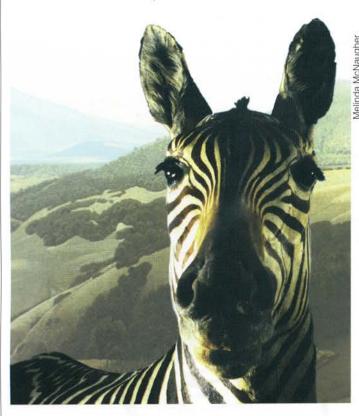


### **Cover Story**

The Hall of African Wildlife

R. Jay Gangewere

The Carnegie Museum of Natural History takes a first step in its long-range plan to modernize its exhibits in the life sciences; a new hall to showcase outstanding specimens of African animals in the context of their life zones, or biomes.



#### Cover

A fine black rhinoceros taken by Theodore Roosevelt in Africa in 1909 greets visitors to the new Hall of African Wildlife. The specimen on display is actually an amazing fiberglass replica of the original mounted animal. Cover photo by Melinda McNaugher.

## The Carnegie Calendar

May and June Events at The Carnegie

#### **Features**

Orientalism, Taxidermy and Art in 19th-Century France: Four Examples at The Carnegie

Louise Lippincott

The Camel Driver Attacked by Lions is a favorite display at The Carnegie Museum of Natural History—but its artistic origins in the 1860s reflect historic French fantasies about the Middle East, and The Carnegie Museum of Art has period works to prove it.



Tiger and Antelope, c. 1835, by Antoine Louis Barye (1796-1875)—a bronze sculpture that captures the romantic exaggeration of animalier artists of that period. Acquired by the Museum of Art in 1919, the sculpture measures 13 3/4 x 21 x 9 1/4 inches.

Searching for Money: The Foundation Center Answers the Call

Monica Mitchell

The Carnegie Library of Pittsburgh now has a great resource for seeking financial support for non-profit endeavorsbut to trigger money from foundations you must know their goals, and appreciate the rules of grantseeking.



The library gives orientation sessions to help the public.

# 18 Childs Frick and the Santens Brothers: Creating a Superb Collection of African Mammals

Duane Schlitter and Janis Sacco

When young Childs Frick sent to Pittsburgh examples of animals that he obtained on two African safaris in the early 20th century, the specimens were used to create classic museum mounts by two talented brothers from Belgium—Remi and Joseph Santens.



Remi Santens with the wire armature and skull that are the first step of a museum mount. The final animal resembles the precise clay model—which he fashioned from life.

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# THE HALL OF AFRICAN WILDLIFE

fter a decade of planning, the new Hall of African Wildlife at The ACarnegie Museum of Natural History brings to the public a fascinating look at the diverse world of African mammals.

Through the generosity of The Hunt Foundations of Pittsburgh and the Rockwell Foundation this new hall displays some of the museum's finest mammal specimens in the light of contemporary scientific knowl-

edge and interpretation.

Of all the continents, Africa is the one with the greatest number of large mammal species—among its over 800 mammal species are some of the largest animals in the world. Estimates of the continent's total biological diversity indicate over 57,000 species of plants, 2,000 species of amphibians and reptiles, and 1,900 species of birds. The total number of insects is undetermined, but is probably well over one million. South America's biodiversity is even greater than this.

To comprehend the immense biotic system of Africa, it is useful to think of four major life zones or "biomes": savanna, rain forest, mountain and desert. Each biome has its own climatic conditions and a distinctive plant and animal life. Although these biomes have existed for millions of years, their boundaries have shifted and the life in each is

continually adapting to change.

The new Hall of African Wildlife is likewise divided into biomes. The Section of Mammals has provided the most dramatic specimens, but expertise and specimens have also been drawn from the sections of botany, entomology, birds, and amphibians and reptiles. And as is usual in major installations, the staff in exhibit and design which created the hall, and the museum scientists, have worked closely with museum educators. An adjacent educational alcove uses interactive exhibits and video to explain even more about the natural history of Africa.

