowledgement at present.

The opposition charged Porshnev with preaching pseudoscience, asserting that he took for reality a figment of the imagination and mythology. Porshnev's main opponent, Professor Nikolai Vereshchagin, an outstanding zoologist and paleontologist, was quoted in the weekly Moscow News, No.42, 1979, as follows: "My opinion is that while legends about trolls, demons and witches have lost their credibility with modern Europeans, travelers and mountain climbers have probably fallen hook, line and sinker for similar legends and myths current among the peoples of the Himalayas and the Pamirs, giving enthusiasts the fuel they desire."

I wrote back in 1976: "If in the course of history, people had encounters with 'troglodytes', then these most impressive beings could not have escaped the attention of the creators of myths and legends. (...) Is the abundant folklore, say, about the wolf or the bear not a consequence of the existence of these animals and man's knowledge of them? Therefore, we say that if relic hominoids were not reflected in folklore and mythology, then their reality could be called into question. Fortunately, this channel of information is so wide and deep that much work can be done in this sphere: it is necessary to re-examine and re-think a good many anthropomorphic images playing important roles in folklore and demonology."

In 1991, thanks to Gorbachev's perestroika, which gave people the freedom of speech and press, I was able to publish at last my book in Russian: *Wood Goblin Dubbed Monkey: A Comparative Study in Demonology*. I re-examined and re-interpreted in it a great many anthropomorphic images from the ethnic folklore and demonology of numerous peoples of the Soviet Union. It laid bare the identical biological basis in all of them, revealing the physical appearance, behavior and interactions with humans of various "demons". The book was published right on the eve of the Soviet Union's collapse, with no soul giving thought at the time to the nature and fate of wood goblins and the like. Subsequent life in Russia has not been easy either, and as a result the work's contents and message still remain unknown to the scientific community. With one notable exception. As a gesture of defiance, I sent a copy of the book to Professor Vereshchagin, with the inscription "Greetings from the wood goblins of the 20th century!" I never expected a reply. To my amazement, it did come, with much praise for me and the book. As a result, the snowman's foremost foe changed his mind and accepted the reality of "wood goblins", as it transpired from our further friendly communications. He died in 2008, at the age of 100. I pride myself on the conversion of at least one bitter critic into a friend and supporter.

Still the "mythology barrier" is as high as ever for hominology. A number of opponents in the West claim that hairy wildmen are legendary creations not only of illiterate people of past centuries, but also of modern educated citizens. American anthropologist, Dr. David Daegling, is one of such critics, having written the book *Bigfoot Exposed: An Anthropologist Examines America's Enduring Legend*, 2004. His final conclusion is this: "There is a mystery here, to be sure, but it is not deep within the forest where the answer lies." All deliberations of the author are aimed at proving that the answer lies in people's heads and imagination. The book has received much praise from the author's learned colleagues, quoted on the back cover like this: "The book is terrific!" and "David Daegling has written a wonderful book on the North American Bigfoot myth." Actually, Dr. Daegling's distortions of facts and wrong conclusions are thoroughly examined and exposed in my book *Bigfoot Research: The Russian Vision*, 2007, 2011.

But back to Porshnev and his predecessors. His second great forerunner, after Linnaeus, was Darwin himself. Linnaeus lived and worked in the pre-Darwinian epoch, Porshnev in the post-Darwinian. Linnaeus was, in accordance with the paradigm of his time, a creationist; Porshnev was a devoted evolutionist and Darwinist. Hominology owes its birth and origin to evolutionary theory and the Darwinian revolution; actually, hominology is a follow-up and continuation of that revolution. Darwin's name and contribution to science are known better than those of Linnaeus, so I won't dwell on them here, except mentioning one episode of Darwin's biography directly connected with our subject. In the year 1833, in the course of his famous five-year voyage around the world on the *Beagle* (1831-1836), Charles Darwin was much surprised with the evidence of wildmen, suddenly encountered at "the end of the world", in Tierra del Fuego, the southern part of South America. He was told by a Fuegian, who served as a guide of the expedition and was called York by expedition members, that his brother had once killed a "wild man" during a hunt. Darwin writes in Chapter X of *A Naturalist's Voyage Round the World*:

"What the 'bad wild men' were has always appeared to me most mysterious; (this implies that he heard more about wild men than is mentioned in his account -- D.B.) from what York said, when he found the place like the form of a hare, where a single man had slept the night before, I should have thought that they were thieves who had been driven from their tribes, but other obscure speeches (what a pity they are not related -- D.B.) made me doubt this; I have sometimes imagined that the most probable explanation was that they were insane."

