

- Erickson, D. 1991. Secret garden-cell culture may provide a unique route to taxol. *Scientific American* 265(4):121-122.
- Fitch, C. 1983. Mode of action of antimalarial drugs. In: Malaria and the red blood cell. *Ciba Foundation Symposium* 94:222-231.
- Flisser, A., K. Wilms, J. P. Lacleste, C. Ridaura, and F. Beltran (editors). 1982. Cysticercosis: present state of knowledge and perspectives. Academic Press: New York.
- Garnham, P. C. C. 1966. Malaria parasites and other haemosporidia. Blackwell. Oxford.
- Gillete, J., A. Conney, G. Cosmidies, R. Eastbrook, J. Fouts, and G. Mannering (editors). 1969. Microsomes and drug oxidations. Academic Press. New York.
- Gibbs, W. 1993. Back to basics. *Scientific American* 266(3):134-136.
- Ginsberg, H. and T. Geary. 1987. Current concepts and new ideas on the mechanism of action of the quinoline containing antimalarials. *Biochemical Pharmacology* 36:1567-1573.
- Joyce, C. 1992. Western medicine men return to the field. *Bioscience* 42:399-403.
- Kittler, G. 1963. Laetrile, the anti-cancer drug. Obolensky. New York.
- Lenski, R. and J. Mittler. 1993. The directed mutation controversy and neo-Darwinism. *Science* 259:189-194.
- Li, W.-H. and D. Graur. 1991. Fundamentals of molecular evolution. Sinauer. Sunderland, MA.
- Lute, H. and J. Billings (editors). 1956. Life's picture history of World War II. Simon and Schuster. New York.
- Lumsden, R. D. and C. M. Allen, Jr. 1992. Medical weight management programs in primary care. *Journal of the American Academy of Physician Assistants* 5:754-762.
- \_\_\_\_\_, P. Anders, and J. Pettera. 1992. Genetic information and McCann's dual factor paradigm for development and variation. *CRSQ* 29:63-69.
- \_\_\_\_\_, and G. Lumsden. 1992. Alleged informational insufficiency of the genome: a rebuttal. *CRSQ* 29:102-164.
- Mattingly, P. 1976. Evolution of the malarial: the problems of origins. *Parasitologia* 18:1-8.
- Modell, W. 1968. Malaria and victory in Vietnam. *Science* 162:1346-1352.
- Morison, S. E. 1948. History of United States naval operations in World War II. Volume V. The struggle for Guadalcanal. Little, Brown. Boston.
- \_\_\_\_\_. 1950. History of United States naval operations in World War II. Volume VI. Breaking the Bismarcks barrier. Little, Brown. Boston.
- Morris, H. 1988. The Genesis record. Baker. Grand Rapids, MI.
- Orrenius, S. and J. L. E. Ericsson. 1966. Enzyme-membrane relationship in phenobarbital induction of synthesis of drug-metabolizing enzyme system and proliferation of endoplasmic membranes. *Journal of Cell Biology* 28:181-198.
- Ransom, J. 1965. God without thunder. Archon Books. Hamden, CT.
- Ritter, 1992. New malaria treatment possible. The Associated Press, as printed in the (New Orleans) *Times-Picayune*, January 9, 1992 p. A-4.
- Salmon, E., M. McKeel, and T. Hays. 1984. Rapid rate of tubulin dissociation from microtubules in the mitotic spindle *in vivo* measured by blocking polymerization with colchicine. *Journal of Cell Biology* 99:1066-1075.
- Schmidt, G. and L. Roberts. 1981. Foundations of parasitology. Mosby. St. Louis.
- Sigerist, H. 1970. Civilization and disease. University of Chicago Press. Chicago.
- Slater, A. and A. Cerami. 1992. Inhibition by chloroquine of a novel haeme polymerase. Activity in malaria trophozoites. *Nature* 355:167-169.
- Snyder, S. 1977. Opiate receptors and internal opiates. *Scientific American* 236(3):44-56.
- \_\_\_\_\_. 1985. The molecular basis of communication between cells. *Scientific American* 253(4):132-141.
- Soifer, D. (editor). 1975. The biology of cytoplasmic microtubules. *Annals of the New York Academy of Sciences* 253:1-848.
- Steck, E. 1971. The chemotherapy of protozoan diseases. Volumes 1-4. Walter Reed Army Institute of Research. Washington, D.C.
- Stix, G. 1993. Back to roots. *Scientific American* 268(1):142-143.
- Unwin, 1989. The structure of ion channels in membranes of excitable cells. *Neuron* 3:665-676.
- Wang, J. C. 1985. DNA topoisomerases. *Annual Review of Biochemistry* 54:665-698.
- Warhurst, D. 1973. Chemotherapeutic agents and malaria research. In: Taylor, A. and R. Muller (editors). Chemotherapeutic agents in the study of parasites. *Symposia of the British Society for Parasitology* 11:1-28.
- Williams, E., G. Howe, and R. White. 1991. A desert millipede: evolution or design? *CRSQ* 28:7-16.
- Wyler, D. (editor). 1990. Modern parasite biology: cellular, immunological and molecular aspects. W. H. Freeman. New York.
- Zimmerman, M. 1980. Foundations of medical anthropology. Saunders. Philadelphia.

## OTA BENGAL: THE STORY OF THE PYGMY ON DISPLAY IN A ZOO

JERRY BERGMAN\*

Received 1 February 1993; Revised 26 April 1993

### Abstract

*One of the most fascinating historical accounts about the fallout of biological evolution theory on human relations is the story of Ota Benga, a pygmy who was put on display in an American zoo as an example of an evolutionarily inferior race. The incident clearly reveals the racism of evolutionary theory and the extent that the theory gripped the hearts and minds of scientists and journalists in the late 1800s. As humans move away from this time in history, we can more objectively look back at the horrors that evolutionary theory has brought to society of which this story is a poignant example.*

### Introduction

Genetic differences are imperative to the theory of naturalistic evolution because they are the only source of innovation for evolutionary advancement. History and tradition has, often with tragic consequences, grouped human phenotypes that result from genotypic variations together into categories now called races. Races function as evolutionary selection units that are of such major importance that the subtitle of Darwin's classic 1859 book, *The Origin of Species*, was "the preservation of superior races." This work was critical

in establishing the importance of the race fitness idea, and especially the "survival of the fittest" concept in evolution. The question being asked in the early 1900s was:

Who was, [and] who wasn't human? It was a big question in turn-of-the-century Europe and America . . . The Europeans . . . were asking and answering it about Pygmies. . . . often influenced by the current interpretations of Darwinism, so it was not simply who was *human*, but who was *more human*, and finally, who was the *most human*, that concerned them (Bradford and Blume, 1992, p. 29).

\*Jerry Bergman, Ph.D., Northwest College, Route 1, Box 246A, Archbold, OH 43502.