This new hall is a first step in a long-range plan to revitalize the permanent life sciences exhibits on the second and third floors of The Carnegie Museum of Natural History. In coming years the focus will be on refurbishing exhibits of North American wildlife and on presenting new material on South America, Asia and Australia.

Curator of Mammals Duane Schlitter notes that the Hall of African Wildlife was a good initial choice for design because of the beautiful taxidermy mounts already in the collection. Some of the animals were prepared and exhibited early in this century and are being seen again for the first time in decades. Many specimens in the Hall of African Wildlife could not be obtained today, and the cost of preparing them for display would be enormous—if experts in taxidermy could still be found to prepare large animals from the wild with the skill of an earlier generation of taxidermists.

No museum today could obtain from Africa a fine example of a lowland gorilla such as "George," a popular mount which is incorporated into the new hall. George was obtained from the Pittsburgh Zoo in 1979, when he died unexpectedly of natural causes at the age of 14. A 350-pound silverback gorilla in the prime of life, he came from Gabon in the 1960s. Today the species (Gorilla gorilla) is carefully protected. In Chicago another gorilla, "Bushman," who died at the local zoo was similarly prepared for display at the Field Museum of Natural History.

Likewise the black rhinocerous (Diceros bicornis) is now an endangered species, having been nearly poached to extinction in recent years because of the demand in Asian and Middle Eastern countries for its horn. The specimen standing at the entrance to the new hall is in fact an amazing replica of an original animal taken by President Theodore

Roosevelt in 1909, and exchanged by him with The Carnegie after his return from his Roosevelt-Smithsonian Expedition.

#### Animals of the Biomes

The Hall of African Wildlife presents all four biomes, but gives the most space to the savanna, which makes up half of the African continent. The savanna includes all types of grassland, bush, scrub and wood land vegetation south of the Sahara, and supports the most diverse and abundant collection of large mammals found anywhere in the world.

In the savanna display animals are seen on three sides of a waterhole, and can be studied in detail. The display features the Reticulated Giraffe, two species of Zebras, African Buffalo, Wildebeest and Warthog, among others. The taxidermy of these mounts dates from 1910 to 1920, and reflects a knowledge of anatomy and an artistic skill that is unrivaled by modern taxidermists.

Especially noteworthy is the grace and lifelike quality of the Gerenuks (Litocranius walleri) —the tall, thin gazelles seen feeding on small trees. Highly adapted to arid conditions, the Gerenuk has strong hindlimbs and a flexible spine which allow it to stand bipedally for long periods while it feeds on bushes and trees. Its narrow muzzle, pointed lips and long pointed tongue help it browse on the tiniest leaflets of a thorn tree. Equally important as a specialized browser of trees is the Reticulated Giraffe (Giraffa camelopardalis). The exhibit contains the first mounted specimen of this animal to be displayed in the country (1911).

The African Buffalo (Syncerus caffer) group is outstanding in its realism. This species inhabits the savanna as well as the rain forest, and is one of the most successful African mammals. The group confronts the viewer directly, showing the alert and aggressive behavior that makes them nearly invulnerable to predators.