The last sentence indicates that Darwin gave much thought to the mystery. As I wrote in 1984, "I am much inclined to think that the creatures described as 'wild men' by the savages of Tierra del Fuego were not *Homo sapiens* but *Troglodytes recens* ubiquitous. Realizing that Darwin himself may have been close to a live object of our long and tortuous research, undertaken in the light of his great and revolutionary theory, I can't help feeling sort of elation mixed with wonder. It is intriguing to conjecture what course anthropology might have taken had Darwin happened to see the 'bad wild man' whose sleeping place he was shown."

I hope the reader is now prepared enough to understand why scientific acknowledgement in our case has been "abnormally prolonged". "Lasting changes come slowly"(Halton Arp). In fact, considering the revolutionary nature of our endeavors, the delay is not abnormal, but normal. History of science teaches us that it is normal for normal science to neglect and then resist revolutionary science as long as possible. The paradigm shift is a painful process for orthodoxy. As John Darnton put it, with over-emphasis, "Science will turn to superstition and torture to defend its right to be wrong" (Neanderthal, p.57). It is our behavior which is abnormal, not that of our opponents. It is abnormal because nearly all hominologists (most of them don't even regard themselves as such), in particular the few scientists with "relevant research agendas", as Dr. Bindernagel elegantly put it, never come up with revolutionary agendas, never say they are making a revolution in science, perhaps, not even being conscious of it. They behave like workers of normal science, making their careers and bent on personal, not collective efforts and goals. No wonder each Bigfoot researcher, even with academic credentials, is regarded as a maverick and ignored by the scientific community. Scientific revolutions are not gaining speed in this way.

This is our own considerable contribution to the delay of scientific acknowledgement.

How do we know that Neanderthals and other fossil hominids are fact, not fiction? We know this because there is a scientific discipline called paleoanthropology, with its specialists, paleoanthropologists. Actually, all things and subjects in science are taken for real thanks to corresponding disciplines and specialists. It takes a specialist of meteoritics to tell a stone fallen from heaven from a stone belonging to earth. It takes a specialist of a different kind to tell a hairy wildman from a hairy human (a case of hypertrichosis). Scientific disciplines are usually instituted by considering two criteria: specificity of study subjects, and their relative importance. Thus, paleoanthropology split from paleontology and was instituted as a separate discipline on account of hominid specificity and the subject's importance for understanding man's origin. Primatology was instituted as a separate discipline within zoology on account of primate specifics and importance of this order of animals. Hominology is singled out and instituted by the same token. Its study subjects are living hominids, which makes hominology different from paleoanthropology. As these hairy bipedal primates are different both from apes and Homo sapiens, their study can't be but a separate and specific field of knowledge. To know and remember this is essential for correcting our abnormal tactics and strategy on the way to acknowledgement.

All members of the scientific community know the words "abominable snowman" and "bigfoot", but they don't know a scientific discipline called hominology. If they knew it and accepted as scientific, they wouldn't fail to take its subjects of study seriously as well. Hence, our priority is not to get the rediscovery of living hominids acknowledged (it's futile for the moment), but to build the science of them. This means, first of all, to come to agreement on basic points among members of our own research community. Paleoanthropologists are a very contentious lot, but they come out as members of a single discipline, accepting and supporting certain common rules and principles, distinguishing them from other scientists. Similarly, all members of our research community must accept at last the name of the discipline which we represent and work for. The terms hominology and hominologist have long been in use and I hope they will be legitimized at last by general agreement. It is essential, of course, to come to terms among ourselves on the nature and taxon status of the primates we are re-discovering. As the phenomenon is global, we must take a global approach in considering this question. Such approach was practiced by the founding fathers of our research -- Ivan Sanderson and Boris Porshnev, but it was abandoned subsequently and became isolationist in North America, China and Australia. It has to be also realized that our discipline cannot be properly instituted in practice without being embodied and represented by an appropriate international institution, such as an International Society or Association. What we badly need is not a bigfoot body, but a solid scientific body. No doubt, to be taken seriously by the mainstream, we must present a united front and a single scientific current (with inevitable undercurrents, of course). A call to this end sounded back in 1970s: Hominologists of all lands, unite to show humankind what is true and right!

Finally, all our members must know and remember that hominology is not a hobby or deviating pastime, but the locomotive and beacon of a revolution in science. Below are my thoughts on the latter.