The racism that evolution spawned—the belief some races were inferior and closer to the lower primates—included the polyphyletic view that Blacks had evolved from the strong but less intelligent Gorillas, the Orientals from the Orangutans, and Whites from the most intelligent of all primates, the Chimpanzees (Crookshank, 1924). The belief that Blacks were less evolved than Whites and, as many early evolutionists concluded, would eventually become extinct, is a major chapter in our modern western cultural history. The nefarious fruits of evolutionism, from the Nazis' conception of racial superiority to its utilization in developing governmental policy, are all well documented (Bergman, 1992, 1993a).

There was especially a concern about evolutionism because of the problem of racism in early twentieth century America. Some scientists felt that the solution was to allow Darwinian natural selection to operate without interference. In Bradford and Blume's words,

Darwin was understood to have shown that when left to itself, natural selection would accomplish extinction. Without slavery to embrace and protect them, or so it was thought, blacks would have to compete with Caucasians for survival. Whites' greater fitness for this contest was [then believed] beyond dispute. The disappearance of blacks as a race, then, would only be a matter of time (1992, p. 40).

Each new American census though, showed that this prediction of Darwin was wrong because "the Black population showed no signs of failing, and might even be on the rise. . . . Not content to wait for natural selection to grind out the answer," one senator even tried to arrange a state of affairs to convince or even force Blacks to return to Africa (Bradford and Blume, 1992, p. 41).

One of the more interesting incidences in the history of evolution and racism is the story of the man who was put on display in a zoo (Brix, 1992). Brought from the Belgian Congo in 1904 by noted African explorer Samuel Verner, he was soon "presented by Verner to the Bronx Zoo director, William Hornaday" (Sifakis, 1984, p. 253). The man, a pygmy named Ota Benga (or "Bi" which means "friend" in Benga's language), was born in 1881 in Africa. When put in the zoo, he was about 23 years old, only four feet-eleven inches tall, and weighed a mere 103 pounds. Often referred to as a boy, he was actually a twice married father—his first wife and two children were murdered by the white colonists, and his second spouse died from a poisonous snake bite (Bridges, 1974).

He was first displayed in the anthropology wing at the 1904 St. Louis World's Fair with other pygmies as "emblematic savages" along with other "strange people." The exhibit was under the direction of W. J. McGee of the Anthropology Department of the St. Louis World's Fair. McGee's ambitions for the exhibit were to "be exhaustively scientific in his demonstration of the stages of human evolution. Therefore he required 'darkest Blacks' to set off against 'dominant Whites' and members of the 'lowest known culture' to contrast with 'its highest culmination' " (Bradford and Blume, 1992, pp. 94-95). The exhibit was also extremely popular and "attracted considerable attention" (Verner,

1906a, p. 471). The pygmies were selected because they had attracted much attention as an example of a primitive race. One *Scientific American* article said:

The personal appearance, characteristics, and traits of the Congo pygmies . . . [conclude they are] small, ape-like, elfish creatures, furtive and mischievous, they closely parallel the brownies and goblins of our fairy tales. They live in the dense tangled forests in absolute savagery, and while they exhibit many ape-like features in their bodies, they possess a certain alertness, which appears to make them more intelligent than other negroes. . . . The existence of the pygmies is of the rudest; they do not practise agriculture, and keep no domestic animals. They live by means of hunting and snaring, eking this out by means of thieving from the big negroes, on the outskirts of whose tribes they usually establish their little colonies, though they are as unstable as water, and range far and wide through the forests. They have seemingly become acquainted with metal only through contact with superior beings . . . (Keane, 1907, pp. 107-108).

While the pygmies stayed in America, they were studied by scientists to answer such questions as "how did the barbaric races compare with intellectual defective Caucasians on intelligence tests" or "how quickly would they respond to pain" (Bradford and Blume, 1992, pp. 113, 114). The anthropometricists and psychometricists concluded that their intelligence tests proved that pygmies "behaved a good deal in the same way as the mentally deficient person, making many stupid errors and taking an enormous amount of time" (Bradford and Blume, 1992, p. 121). Nor did they do very well in the sports competition. In Bradford and Blume's words, "The disgraceful record set by the ignoble savages" was so poor that "never before in the history of sport in the world were such poor performances recorded" (1992, p. 122). Ironically, Professor Franz Boas of Columbia University, a Jew who was one of the first anthropologists who opposed the racism of Darwinism—and who spent his life fighting the now infamous Eugenics movement—"lent his name" to the anthropological exhibit at the St. Louis Fair (Bradford and Blume, 1992, p. 113).

The anthropologists then measured not only the live humans, but in one case a "primitive's" head was "severed from the body and boiled down to the skull. Believing skull size to be an index of intelligence, scientists were amazed that this skull was larger than that which had belonged to the statesman Daniel Webster" (Bradford and Blume, 1992, p. 16).

A *Scientific American* editor said of the Fair, "of the native tribes to be seen in the exposition, the most primitive are the Negritos—little fellows of a distinctly negro type . . . nothing makes them so happy as to show their skill, by knocking a five-cent piece out of a twig of a tree at a distance of 15 paces. Then there is the village of the Head-Hunting Igorotes, a race that is generally superior to the Negritos and a fine type of agricultural barbarians" (Munn, 1904, p. 64). The same source referred to pygmies as "ape-like little black people" (Munn, 1905, p. 107) and theorized that the evolution of:

The anthropoid apes were soon followed by the earliest type of humanity which entered the Dark Continent, and these too, urged on by the pressure of superior tribes, were gradually forced into the great forests. The human type, in all probability, first emerged from the ape in southeastern Asia, possibly in India. The higher types forced the negro from the continent in an eastward direction, across the intervening islands, as far as Australia, and westward into Africa. Even today, ape-like negroes are found in the gloomy forests, who are doubtless direct descendants of these early types of man, who probably closely resembled their simian ancestors. . . . They are often dirty-yellowish brown in color and covered with a fine down. Their faces are fairly hairy, with great prognathism, and retreating chins, while in general they are unintelligent and timid, having little tribal cohesion and usually living upon the fringes of higher tribes. Among the latter, individual types of the lower order crop out now and then, indicating that the two were, to a certain extent merged in past ages (Munn, 1905, p. 107).

When on display, the pygmies were treated quite in contrast to how they first treated the whites who came to see them in Africa. When Verner visited the African king,

he was met with songs and presents, food and palm wine, drums. He was carried in a hammock . . . how were the Batwa treated in St. Louis? With laughter. Stares. People came to take their picture and run away. . . [and] came to fight with them. . . . Verner had contracted to bring the Pygmies safely back to Africa. It was often a struggle just to keep them from being torn to pieces at the fair. Repeatedly . . . the crowds became agitated and ugly; the pushing and grabbing took on a frenzied quality. Each time, Ota and the Batwa were "extracted only with difficulty." Frequently, the police were summoned (Bradford and Blume, 1992, pp. 118-119).