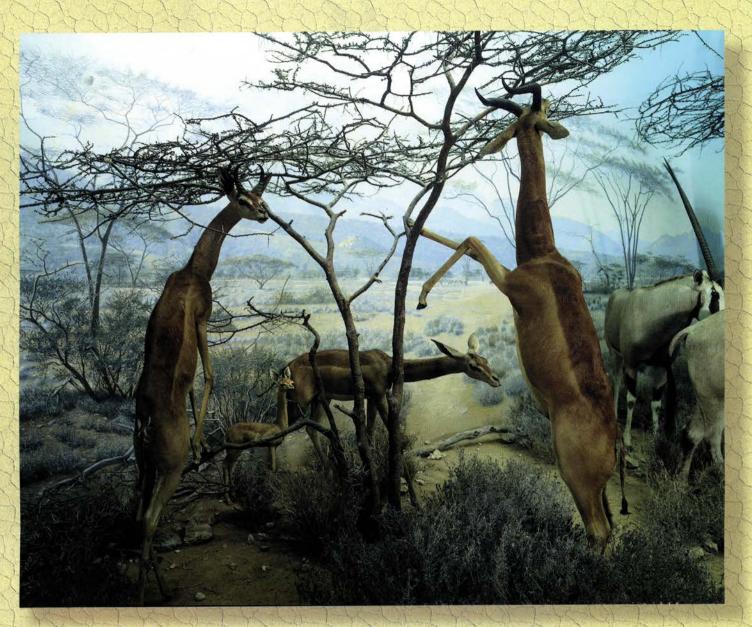
The two types of Zebras represent specializations for different environmental conditions. The larger Grevy's Zebra (Equis grevyi) can exist in the barren plains of the dry savanna, where it migrates to waterholes and digs successfully for water in dry streambeds. The Plains Zebra (Equus quagga) is more common and widespread, but is more waterdependent than the Grevy's Zebra and must drink water daily.

The savanna diorama contains other fascinating forms of life, such as African mound-building termites (Macrotermes) which can build spectacular mounds up to 20 feet high. There is also a Baobab Tree (Adansonia digitata), named in Latin by Linneaus to reflect the leaves that radiate out from a single point, just as do fingers from a human hand. This is a virtual "tree of life" for many African mammals, birds and insects. It can live for over a thousand years, and humans have depended in so many ways upon its wood, bark, leaves and flowers that it has deep roots in African mythology.

The rain forest with its richness of life forms is found on the west coast and in the central lowlands of the continent. Here an annual rainfall of over 63 inches and consistent temperatures promote an abundance of plant foods. In addition the rain forest has different "strata" or horizontal layers of vegetation that provide a variety of habitats for rain forest animals.

In the rain forest biome we see "George," the lowland gorilla (Gorilla gorilla), a pair of Zebra Duikers (hoofed animals—Cephalophus zebra), and a Gaboon Viper (a snake—Bitis gabonica) being mobbed or attacked by understory birds.

The desert biome is characterized by rainfall of less than 12 inches



Tall, thin gazelles called Gerenuks show remarkable grace as they feed on trees in an arid landscape.

PHOTOS BY MELINDA MCNAUGHER

#### MOUNTAIN NYALA



GERENUK





EDUCATIONAL ALCOVE

PLAINS ZEBRA

GEOGRAPHY ADAPTATION MIGRATION THEATER/VIDEO KIOSK



# F AFRICA ILDLIFE

# DESERT

FENNEC JERBOA HORNED VIPER SANDFISH LIZARD

# SAVANNA BIOME

BOOMSLANG KIRK'S DIK-DIK GERENUK ORYX RETICULATED GIRAFFE GREVY'S ZEBRA PLAINS ZEBRA
WILDEBEEST
WARTHOG
NILE MONITOR LIZARD
AFRICAN BUFFALO



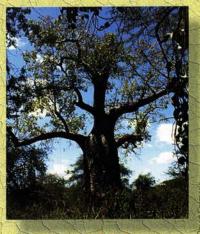
AFRICAN BUFFALO



LEOPARD

# RAIN FOREST BIOME

GABOON VIPER LOWLAND GORILLA ZEBRA DUIKER



BAOBAB TREE

# MOUNTAIN

MOUNTAIN NYALA

BLACK RHINOCEROS

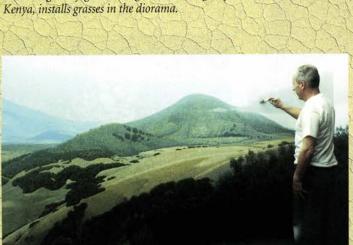


#### THE MAKING OF THE HALL OF AFRICAN WILDLIFE

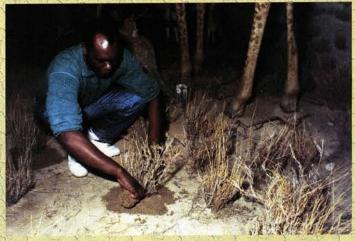
Right: In Africa preparator Pat Martin (left) and mammalogist Duane Schlitter (right) prepare to make a mold of the bark of the Baobab tree which is now replicated in the new hall.