II. The Revolution's Impact and Significance

In 1975, John Green, Rene Dahinden, George Haas, Gordon Strassenburgh and I were discussing whether it was permissible to kill a bigfoot to prove the beings' existence. George Haas (1906-1978) and I were against the idea. He was the organizer and spokesman of the Bay Area Group of Bigfoot Investigators in California, and publisher of the Bigfoot Bulletin, a new kind of venture in North American hominology at the time. His arguments and ideas greatly impressed me. Here's a quote from George's contribution of April 16, 1975, to our debate:

"Fortunately, there seems to be a growing trend in the West to recognize that animals and other forms of life have rights of their own; that they were not just 'put here for the benefit of man' but are fellow passengers on the spaceship Earth through time and space and thus entitled to the respect and consideration due to any fellow

traveler. Most of this trend seems to be due to the growing influence of eastern philosophies on our western culture and I hope this trend continues."

"As a species we have appointed ourselves trustees of the earth and of everything on it but actually we do not 'own' anything. As individuals, as groups, as societies, we, in effect, hold all things in trust for future generations, not only of men but of all other species as well. How we manage this self-appointed trust is the measure of our integrity. If we log off all the redwood groves for the sake of a few jobs, if we exterminate all the coyotes to save a few ranchers' sheep, if we kill off all the eagles for a few souvenir feathers, then our sense of values is warped and distorted and we have failed to live up to our trust. The redwoods, the coyotes and the eagles have rights of their own and unless we can see that, we are in a bad way."

If people of such mentality were not an exception but the rule on the spaceship Earth, we could be fairly confident of mankind's continued long travel through space and time. Nobody is confident of that today. In all aspects and spheres -- be it the economy, politics, ecology, biodiversity -- conditions on earth would be startlingly different if the majority of humans thought and behaved like George Haas, of Oakland, California. Is it utopian to expect most people ever to think and behave in such a wise and life-affirmative way? Utopian or not, there seems to be no way out of humanity's global crisis without applying the best means of overcoming it. The best means of changing people's mentality and behavior is enlightenment and education.

Of the global army of teachers and educators, the most amazing and successful, among those known to me, is primatologist Dr. Jane Goodall, with her global project Roots & Shoots. Addressing young people, she wrote: "My greatest hope lies in the fact that young people, all around the world, are not only aware of the problems, but actually want to try to help solve them. And because the future of the planet lies in the hands of today's and tomorrow's youth, I decided I wanted to do my share of trying to help you to help the world. My way of helping was to start Roots & Shoots.

(...) It began with one small group of high school students in Dar es Salaam in 1991. (...) It is called Roots & Shoots because roots move gradually under the ground to make a firm foundation, and shoots seem small and weak, but to reach the light they can break open brick walls. The brick walls are all the problems we have been talking about. The roots and shoots are you and your friends and young people all around the world. Hundreds and thousands of roots and shoots can solve the problems, change the world, and make it a better place to live" (My Life with the Chimpanzees, 1996, pp.141,142).

Some salient features of Roots & Shoots programs are these: they are addressed to and engage young people of different cultural and religious backgrounds; they encourage them to solve problems cooperatively and become sensitive, socially responsible members of the community; the students accomplish projects they design themselves; it's a way to develop critical thinking, build better minds and connect learning with real global issues.

Now visualize real global issues, with people like George Haas and Jane Goodall, with her Roots & Shoots, on one side, and young men and women, on the other side, who become, or are turned into, terrorist "live bombs" and are committing horrendous mass murders around the world. It is said that the young men, responsible for the September 11 horror in the U.S., were university educated. Were they then genetically different from the rest of us? Of course, not. They were mentally different. And what built their mentality? Clearly, it was their upbringing and education at an early age, which a university education could no longer alter, even if it could alter mentality at all.

I make these points regarding education before turning to the coming revolution in anthropology because revolutions in science are opening new vistas and new chapters in the history of enlightenment and education. This is especially true of the Copernican and the Darwinian revolutions. I don't know how evolutionists will rewrite the story of human evolution when they acknowledge the reality of relict hominids, because we don't know yet the place of these primates on the tree of evolution and the number of their species or subspecies existing on

the planet today. But we can make comparisons with the previous revolutions and predict certain cognitive and educational effects of the coming one.

The effect of the Copernican revolution was tremendous, but it was sort of diluted by the long time of its acknowledgement; it affected first of all the educated upper strata of society, and initially only in one part of the world, i.e., West Europe. It was a radical and gigantic advance in knowledge for mankind, and consequently in the worldview and enlightenment. But I think this effect has never been used sufficiently in education to develop critical thinking and build better minds. Curiously, the thought-provoking metaphor "spaceship Earth" could only be coined in the age of astronautics, that came as a result of the Copernican revolution. Copernicus was said to have moved the Earth and stopped the Sun. If we want to see the world a safer and better place to live, all young people in the world must know the feat of Copernicus and Galileo, as well as that of the greatest hero of science -- Giordano Bruno. Without such knowledge they wouldn't know their place in the Universe and wouldn't feel themselves passengers on the spaceship Earth.