#### How Ota Came to the United States

Ota Benga was spared from a massacre perpetuated by the Force Publique, a group of thugs working for the Belgium government endeavoring to extract tribute (in other words, steal) including labor and raw materials from the native Africans in the Belgian Congo. The story is as follows: while Ota was out on a hunt, he successfully killed an elephant, and then came back with the good news to his people. Tragically the "camp Ota had left behind had ceased to exist. What Ota saw when he returned was different enough from what he remembered to make him doubt his eyes" (Bradford and Blume, 1992, p. 104). In short, his wife and children were all murdered, and their bodies were mutilated in a campaign of terror undertaken by the Belgian government against the "evolutionarily inferior natives." Ota himself was later captured, brought to a village, and sold into slavery.

In the meantime, Verner was looking for several pygmies to display at the Louisiana Purchase exposition and spotted Ota at the slave market. Verner bent down "and pulled the pygmy's lips apart to examine his

teeth. He was elated; the filed [to sharp points] teeth proved the little man was one of those he was commissioned to bring back. . . . With salt and cloth he was buying him for freedom, Darwinism, and the West" (Bradford and Blume, 1992, p. 106). Ota's world was shattered by the Whites, and although he did not know it the white man who was now his master had the same intention, he did know he had little choice but to go with him. Besides this, the events of the slave market were only one more event in Ota's life which pushed him further into the nightmare which began with his discovery of the slaughter and gross mutilation of his family. Verner managed to coerce only four pygmies to go back with him, a number which "fell far short of McGee's initial specification, the shopping list that called for 18 Africans, but it would do" (Bradford and Blume, 1992, p. 110).

After the fair, Verner took Ota and the other pygmies back to Africa—Ota almost immediately remarried, but his second wife also soon died (a victim of snake bite). He now no longer belonged to any clan or family since they were all killed or sold into slavery. His other people ostracized him, calling him a warlock, and claiming that he had chosen to stand in the White man's world outside of theirs. The white men were both admired and feared, and were regarded with awe and concern: they could do things like record human voices on Edison cylinder phonographs—which the pygmies saw as machines that stole the soul out of the body, allowing the body to sit and listen to its soul talking (Verner, 1906b).

After Verner collected his artifacts for the museums, he decided to take Ota back to America, (although Verner claims that it was Ota's idea) just for a visit though—Verner would take him back to Africa the next time he visited there. Back in America, Verner endeavored to sell his animals to zoos, sell his crates of things that he brought back from Africa to museums, and also to place Ota Benga. When Ota was presented to Director Hornaday of the Bronx Zoological Gardens, Hornaday's intention was clearly to "display" Ota. Hornaday "maintained the hierarchical view of races . . . large-brained animals were to him what Nordics were to Grant, the best evolution had to offer" (Bradford and Blume, 1992, p. 176). This "believer in the Darwinian theory" also concluded that there exists "a close analogy of the African savage to the apes" (*New York Times*, Sept. 11, 1906, p. 2). And too, Verner was then having serious money problems and could not afford to take care of Ota. At first Ota was free to wander around the zoo, helping out with the care of the animals, but this was soon to drastically change.

Hornaday and other zoo officials had long been subject to a recurring dream in which a man like Ota Benga played a leading role . . . a trap was being prepared, made of Darwinism, Barnumism, pure and simple racism . . . so seamlessly did these elements come together that later those responsible could deny, with some plausibility, that there had ever been a trap or plan at all. There was no one to blame, they argued, unless it was a capricious pygmy or a self-serving press (Bradford and Blume, 1992, p. 174).

Ota was next encouraged to spend as much time as he wanted inside the monkey house. He was even

given a bow and arrow and was encouraged to shoot it as part of "an exhibit." Ota was soon locked in his enclosure—and when he was let out of the monkey house, "the crowd stayed glued to him, and a keeper stayed close by" (Bradford and Blume, 1992, p. 180). In the meantime, the publicity began—on September 9, the *New York Times* headline screamed "bushman shares a cage with the Bronx Park apes" Although the director, Dr. Hornaday, insisted that he was merely offering a "intriguing exhibit" for the public's edification, he "apparently saw no difference between a wild beast and the little Black man; [and] for the first time in any American zoo, a human being was displayed in a cage. Benga was given cage-mates to keep him company in his captivity—a parrot and an Orangutan named Dohong" (Sifakis, 1984, p. 253).

A contemporary account stated that Ota was "not much taller than the orangutan . . . their heads are much alike, and both grin in the same way when pleased" (Bradford and Blume, 1992, p. 181). Benga also came over from Africa with a "fine young chimpanzee" which Mr. Verner also deposited "in the ape collection at the Primates House" (Hornaday, 1906, p. 302). Hornaday's enthusiasm for his new primate exhibit was reflected in an article that he wrote which begins as follows:

On September 9, a *genuine* African Pygmy, belonging to the sub-race commonly mis-called 'the dwarfs,' . . . Ota Benga is a well-developed little man, with a good head, bright eyes and a pleasing countenance. He is not hairy, and is not covered by the 'downy fell' described by some explorers. . . . He is happiest when at work, making something with his hands (*italics in original*, 1906, p. 301).

He then tells about how he obtained the pygmy from Verner who

was specially interested in the Pygmies, having recently returned to their homes on the Kasai River the half dozen men and women of that race who were brought to this country by him for exhibition in the Department of Anthropology at the St. Louis [World's Fair] Exposition (Hornaday, 1906, p. 302).

### The Influence of Evolution

The many factors motivating Verner to bring Ota to the United States were complex, but he was evidently "much influenced by the theories of Charles Darwin" a theory which, as it developed, increasingly divided humankind into human contrived races (Rymer, 1992, p. 3). Darwin also believed that the blacks were an "inferior race" (Verner, 1908a, p. 10717). Although biological racism did not begin with Darwinism, Darwin did more than any other man to popularize it among the masses. As early as 1699, English physician Edward Tyson studied a skeleton which he believed belonged to a pygmy, concluding that this race was apes, although it was discovered that the skeleton on which this conclusion was based was actually a chimpanzee (Bradford and Blume, 1992, p. 20).

The conclusion in Verner's day accepted by most scientists was that after Darwin "showed that all humans descended from apes, the suspicion remained that some races had descended farther than others . . . [and that] some races, namely the white ones, had left the ape far

behind, while other races, pygmies especially, had hardly matured at all" (Bradford and Blume, 1992, p. 20). Many scientists agreed with Sir Harry Johnson, a pygmy scholar who stated that the pygmies were "very apelike in appearance [and] their hairy skins, the length of their arms, the strength of their thickset frames, their furtive ways, their arboreal habits all point to these people as representing man in one of his earlier forms" (Keane 1907, p. 99). One of the most extensive early studies of the pygmies concluded that they were "queer little freaks" and

The low state of their mental development is shown by the following facts. They have no regard for time, nor have they any records or traditions of the past; no religion is known among them, nor have they any fetish rights; they do not seek to know the future by occult means . . . in short, they are . . . the closest link with the original Darwinian anthropoid ape extant" (Burrows, 1905, pp. 172, 182).

The pygmies were in fact a talented group—experts at mimicry, physically agile, quick, nimble, and superior hunters, but the Darwinists were blind to an objective study of them (Johnston, 1902a; 1902b; Lloyd, 1899). An excellent modern study by Turnbull (1968) shows the pygmies in a far more accurate light and demonstrates how absurd the evolution world-view of the 1900s actually was.