Below Left: Artist Jerome Connelly paints the background of the mountain biome diorama.

Below Right: Njogu Mathenge, exhibit designer for the National Museum of Kenya, installs grasses in the diorama.







per year, and is found in three arid regions: the Sudanese in the north (including the Sahara), the Somali on the east coast, and Southwest Arid Region. As in other dry lands on the globe, desert-adapted plants and animals have evolved in ways that allow them to preserve water, hoard food, live underground or send roots deep into the soil.

The desert display includes a nocturnal Fennec (Vulpes zerda)—a small, elusive fox with large eyes and enormous ears. Its thick fur protects it from night cold, and the hairy soles of its feet protect it from the hot sand. Likewise adapted to the desert is the Lesser Egyptian Jerboa (Jaculus jaculus) another nocturnal mammal with acute hearing and behavior specialized to save moisture to survive.

The mountain biome is found in altitudes above 3,200 feet, where alpine plants and animals live in places characterized by fluctuating temperatures and very localized rainfall. Evergreen and bamboo forests alternate with grasslands up to about 9,800 feet, but high alpine forests and moorlands exist at even higher altitudes, with successfully adapted animal life.

The Mountain Nyala (Tragelaphus buxtoni) is a secretive animal which lives in the dense fog and vegetation of the mountains. It was first described in 1908—one of the last major mammals to have been discovered. The group of animals on display includes the first specimens to be mounted in the world (1916).

The educational alcove in the Hall of African Wildlife contains a video kiosk with two short films (each about three minutes long) that show hunting and cooperation among Africa's social carnivores, and African animals at play. The alcove also has a large, interactive map of Africa and specimens and photographs revealing the fascinating environmental adaptations of African wildlife.

Dioramas provide an experience that is immediately visual, emotional and lasting. "They provide an opportunity for contemplation, for discovery . . . for the viewer's imagination to soar, unimpeded by buttons and interpretive devices. They give us a feeling of time and place, of stability"-so said Peter Terril in an address at the 1984 conference of the American Association of Museums.

The artistry and painstaking craftsmanship of a good diorama thus underscores the difference between looking at "real" animals in an environment calculated to display environmental information, and watching fleeting images on a video screen. The exhibit specialists working under designer James Senior have created another important attraction at The Carnegie Museum of Natural History. Preparator Pat Martin and his team have created not only an amazing replica of the black rhino, but remarkable replicas of the boabab and thorn trees, and have installed vegetation brought back from Africa itself. Painter Jerome Connelly's background painting for the savannah diorama is so fine that it seems a photographic extension of the foreground installations.

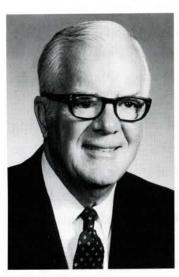
The Hall of African Wildlife does many things. It displays great examples of the taxidermist's artistry and skill, and it shows animals that can no longer be obtained under any circumstances. It reveals the latest scientific understanding of African wildlife in its dioramas and in a supplementary educational alcove. But most of all it adds to the museum another example of the classic diorama experience, a place where science and art come together so that the public will enjoy learning about, and contemplating, the natural world.

## SUPPORT FOR THE HALL OF AFRICAN WILDLIFE

n 1980, the first step towards a future Hall of African Wildlife was taken by Torrence M. Hunt, Sr., of The Hunt Foundations of Pittsburgh, with a gift that made possible the display of the lowland gorilla, "George," who had died at the Pittsburgh Zoo. This popular exhibit was part of a long-range plan for The Carnegie Museum of Natural History which, under the direction of Director James E. King, identified renovation of the older exhibit halls as a priority.