The results of the Darwinian revolution are no less telling. Darwin sheds light on man's place in nature, consequently, on man's nature itself. "Know thyself" remains the highest commandment of all. Did Darwin know all about evolution? Of course, not. Nobody does. But he proved the fact of evolution and discovered some of its laws. The question of man's origin and nature is even more touchy for humans than the place of Earth in the Universe. If Darwin had lived and come up with his theory a couple of centuries earlier, he would have been jailed, like Galileo, or burnt alive, like Giordano Bruno. His views and theory are still being vehemently attacked, so the Darwinian revolution is still going on. Richard Dawkins wrote that "Intelligent life on a planet comes of age when it first works out the reason for its own existence," i.e., the idea of evolution. As the latter is still being ignored or denied by the majority of earthlings, intelligent life on our planet has not really come of age yet. But one potent indicator that it is moving in the right direction is this: On October 23, 1996, Pope John Paul II said in a speech to the Pontifical Academy of Sciences:

"New findings lead us toward the recognition of evolution as more than a hypothesis. In fact it is remarkable that this theory has had progressively greater influence on the spirit of researchers, following a series of discoveries in different scholarly disciplines. The convergence in the results of these independent studies—which was neither planned nor sought—constitutes in itself a significant argument in favor of the theory." If Moslem high hierarchs likewise recognized that evolution is "more than a hypothesis", if madrasah students were taught Darwinism, I bet they would not be recruited to commit mass murders in the name of God. This shows how closely science and enlightenment are connected both with daily life and global issues. Now to the revolution in anthropology. In comparison, the issue is no big deal. Hominids thought to be extinct turn out to be extant. Yet a cognitive and emotional shock received from the news by the world of science is likely to be greater than in the previous revolutions. The reason is in the modern means of information that will bring the news in no time to every radio listener and TV viewer on the planet. Bigfoot and Yeti are of more interest to common people than abstractions of cosmology and evolution, so billions of listeners and viewers will expect explanations from the spokesmen of the scientific establishment, from the people who for decades have been treating the subject with naysayings and ridicule. Roger Knights proposed to build a wall of shame with their names on it. A good idea, but I am more interested in something else. When our academic opponents have eaten enough humble pie and finally recognized the presence of "uncataloged" hominid passengers on the spaceship Earth, there will happen a marvelous event in the history of science: natural sciences will take a historic lesson from humanitarian sciences. That is biologists, paleoanthropologists and physical anthropologists will take a great lesson from cultural anthropology, from folkloristics and mythology. It is these fields of knowledge that have preserved the bulk of evidence for the existence of uncataloged hominids, the evidence stubbornly ignored and denied by the learned softics. And it will be a historic lesson taken by

science and scientists from lay people, from the native population all over the world who have always known the presence of hairy wildmen, and some made no secret of it.

I must say that science, or rather scientists, in fact, many of them, are in need of such lessons. They make a fetish of their discipline, they worship paradigms of science as if these were dogmas of religion. Science is great and marvelous, but it has picked up and consumed only crumbs of the infinite Truth, called the Universe. So the scientist is always in need of Socratic humility, in need of always repeating "I know that I don't know." In the case of hominology, a wide and surprising gap between popular knowledge and scientific, shall I say, ignorance will be filled up and terminated at last. But who really knows whether or not there are other gaps of this kind and in what numbers? It's in place here to repeat Thomas Kuhn's observation: "Normal science, the activity in which most scientists inevitably spend almost all their time, is predicated on the assumption that the scientific community knows what the world is like." That the assumption is wrong or of limited worth follows from the words of John Haldane: "The Universe is not only queerer than we suppose, but queerer than we can suppose." Surely, acknowledgement of hominology and the revolution in anthropology are bound to have a sanative and stimulative effect on the world scientific community. This in turn must enhance the role of science in the enlightenment of peoples, in their increased taste for democracy and choice of better leaders for government. Popular masses, scientists and governments will then learn that the redwoods, the coyotes and the eagles, just like bigfoots, yetis and all our relatives of this kind, have rights of their own as our fellow travelers on the spaceship Earth. Spaceships that spin around the planet are held in orbit not only by their speed and gravity, but also, and even more so, by the skill, intelligence and team-work of their crews. Humans have to behave and manage the planet in the same intelligent and cooperative way in order to insure humanity's continued travel through time and space.

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