Verner was no uninformed academic, but "compiled an academic record unprecedented at the University of South Carolina, and in 1892, only 19 years of age, graduated first in his class" (Bradford and Blume, 1992, p. 69). In his studies, Verner

familiarized himself with the works of Charles Darwin. *The Origin of Species* and *The Descent of Man* engaged Verner on an intellectual level, as the theory of evolution promised to give scientific precision to racial questions that had long disturbed him. According to Darwin . . . it was 'more probable that our early progenitors lived on the African continent than elsewhere' (Bradford and Blume, 1992, p. 70).

His studies especially motivated him to answer questions about Pygmies such as:

Who and what are they? Are they men, or the highest apes? Who and what were their ancestors? What are their ethnic relations to the other races of men? Have they degenerated from larger men, or are the larger men a development of Pygmy forefathers? These questions arise naturally, and plunge the inquirer at once into the depths of the most heated scientific discussions of this generation (Verner 1902b, p. 192).

One hypothesis that he considered was that the

Pygmies present a case of unmodified structure from the beginning [a view which is] . . . against both evolution and degeneracy. It is true that these little people have apparently preserved an unchanged physical entity for five thousand years. But that only carries the question back into the debated ground of the origin of species. The point at issue is distinct. Did the Pygmies come from a man who was a common ancestor to many races

now as far removed from one another as my friend Teku of the Batwa village is from the late President McKinley? (Verner, 1902b, p. 193).

Many people saw a conflict between evolution and Christianity, and "For most men, the moral resolve of an evangelist like Livingstone and the naturalism of a Darwin canceled each other out. To Verner, though, there was no contradiction . . . [and he was] equally drawn to evangelism and evolutionism, Livingstone and Darwin" (1992, p. 70, 72). In short, the "huge gap between religion and science" did not concern Verner. He soon went to Africa to "satisfy his curiosity first hand about questions of natural history and human evolution . . ." (Bradford and Blume, 1992, p. 74). He wrote much about his trips to Africa, even advocating that the Whites take over Africa and run the country as "friendly directors" (Verner, 1908b, p. 10718). Verner concluded that the Pygmies were the "most primitive race of mankind" and were "almost as much at home in the trees as the monkeys" (1902b, pp. 189-190). He also argued that the blacks in Africa should be collected into reservations and colonized by "the White race" and concerns over the social and legal relations between blacks and whites should be solved by "local segregation of the races" (1906b p. 8235; 1907a, p. 8736). Verner was not a mean person, and cared deeply for other races, but this care was influenced in a major adverse way by his evolutionary beliefs (Verner, 1902a).

Henry Fairfield Osborn—a staunch advocate of evolution who spent much of his life proselytizing his faith and attacking those who were critical of evolution, notably Williams Jennings Bryan, made the opening-day remarks when the zoo first opened (Bradford and Blume, 1992, p. 175). Osborn and other prominent zoo officials believed that not only was Ota less evolved, but that in this exhibit the Nordic race had "access to the wild in order to recharge itself. The great race, as he sometimes called it, needed a place to turn to now and then where, rifle in hand, it could hone its instincts" (Bradford and Blume, 1992, p. 175).

In one of the announcements, Ota was described as a sensation—he made faces and "the crowd loved that" (Bradford and Blume, 1992, p. 180). Some officials may have denied what they were trying to do, but the public knew full well the purpose of the new exhibit: "There was always a crowd before the cage, most of the time roaring with laughter, and from almost every corner of the garden could be heard the question 'Where is the pygmy?' and the answer was, 'in the monkey house'" (New York Times, Sept. 10, 1906, p. 1). The implications of the exhibit were also clear from the visitors' questions:

Was he a man or monkey? Was he something in between? "Ist das ein Mensch?" asked a German spectator. "Is it a man?" . . . No one really mistook apes or parrots for human beings. This—it—came so much closer. Was it a man? Was it monkey? Was it a forgotten stage of evolution? (Bradford and Blume, 1992, p. 179).

One learned doctor even suggested that the exhibit should also be used to help indoctrinate the public in evolution:

It is a pity that Dr. Hornaday does not introduce the system of short lectures or talks in connection

with such exhibitions. This would emphasize the scientific character of the service, enhance immeasurably the usefulness of the Zoological Park to our public in general, and help our clergymen to familiarize themselves with the scientific point of view so absolutely foreign to many of them (Gabriel, 1906, p. 6).

That he was on display was indisputable: a sign was posted on the enclosure which said "The African Pygmy, 'Ota Benga.' Age, 23 years. Height, 4 feet 11 inches. Weight 103 pounds. Brought from the Kasai River, Congo Free State, South Central Africa by Dr. Samuel P. Verner. Exhibited each afternoon during September" (New York Times, Sept. 10, 1906, p. 1). And what an exhibit it was.

The orangutan imitated the man. The man imitated the monkey. They hugged, let go, flopped into each other's arms. Dohong [the orangutan] snatched the woven straw off Ota's head and placed it on his own. . . . the crowd hooted and applauded. . . . children squealed with delight. To adults there was a more serious side to the display. Something about the boundary condition of being human was exemplified in that cage. Somewhere man shaded into non-human. Perhaps if they look hard enough the moment of transition might be seen. . . . to a generation raised on talk of that absentee star of evolution, the Missing Link, the point of Dohong and Ota disporting in the monkey house was obvious (Bradford and Blume, 1992, p. 181).

It was also obvious to a *New York Times* reporter who stated "the pygmy was not much taller than the orangutan, and one had a good opportunity to study their points of resemblance. Their heads are much alike, and both grin in the same way when pleased" (Sept. 10, 1906, p. 1). That he was made much fun of is also indisputable: he was once given a pair of shoes which "over and over again the crowd laughed at him as he sat in mute admiration of them" (New York Times, Sept. 10, 1906, p. 1). Another *New York Times* article by one of the editors, after studying the situation, penned the following:

Ota Benga . . . is a normal specimen of his race or tribe, with a brain as much developed as are those of its other members. Whether they are held to be illustrations of arrested development, and really closer to the anthropoid apes than the other African savages, or whether they are viewed as the degenerate descendants of ordinary negroes, they are of equal interest to the student of ethnology, and can be studied with profit. . . . As for Benga himself, he is probably enjoying himself as well as he could anywhere in this country, and it is absurd to make moan over the imagined humiliation and degradation he is suffering. The pygmies are a fairly efficient people in their native forests. . . . but they are very low in the human scale, and the suggestion that Benga should be in a school instead of a cage ignores the high probability that school would be a place of torture to him and one from which he could draw no advantage whatever. The idea that men are all much alike except as they have had or lacked opportunities for getting an education out of books is now far out of date.

With training carefully adapted to his mental limitations, this pygmy could doubtless be taught many things . . . but there is no chance that he could learn anything in an ordinary school. (September 11, 1906, p. 6).