As discussions continued about a hall that would better display The Carnegie's African collections, the Rockwell Foundation, under the leadership of the late Willard F. Rockwell, Jr., made a gift towards the planning and development. In 1988, when the Hall of African Wildlife became a project of the Second Century Fund, The Hunt Foundations of Pittsburgh and the Rockwell Foundation again committed funds for the construction of the 3,500-square-foot gallery.

The generosity of these two foundations has made the new hall possible. Through their far-sighted support, Pittsburgh now has an educational resource that will help future generations understand the complex and fascinating continent of Africa.



Willard F. Rockwell, Jr.



Torrence M. Hunt, Sr.

## **O**PENING ACTIVITIES FOR THE NEW HALL

The Hall of African Wildlife opens to the public Saturday, May 29. The following activities are scheduled for visitors to help celebrate the opening, and additional events planned for the fall will be announced in a future issue of Carnegie Magazine.

Members Preview: Friday, May 21, through Thursday, May 27, during regular museum hours. Watch for your invitation in the mail or call 622-3379.

"Drop-in" Activities for Children: Saturday, May 29, 10:00 a.m.-4:00 p.m., and Sunday, May 30, 1:00-4:00 p.m., Mammal Hall.

Discover Carts (through August), Mammal Hall:

Saturdays at 1:00 p.m: May 1\*, 15, 29; June 5\*, 12; every Saturday in July and August; Sundays at 3:00 p.m.: May 2, 16, 30, 6, 13; every Sunday in July and August; Wednesday, June 16, at 1:00 p.m. \* There will be a sign-language interpreter available for hearing-

impaired visitors.

Children's Classes (Registration: 622-3288):

How Animals Live in Africa, ages 4 and 5 (1 session)

Friday, June 4, 10:30-11:30 a.m.

Saturday, June 5, 10:30-11:30 a.m.

Sunday, June 13, 1:30-2:30 p.m.

Meet Me at the Savanna, ages 8 to 10 (1 session)

Friday, June 11, 10:30 a.m.-noon

Saturday, June 12, 10:30 a.m.-noon

Adult/Child Workshops (Registration: 622-3288)

Great Expeditions to Africa, ages 7 and up (1 session)

Saturday, June 5, 1:00-2:30 p.m.

Sunday, July 18, 1:30-3:00 p.m.

Land of the Giants, age 6 or up with an adult (2 sessions, one at the museum and one at the Pittsburgh Zoo)

Sunday, August 22 and 29, 1:30-2:30 p.m.

Discovery Room: Activities and exhibits related to the Hall of African Wildlife.

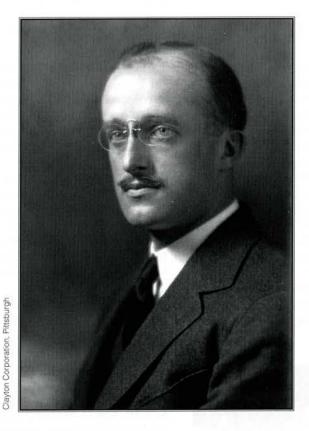
African Wildlife Birthday Parties: Parties with an African wildlife theme will be offered for children, ages 6 to 10, beginning the end of June. They include an activity and a tour of the new hall. Call 622-3289 for more information.

Teachers Reception: to be held in the fall.

School Programs: Tours begin in the fall for schools and other groups. The Educational Loan Collection has increased the number of African specimens and artifacts for loan to schools. A new African wildlife program is being developed and piloted by the In-School Program for volunteers to present in area school classrooms.