That the display was also extremely successful there was never any doubt. Bradford and Blume claimed that on September 16, "40,000 visitors roamed the New York Zoological Park . . . the sudden surge of interest . . . was entirely attributable to Ota Benga" (1992, p. 185). The crowds were so enormous that a police officer was assigned full-time to guard Ota (the zoo claimed this was to protect him) as he was "always in danger of being grabbed, yanked, poked, and pulled to pieces by the mob" (Bradford and Blume, 1992, p. 187).

Although it was widely believed at this time, even by eminent scientists, that Blacks were evolutionarily inferior to Caucasians, caging one in a zoo produced much publicity, especially by ministers and Afro-Americans. In Bridges' words

The Pygmy worked—or played—with the animals in a cage, naturally, and the spectacle of a black man in a cage gave a *Times* reporter the springboard for a story that worked up a storm of protest among Negro ministers in the city. Their indignation was made known to Mayor George B. McClellan, but he refused to take action (1974, p. 224).

When the storm of protests broke, Hornaday "saw no reason to apologize" stating that he "had the full support of the Zoological Society in what he was doing" (Bradford and Blume, 1992, p. 182). Evidently not many persons were very concerned about doing anything until the Afro-American community entered the foray. Although even some Blacks at this time accepted the notion that the pygmies were "defective specimens of mankind" several Black ministers were determined to stop the exhibit (*New York Times*, Sept. 10, 1906, p. 1). Especially did the use of the display to argue that Blacks were an inferior race make them "indignant." Their concern was "they had heard Blacks compared with apes often enough before; now the comparison was being played flagrantly at the largest zoo on earth." In Reverend Gordon's words, "our race . . . is depressed enough without exhibiting one of us with the apes. We think we are worthy of being considered human beings, with souls" (*New York Times*, Sept. 11, 1906, p. 2). Further, many of the ministers opposed the theory of evolution, concluding that "the exhibition evidently aims to be a demonstration of the Darwinian theory of evolution. The Darwinian theory is absolutely opposed to Christianity, and a public demonstration in its favor should not be permitted" (*New York Times*, quoted in Bradford and Blume, 1992, p. 183).

A *Times* article responded to the criticism that the display lent credibility to evolution with the following words: "One reverend colored brother objects to the curious exhibition on the grounds that it is an impious effort to lend credibility to Darwin's dreadful theories . . . the reverend colored brother should be told that evolution . . . is now taught in the textbooks of all the schools, and that it is no more debatable than the multiplication table" (Sept. 12, 1906, p. 8). Yet, *Publishers Weekly* commented the creationist ministers

were the only ones that "truly cared about him" (Anon., 1992, p. 56).

Soon some Whites also became concerned about the "caged Negro," and in Sifakis' words, part of the concern was because "men of the cloth feared . . . that the Benga exhibition might be used to prove the Darwinian theory of evolution" (1984, p. 253). The objections were often vague, as in the words of *The New York Times* article of September 9:

The exhibition was that of a human being in a monkey cage. The human being happened to be a Bushman, one of a race that scientists do not rate high in the human scale, but to the average non-scientific person in the crowd of sightseers there was something about the display that was unpleasant. . . . It is probably a good thing that Benga doesn't think very deeply. If he did it isn't likely that he was very proud of himself when he woke in the morning and found himself under the same roof with the orangutans and monkeys, for that is where he really is (1906, p. 9).

Some reporters, instead of ridiculing the zoo, criticized those who objected to the exhibit because they did not accept evolution. In Bradford and Blume's words, "New York scientists and preachers" wrangled over Ota, and those who believed that "humans were not descended from the apes and that Darwinism was an anti-Christian fraud . . . were subject to ridicule on the editorial pages of the *New York Times*" (1992, p. 191, 196). Although opinions about the incident varied, it did result in many formal protests and threats of legal action to which the zoo director eventually acquiesced, and "finally . . . allowed the pygmy out of his cage" (Sifakis, 1984, p. 253). Once freed, Benga spent most of his time walking around the zoo grounds in a white suit, often with huge crowds following him. He returned to the monkey house only to sleep at night. Being treated as a curiosity, mocked, and made fun of by the visitors eventually caused Benga to "hate being mobbed by curious tourists and mean children" (Milner, 1990, p. 42). In a letter to Verner, Hornaday revealed some of the many problems that the situation had caused:

Of course we have not exhibited him [Benga] in the cage since the trouble began. Since dictating the above, we have had a great time with Ota Benga. He procured a carving knife from the feeding room of the Monkey House, and went around the Park flourishing it in a most alarming manner, and for a long time refused to give it up. Eventually it was taken away from him. Shortly after that he went to the soda fountain near the Bird House, to get some soda, and because he was refused the soda he got into a great rage. . . . This led to a great fracas. He fought like a tiger, and it took three men to get him back to the monkey house. He has struck a number of visitors, and has 'raised Cain' generally (Bridges, 1974, pp. 227-228).

He later "fashioned a little bow and a set of arrows and began shooting at zoo visitors he found particularly obnoxious! After he wounded a few gawkers, he had to leave the Zoological Park for good" (Milner, 1990, p. 42). *The New York Times* described the problem as follows:

There were 40,000 visitors to the park on Sunday. Nearly every man, woman and child of this crowd made for the monkey house to see the star attraction in the park—the wild man from Africa. They chased him about the grounds all day, howling, leering, and yelling. Some of them poked him in the ribs, others tripped him up, all laughed at him (Sept. 18, 1906, p. 9).

The resolution of the controversy, in Ward's words, came about because:

In the end Hornaday decided his prize exhibit had become more trouble than he was worth and turned him over to the Reverend Gordon, who also headed the Howard Colored Orphan Asylum in Brooklyn (1992, p. 14).

Although Hornaday claimed that he was "merely offering an interesting exhibit and that Benga was happy. . . ." Milner (1990, p. 42) notes that this "statement could not be confirmed" since we have no record of Benga's feelings, but many of his actions reveal that he did not adjust very well to zoo life. Ota Benga unfortunately has left no written records whatsoever of his thoughts about the affair or anything else, thus the only side of the story that we have is Verner's voluminous records, the writings by Hornaday, the many newspaper accounts, and a 281 page book entitled *The Pygmy in the Zoo* by Philip Verner Bradford, Verner's grandson. Bradford had the good fortune in his research that Verner saved virtually every letter that he had ever received, many of which discuss the Ota Benga situation, all which he had access to when doing his research. Interestingly Verner related what he feels is the pygmy view of evolution:

After my acquaintance with the Pygmies had ripened into complete mutual confidence, I once made bold to tell them that some of the wise men of my country asserted that they had descended from the apes of the forest. This statement, far from provoking mirth, met with a storm of indignant protestation, and furnished the theme for many a heated discussion around the Batwa firesides (Verner, 1902a, p. 190).

After Benga left the zoo, he was able to find care at a succession of institutions and with several sympathetic individuals, but he was never able to shed his freak label history. First sent to a "colored" orphanage, Ota learned English and also took an interest in a certain young lady there, a woman named Creola. Somehow even Ota's supporters half believed some of the stories about him, and an "incident" soon took place there which touched off a controversy. As a result, Ota was soon forever shuffled miles away from Brooklyn and Creola. In January 1910 he arrived at a Black community in Lynchburg, VA, and there he seemed to shine.

Black families [there] entrusted their young to Ota's care. They felt their boys were secure with him. He taught them to hunt, fish, gather wild honey. . . . The children felt safe when they were in the woods with him. If anything, they found him overprotective, except in regard to gathering wild honey—there was no such thing as too much protection when it came to raiding hives. . . . A

bee sting can feel catastrophic to a child, but Ota couldn't help himself, he thought bee stings were hilarious (Bradford and Blume, 1992, pp. 206-207).

He became a Christian, was baptized, and his English vocabulary rapidly improved. He also learned how to read—and occasionally attended classes at a Lynchburg seminary. He was popular among the boys, and learned several sports such as baseball (at which he did quite well). He later ceased attending classes and became a laborer on the Obery farm for 10 dollars a month plus room and board (Bradford and Blume, 1992, p. 204). The school concluded that his lack of education progress was because of his African "attitude" when actually probably "his age was against his development. It was simply impossible to put him in a class to receive instructions . . . that would be of any advantage to him" (Ward, 1992, p. 14). He had enormous curiosity and a drive to learn, but preferred performance tests as opposed to the multiple choice kind.

Every effort was made to help him blend in (even his teeth were capped to help him look more normal), and although he seemingly had adjusted, inwardly he had not. Several events and changes that occurred there caused him to become despondent. He checked on the price of steamship tickets to Africa, and concluded that he would never have enough money to purchase one. He had not heard from Verner in a while, and did not know how to contact him. Later employed as a laborer in a tobacco factory in Lynchburg, VA, he grew increasingly depressed, hostile, irrational, and forlorn. When people spoke to him, they noticed that he had tears in his eyes when he told them he wanted to go home. Concluding that he would never be able to return to his native land, on March 20, 1916 Benga committed suicide with a revolver (Sanborn, 1916). In Ward's words: "Ota . . . removed the caps from his teeth. When his small companions asked him to lead them into the woods again, he turned them away. Once they were safely out of sight, he shot himself . . ." (1992, p. 14).

To the end, Hornaday was inhumane, seriously distorting his situation, even slanderously stating that Ota "would rather die than work for a living" (Bradford and Blume, 1992, p. 220). An account of his suicide was published by Hornaday in the 1916 *Zoological Bulletin*. Even at this late date, Hornaday's evolution-inspired racist feelings clearly showed through:

the young negro was brought to Lynchburg about six years ago, by some kindly disposed person, and was placed in the Virginia Theological Seminary and College here, where for several years he labored to demonstrate to his benefactors that he did not possess the power of learning; and some two or three years ago he quit the school and went to work as a laborer (emphasis mine, 1916, p. 1356).

In Hornaday's words, Ota committed suicide because "the burden became so heavy that the young negro secured a revolver belonging to the woman with whom he lived, went to the cow stable and there sent a bullet through his heart, ending his life."

How does Verner's grandson, a Darwinist himself, feel about the story? In his words,

the forest dwellers of Africa still arouse the interest of science. Biologists seek them out to test their



blood and to bring samples of their DNA. They are drawn by new forms of the same questions that once vexed S. P. Verner and Chief McGee; What role do Pygmies play in human evolution? What relationship do they have to the original human type. . . . (Bradford and Blume, 1992, pp. 230, 231).

He adds that one clear difference does exist, and that is, "Today's evolutionists do not, like yesterday's anthropometricists, include demeaning comments and rough treatments in their studies (p. 231)." They now openly admit that the "triumph of Darwinism" was "soon after its inception [used] to reinforce every possible division by race, gender, and nationality" (p. xx). Part of the problem also was "the press, like the public, was fascinated by, or addicted to, the spectacle of primitive man" (p. 7). The tragedy, as Buhler expressed in a poem, is:

From his native land of darkness, to the country of the free, in the interest of science . . . brought wee little Ota Benga . . . scarcely more than ape or monkey, yet a man the while! . . . Teach the freedom we have here in this land of foremost progress—in this Wisdom's ripest age—we have placed him, in high honor, in a monkey's cage! Mid companions we provide him, apes, gorillas, chimpanzees (1906, p. 8).

Note: The spelling in some of the quotes has been modernized.

### Appendix

#### Newspaper Articles on Ota Benga in St. Louis

African Pygmies for the World's Fair; amazing Dwarfs of the Congo Valley to be seen in St. Louis, some red, some black. They antedate the Negro in Equatorial Africa. Fearless Midgets who boldly attack elephants with tiny lances, bows and arrows. *St. Louis Post-Dispatch*. June 26, 1904.

An untold chapter of my adventures while hunting Pygmies in Africa [by] Samuel P. Verner. *St. Louis Post-Dispatch*. September 4, 1904.

Barbarians meet in athletic games; Pygmies in mud fight, pelted each other until one side was put to rout. Crow Indian won mile run; Negritos captured pole-climbing event and Patagonians beat Syrians in tug-of-war. *St. Louis Post-Dispatch*. August 6, 1904.

Cannibals will sing and dance. *St. Louis Post-Dispatch*. August 6, 1904.

Driven from huts by rainstorm; Pygmies and Ainus seek shelter for night in Indian school; resembles Noah's Ark; savages insist on taking pets from jungle homes with them to escape terrors of lightning. *St. Louis Post-Dispatch*. Aug. 20, 1904.

Enraged Pygmies attack visitor; H. S. Gibbons of Durango, Colorado, photographed them, but gave no tips. He was pursued and beaten; money would have been an effective weapon, but he wouldn't use it. *St. Louis Post-Dispatch*. July 19, 1904.

Exposition envoy Pygmies' victim? Fair officials have not heard for two months from explorer sent to African wilds. Tribe uses deadly arrows; perilous undertaking of Anthropological Department approved by Belgian Colonial Government. *St. Louis Post-Dispatch*. Monday. April 18, 1904.

Gifts to royal pair cost \$2.50; President Francis makes happy the hearts of World's Fair Pygmies for \$8.35. Barrel of salt for king; and other presents of similar value are given little Africans before departure. *St. Louis Post-Dispatch*. Dec. 4, 1904.

Pygmies demand a monkey diet; gentlemen from South Africa at the Fair likely to prove troublesome in matter of food. *St. Louis Post-Dispatch*. July 2, 1904.

Pygmies shiver over camp fire; "Give us blankets," is their greeting to missionary who brought them out of Africa. Say it's cold in St. Louis; discard palm leaf suits for warmer clothing—declare Americans treat them as they would monkeys. *St. Louis Republic*. Saturday. August 6, 1904.

Pygmy dance starts panic in Fair Plaza; seeing unclad Africans advancing toward her, brandishing their spears, woman screams and crowd follows her in terror. *St. Louis Post-Dispatch*. July, 1904.