Publications: Discover African Wildlife at The Carnegie, the fourth activity book in the Discover series for upper elementary-age children, will be published in early May, and it will be available for \$2.95 at the Natural History Gift Shop and by mail by writing to Publications Secretary, Carnegie Museum of Natural History, 4400 Forbes Avenue, Pittsburgh, PA 15213-4080. Call 622-3287 for more information about mail orders.

Museum Highlight is a free sheet on the interesting history of the dioramas and specimens in the hall, and it includes a children's activity from Discover African Wildlife at The Carnegie. It will be available for several months in the new hall.



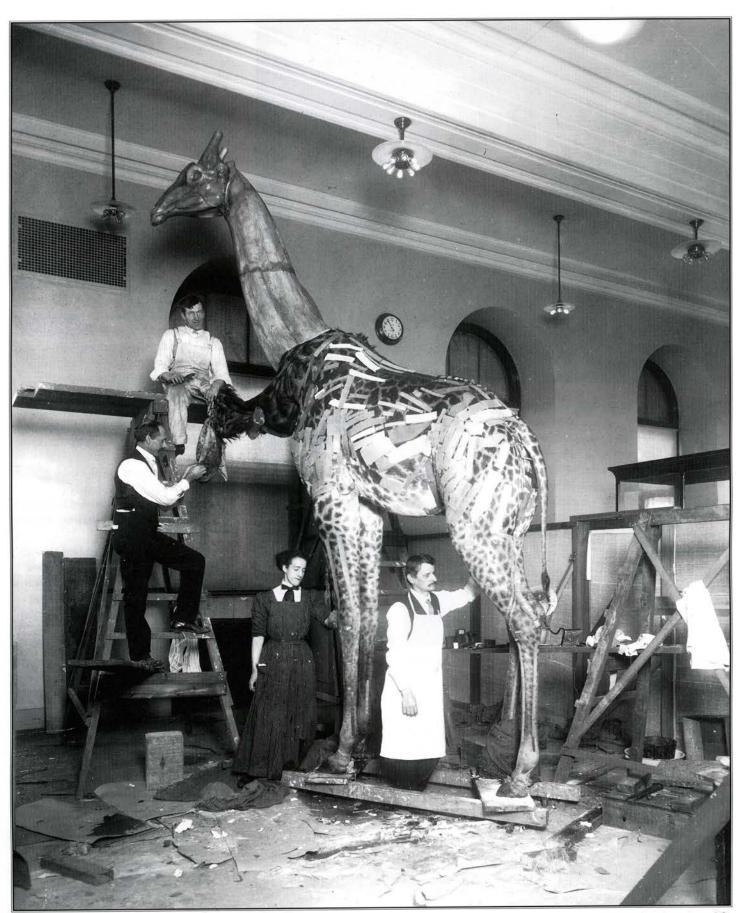
Childs Frick and the Santens Brothers: Creating A Superb Collection of African Mammals

By Duane Schlitter and Janis Sacco

In the late Spring of 1905, Childs Frick, son of Henry Clay Frick, graduated from Princeton University. Anxious to experience some of the African adventures that were popular topics at universities, young Frick determined to arrange a hunting safari to British East Africa (now Kenya).

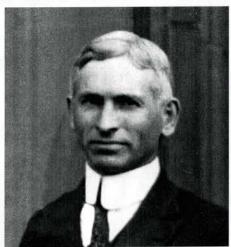
Conditions for such an expedition in this newly licenced territory of the British East Africa Company were still extremely dangerous and difficult, but young Frick persisted and by early winter of 1909, he was leading a major safari in British East Africa in pursuit of large mammal trophies. By the spring of 1910 Frick had bagged a large number of trophies, including Leopard, African Buffalo, Black Rhino, Grevy's and Plains Zebras, Wildebeest, Giraffe, Gerenuk, Dik-dik, Warthog, Kongoni, Topi, and Jackson's Hartebeest. He packed and shipped his trophies home to Pittsburgh, and to the Carnegie Museum, where they were destined to form the bulk of new exhibits of African mammals.