10,000 strange people for Fair; The World's Fair Pike will soon be the most cosmopolitan spot on face of the earth. Whole shiploads en route; furthestmost corners of the earth are to be represented by natives in their characteristic splendor. *St. Louis Post-Dispatch*. Friday. April 1, 1904.

To exhibit man at the St. Louis Fair; Dr. McGee gathering types and freaks from every land. He explains the plans of the Department of Anthropology, of which he is the head. *New York Times*. Nov. 16, 1904?

Trying ordeal for savages; scientists will begin a special study of World's Fair Tribes September 1. *St. Louis Republic*. Aug. 14, 1904.

Verner escapes being eaten by cannibals; Man who went in quest of African Pygmies cables exposition company. *St. Louis Republic*. May 5, 1904.

World's Fair Department of Anthropology; portions of ancient cities are to be represented and unwritten history revealed. Treasures of antiquity will be so arranged as to show the bearing man's past achievements have upon contemporary progress. *St. Louis Republic*. March 6, 1904

#### Newspaper Articles on Ota Benga in New York

African Pygmy's fate is still undecided; Director Hornaday of the Bronx Park throws up his hands. Asylum doesn't take him; Benga meanwhile laughs and plays with a ball and mouth organ at the same time. *New York Times*. Sept. 18, 1906, p. 9.

A Pygmy among the primates; one of the "bantams" of the African race at the Zoological Park—his diversion—twenty-three, and twice married—to return to Africa later. [New York] *Evening Post*. Sept. 10, 1906.

A word for Benga; Mr. Verner asks New York not to spoil his friend, the bushman. *New York Daily Tribune*. Oct. 3, 1906.

Benga. *New York Times*. Sept. 23, 1906: [Editorial] p. 8. Bushman shares a cage with Bronx Park apes; some laugh over his antics, but many are not pleased; keeper frees him at times; then, with bow and arrow, the Pygmy from the Congo takes to the woods. *New York Times*. Sept. 9, 1906, p. 6.

Benga tries to kill; Pygmy slashes at keeper who objected to his garb. *New York Daily Tribune*. Sept. 26, 1906.



Colored orphan home gets the Pygmy; he has a room to himself and may smoke if he likes. To be educated if possible; when he returns to the Congo he may then help to civilize his people. *New York Times*. Sept. 29, 1906, p. 7.

Escaped the gridiron: Pygmy Man saved from cannibals visits New York. *New York Daily Tribune*. Sept. 16, 1906.

Hope for Ota Benga: if little, he's no fool; and has good reason for staying in the white man's land. Won't be an entree here; but his chief in Africa may die soon and the custom is to have a cannibal feast. *New York Times*. Sept. 30, 1906, p. 9.

Lively row over Pygmy. *New York Times*. Sept. 10, 1906.

Man and monkey show disapproved by clergy; The Rev. Dr. MacArthur thinks the exhibition degrading. Colored ministers to act; The Pygmy has an orang-outang as a companion now and their antics delight the Bronx crowds. *New York Times*. Sept. 10, 1906, p. 1.

M'Clellan snubs colored ministers; curtly refuses to receive protest against exhibition of man in ape cage. *New York American*. Sept. 12, 1906.

Negro clergy protest; displeased at exhibition of bushman in monkey house. *New York Daily Tribune*. Sept. 11, 1906, p. 6.

Negro ministers act to free the Pygmy; will ask the mayor to have him taken from monkey cage. Committee visits the zoo; public exhibitions of the dwarf discontinued, but will be resumed, Mr. Hornaday says. *New York Times*. Sept. 11, 1906, p. 2.

No aid from M'Clellan; Mayor "too busy" to see committee of colored men; they visited to protest against the public exhibition of a Negro dwarf in the monkey house at the Zoological Park—the delegation told by a subordinate to complain to the New York Zoological Society. *The [New York] Evening Post*. Sept. 11, 1906.

Ota Benga at Hippodrome; Pygmy meets his old friend, the baby elephant, giving out programmes. *New York Daily Tribune*. Oct. 3, 1906.

Ota Benga now a real colored gentleman; little African Pygmy being taught ways of civilization at Howard Colored Orphan Asylum. *New York Daily Globe*. Oct. 16, 1906.

Ota Benga, Pygmy tired of America; the strange little African finally ended life at Lynchburg, Va. Once at the Bronx Zoo; his American sponsor found him shrewd and courageous—wanted to be educated. *New York Times*. July 16, 1916, p. 12.

Ota Benga says civilization is all witchcraft; on exhibition at the New York Zoological Park, in Bronx, he rules monkey house by jungle dread. Wants to go home to buy him a wife; African Pygmy asserts New York is not wonderful and that we are all madmen. *New York World*. Sept. 16, 1906.

Pygmy to be kept here; colored ministers want to take him when guardian comes. *New York Times*. Sept. 19, 1906, p. 1.

Still stirred about Benga. *New York Times*. Sept. 23, 1906, p. 9.

The Black Pigmy in the monkey cage; an exhibition in bad taste, offensive to honest men, and unworthy of

New York City's government. *New York Journal*. Sept. 17, 1906.

The Mayor won't help to free caged Pygmy; he refers Negro ministers to the Zoological Society. Crowd annoys the dwarf; failing to get action from other sources the committee will ask the courts to interfere. *New York Times*. Sept. 12, 1906, p. 9.

Topics of the times; send him back to the woods. *New York Times*. Sept. 11, 1906, p. 6.

Topics of the times; the Pigmy is not the point. *New York Times*. Sept. 12, 1906, p. 8.

Zoo has a Pygmy too many; does anybody want this orphan boarder? He does not bite, he does not vote, his manners, though various, are mild—Prof. Verner, African Traveler, why don't you come and get him. *New York Sun*. Sept. 17, 1906.

## References

- Anon. 1962. Ota Benga: The Pygmy in the zoo. 1992. Book Review. *Publishers Weekly* 239(23):56.
- Bergman, Jerry. 1998. Eugenics and the development of the Nazi race policy. *Perspectives on Science and Christian Faith* 44(2): 109-123.
- . 1993a. Censorship in secular science: the Mims case. *Perspectives on Science and Christian Faith* 45(1):37-45.
- . 1993b. Book Review of Ota Benga: the Pygmy in the zoo. *Creation Research Society Quarterly* (in press).
- Brix, H. James. 1992. Ota Benga: the Pygmy in the zoo. *Library Journal* 117(13):134.
- Bradford, Phillips Verner and Harvey Blume. 1992. *Ota Benga: the Pygmy in the zoo*. St. Martin. New York.
- Bridges, William. 1974. Gathering of animals: an unconventional history of the New York Zoological Society. Harper and Row. New York.
- Buhler, M. E. 1906. Ota Benga. *New York Times* 19:8.
- Burrows, Guy. 1965. The land of the Pygmies. Thomas Y. Crowell. New York.
- Crookshank, T. G. 1924. The mongol in our midst. E. F. Dutton. New York.
- Gabriel, M. S. 1966. Ota Benga having a fine time: a visitor at the zoo finds no reason for protests about the Pygmy. *New York Times* 13:6.
- Hornaday, William T. 1966. An African Pygmy. *Zoological Society Bulletin* 23:361-302.
- . 1916. Suicide of Ota Benga, The African Pygmy. *Zoological Society Bulletin* 19(3):1356.
- Johnston, H. H. 1902a. Pygmies of the great Congo forest. *Smithsonian Report*. pp. 479-491.
- . 1962b. Pygmies of the great Congo forest. *Current Literature* 32:294-295.
- Keane, Arthur H. J. 1967. Anthropological curiosities; the Pygmies of the world. *Scientific American*. Supplement 1650. 64:99.
- Lloyd, A. B. 1899. Through dwarf land and cannibal country. *Athenaeum* 2:894-895.
- Milner, Richard. 1996. *The encyclopedia of evolution: humanity's search for its origins*. Facts on File. New York.
- Munn, E. (Editor). 1904. The Government Philippine Exposition. *Scientific American* 92:64-67.
- . 1905. Pygmies of the Congo. *Scientific American* 93:107-108.
- Rymer, Russ. 1992. Darwinism, Barnumism and Racism. *The New York Times Book Review* 6:3.
- Sanborn, Elwin R. (Editor). 1916. Suicide of Ota Benga, the African Pygmy. *Zoological Society Bulletin* 19(3):1356.
- Sifakis, Carl. 1984. Benga, Ota: the zoo man. in *American Eccentrics*. Facts on File. New York, pp. 252-253.
- Turnbull, Cohn. 1968. The forest people. Simon and Schuster. New York.
- Verner, Samuel P. 1901. Development of Africa. *Forum* 32:366-382.
- . 1962a. An education experiment with cannibals. *Worlds Work* 4:2289-2295.
- . 1962b. The African pygmies. *Atlantic* 90:184-195.
- . 1994. Affairs of the Congo State. *Forum* 36:150-159.
- . 1964a. Bringing the pygmies to America. *Independent* 57:485-489.

- 1904b. How the Batwa pygmies were brought to the St. Louis fair. *Harpers Weekly* 48:1618-1620.
- 1994c. Pioneering in central Africa. Book Review. *Nation* 78:357-358. [H. A. Coblenz, *Dial* 36:363-364; *Independent* 57:739].
- 1904d. The adventures of an explorer in Africa: how the Pygmies were brought to the St. Louis Fair. *Harper's Weekly* 22:1618-1620.
1905. African Pygmies. *Scientific American*. Supplement. 59:24,567-24,568.
- 1906a. The African Pygmies. *Popular Science* 69:471-473.
- 1906b. The white man's zone in Africa. *World's Work* 13:8227-8236.
- 1907a. Africa fifty years hence. *World's Work* 13:8727-8737.
- 1907b. American invasion of the Congo. *Harper's Weekly* 51:644.
- 1907c. Belgian rule on the Congo. *World's Work* 13:8568-8575.
- 1908a. A trip through Africa. *World's Work* 16:10768-10773.
- 1908b. The white race in the tropics. *World's Work* 16:10715-10720.
1916. The story of Ota Benga, the Pygmy. *Zoological Society Bulletin* 19(4):1377.
- Ward, Geoffrey C. 1992. Ota Benga: the Pygmy in the zoo. *American Heritage* 43:12-14.

## AN EVALUATION OF THE JOHN WOODMORAPPE FLOOD GEOLOGY MODEL—PART TWO

A. W. MEHLERT\*

Received 8 July 1992; Revised 2 February 1993

### Abstract

*The assumption of time-equivalence of index fossils is the basis of evolutionist geology. In this review of the Woodmorappe Flood Model it can be shown that there is a simpler and better explanation for the separation of fossils in a short time-frame. Rather than time itself being the determining factor in the positioning of fossils, geographical and tectonic causes provide the basis for a diluvial paradigm which is superior to the standard geologic framework.*

### Introduction

In Part One of this paper (Mehlert, 1993) attention was focused mainly on the deficiencies of the uniformitarian paradigm. We now turn to the positive side of flood geology and examine the mechanism of the Tectonically Associated Biologic Provinces concept (TAB). The relationship between the flora and fauna of a pre-Flood geographic area or province with the sedimentary deposits existing today is of utmost importance, and will be explored in detail.

### The Origins of Ecological Zones and Biogeographic Zones: The Mechanics of TAB

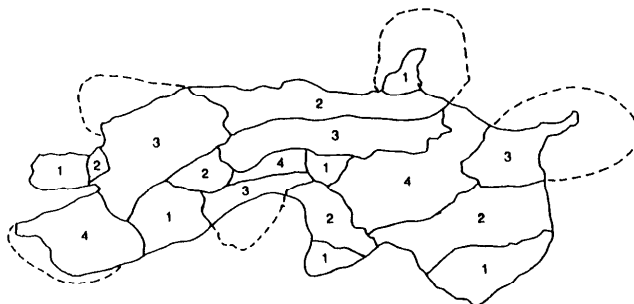
To the uniformitarian, ecological zonation is caused by organisms evolving and matching their environment, while biogeographic zonation is the result of organisms evolving in a distinct and physically separate area from the mainstream.

Creationists are not bound by these preconceived ideas and are free to look for possible Divine causes behind these zonations. If God during the Creation Week formed ecological and geographic zones in order to create a far larger diversity of organisms, we might find evidence of these zones reflected by the fossils. All over the world He may have created numerous special niches and areas for different faunal populations. If we can link these niches with tectonics, we may well find a totally different reason for fossil differentiation.

According to Woodmorappe's TAB concept (1983, pp. 133-186) it is possible to theoretically link the fauna of a province or zone with tectonics—in this case, downwarping or subsidence (See Figures 1 and 2). We could visualize four types of provinces or geographic regions, each supporting its own special 'mix' of plants and animals, and further visualize similar

provinces or zones repeating themselves around the earth. The area of these four types could range from very small to quite large—a few kilometers to hundreds of kilometers.

Zone 1 would, in a global Flood, subside or downwarp first, followed in order by Zones 2, 3 and 4, and this pattern could be repeated with Zone 4 always the last to downwarp (Figure 1). In this example, the zones are all terrigenous, but in fact they could also include marine areas. Also, there could be variation of life forms in the same numbered zones. There are two factors to be considered here: Because biotas within geologic periods exhibit biogeographic differentiation (i.e. 'epochs,' or 'stages'), tectonic differentiation may well play a lesser role than biogeographic differentiation. If there is greater biogeographic differentiation than tectonic differentiation, it is not special pleading to invoke the TAB concept as the major factor in total biostratigraphic differentiation.



**Figure 1.** Possible locations of the four TAB provinces relative to each other on an imaginary land-mass. In this case, all are terrigenous for simplicity. The dotted lines extending into the sea indicate possible marine extensions of land TAB provinces. In real life, all TAB 1 provinces would be virtually exclusively marine, reflecting the actual marine fossil domination of that era.

\*A. W. Mehlert, Dip. Theol., P.O. Box 30, Beenleigh 4207, Australia.