The taxidermy crew led by Remi Santens (on ladder) places skin on a giraffe manniken, circa 1910. The Carnegie giraffes were the first full mounts ever displayed in the United States.





The Mountain Nyala group being completed about 1916. The clay sculpture in the foreground was made by the Santens brothers as the model for the final mounts. Remi Santens is to the right, rear, in a vest. In the foreground is museum director William Holland, who brought the Santens brothers to Pittsburgh and arranged for them to visit the Bronx Zoo to sculpt their clay models from living animals.



Joseph Santens

Childs Frick's appetite for Africa had been merely whetted by his first safari experiences. At the same time that he had been in East Africa, former President Theodore Roosevelt and his son Kermit had been there, leading an expedition sponsored in part by the Smithsonian Institution. His sense of competition ignited, Frick decided to return on a similar scientifically-oriented expedition. Arrangements were made quickly, and Frick was back in Africa by late November of 1911. This time, he hired Edgar Mearns, retired colonel, physician and noted ornithologist, and Donald Rafferty, both of whom had accompanied the Smithsonian-Roosevelt expedition to collect birds and mammals.

Embarking from Djibouti on the Red Sea, this second expedition was larger than the first, and traveled by horse, ox wagon and camel. Frick and company traveled across Ethiopia to Lake Turkana, then down across Kenya to Athi River, site of the Uganda Railway train station located south of the newly emerging tent city that was to become Nairobi. While passing through the Arussi Plateau on the southern edge of the Rift Valley in central Ethiopia, Frick collected a group of seven Mountain Nyala, a relative of the kudus found only in the high, fog-shrouded mountains of Ethiopia and first described in England a few years earlier. By mid-September of 1912 the expedition had reached Mombasa, then it set sail for New York.

Frick's safaris certainly must have had an element of the "rite of passage to manhood" for the young university graduate, as they took him through some of the wildest and most dangerous regions of Africa at that time. But unlike other trophy hunters of this period, Frick was ahead of his time. He took some young and juvenile animals from the immense herds, thus ensuring that any resulting museum exhibits would be biologically correct and show more than just the largest males of each species, as was the usual practice.

Childs Frick donated this impressive collection of African mammals to the Carnegie Museum. The laborious task of preparing and mounting these animals for public display fell to the chief taxidermist, Remi H. Santens, and his brother and fellow taxidermist, Joseph A. Santens. Prior to coming to the Carnegie Museum in 1906 and 1907 respectively, Belgian-born Remi and Joseph Santens had earned a reputation for excellence during their tenure at Ward's Natural Science

Establishment in Rochester, New York, the world's leading taxidermy school.

Ward's graduate and taxidermist Robert Rockwell writes in his 1955 book, My Way of Becoming a Hunter:

"The work the Santens brothers were doing was of such high quality and so superior to mine that it didn't take a moment for me to realize that I had best scrap most of the mounting skills I was using and apply their technique."

Remi and Joseph Santens and several skilled assistants put their exceptional taxidermic and artistic talents to work to produce one of the most superb collections of African wildlife ever mounted. The new Hall of African Wildlife at The Carnegie Museum of Natural History features most of the original African mammal mounts designed and produced by the Santens brothers. What makes the Santens' mounts so unique is the meticulous attention paid to minute details. Remi Santens underscores the importance of such small details in producing a finished piece of workmanship in his 1934 publication Importance of Detail in Constructing Manikins:

"Animals experience emotions practically as we do, so why not try to bring about the physical appearance of these emotions in such a manner as to be clearly evident when viewed."

Remi and Joseph Santens were part of a revolutionary movement in taxidermy that called for capturing precisely the vitality, movement and grace of living animals. From this movement evolved modern taxidermic methods, and many of the techniques developed and employed by these men and other leading taxidermists of their time are used today.

Prior to creating the false bodies to which the original skins would be applied, Joseph and Remi Santens made life-like clay miniatures of living animals (whenever available) exhibited in the Bronx Zoo (recently renamed the International Wildlife Conservation Park) in New York City. During their tenure at the Carnegie Museum, the Santens brothers experimented with a variety of taxidermic methods and materials to create life-sized models of the original animals.

Most of the African mammal figures seen in the new hall began as wooden or metal frames covered with wire mesh and papiermâché. Clay was then applied from which muscles, wrinkles, veins and other details were modeled. Later, the clay was applied directly to an adjustable metal frame and built



Young Childs Frick on the porch of the Frick home, Clayton.

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5850 Baum Blvd., Pittsburgh, PA • Monday - Saturday 10-6 412-661-0700 1-800-952-9526 up to the finished form. The entire full-size model was then molded of plaster in several sections. These sections were inlaid with a variety of materials that might include burlap, paper, or hardware cloth soaked in plaster to make thin casts. These cast sections were then fitted together to create a strong, but relatively light-weight hollow form bearing all of the features of the original clay model. Where additional strength and resilience were needed, all or part of the leg might have been carved in great detail from wood and attached to the remainder of the plaster frame. Before its application, the skin was tanned and thinned as much as possible to ensure that the tiniest details of the plaster form would be preserved in the covered and finished mannikin. The skin was then applied using glue or paste and the seams were sewn tightly together. The animal group was then placed in an appropriate habitat setting, constructed of preserved original vegetation and lifelike reproductions. The new Hall of African Wildlife depicts very little of the original habitat prepared by the Santens brothers and their assistants, but features lush, more elaborate environments created by the museum's current exhibits staff.

Ten different species from the Santens original mounts are displayed in the new hall. All were collected during one or both of the Frick expeditions. While all of the mounted mammals exhibited in the hall are exceptional achievements, several individual or group mounts merit special mention for their historical and artistic significance. For example, the Reticulated Giraffe, originally mounted late in 1910, and the Mountain Nyala, initially placed on exhibit December 1, 1916, are the first of their respective kinds to have been mounted and exhibited in this country.

Several of the original Santens groups were acclaimed by prominent taxidermist William T. Hornaday in his 1922 publication, *Masterpieces of American Taxidermy*. He called the Grevy's and Plains Zebras "a beautiful and spirited achievement." And of the Black Rhino group he wrote, "The Santens black rhinoceros group is truly a tour de force...." Originally exhibited on Founders Day, April 27, 1920, one of these bull rhinos was taken in northern Kenya in 1909 by former President Theodore Roosevelt and donated to the Carnegie Museum, the other by Childs Frick in the same area. On behalf of the already-deceased Roosevelt, his sister,

Mrs. Douglas Robinson, attended the 1920 exhibition opening as an honored guest. While this original group of rhinos is not on display in the new hall, an impressive, fullsize fiberglass copy of the Roosevelt rhino greets all visitors as they enter.

The creative artistry of Remi Santens is also evident in his treatment of the African Buffalos, first exhibited in the spring of 1913. His approach, revolutionary for its time, was to design a realistic portrayal of these animals as they move through their natural environment, a papyrus swamp. The buffalos appear to be splattered with the mud of their marshy surroundings and the alert, somewhat threatening expression and stance of the female suggests movement and vitality.

Then-director William J. Holland, recognizing the unique, albeit somewhat heretical, treatment of the African Buffalo group, made the following comments in the 1913 Annual Report for the Carnegie Museum:

"The treatment of the group may possibly provoke comment and criticism, but it is believed to be a step in the right direction, and will likely be followed by the leading taxidermists of the future."

He could not have been more correct. In their innovation, artistry and taxidermic skill, Remi and Joseph Santens were truly masters of their craft. These animals, collected and mounted more than 70 years ago, are still among the best of their kind in any natural history museum in the world, and fortunately are back once again on exhibit in revitalized, natural settings.

Duane Schlitter is curator, and Janis Sacco is a post-doctoral fellow, in the Section of Mammals in The Carnegie Museum of Natural History.

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