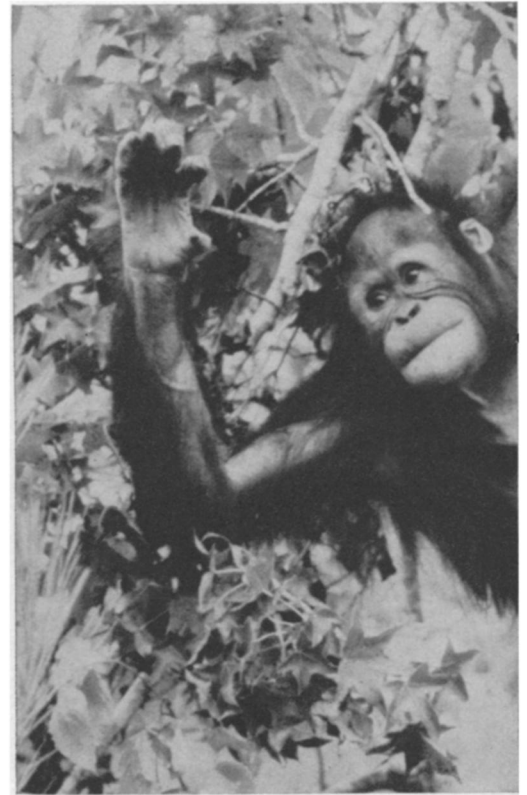




For some unknown reason: Mother orang with baby on her head.



As intelligent as the chimp and gorilla,

PRIMATOLOGY

New Look at the Great Apes

Pioneering studies of man's near-relatives in the wild reveal a rich pattern of social-emotional behavior

There is a tendency to compare the habits and behavior of apes and men.

And the truth may be that man has organizational patterns representative of all of the anthropoids; he is solitary like the orangutan, socially mobile like the chimpanzee, territorial like the gibbon (but unlike the great apes) and socially cohesive like the gorilla.

Until recently humans have known next to nothing about the animals nearest to them in evolution—the anthropoids called the great apes; for years scientists concerned with great apes would study only the chimpanzee, considering the gorilla to be too fierce and the orangutan too stupid. Neither assumption is valid, but it took the field work undertaken essentially during the last five years to dispel those fancies and a host of others.

Among the things which have interfered with understanding of the great apes up to now is the fact that their behavior in captivity, where they have been traditionally studied, may differ sharply from their behavior in the wild where they are now being sought out.

In captivity, for example, all three apes establish dominance hierarchies; in the wild only gorillas seem to use this system extensively, and there the hierarchy is welcomed by group members, not challenged.

(Only the gibbon, a lower anthropoid form, is purely territorial.)

It is in this kind of understanding the great apes' social and emotional behavior that substantial strides have been made since the early 1960's. The gorilla has been stripped of his fiendish reputation and the chimpanzee of his clownish image; a chimp in the wild

inspires more respect than laughter and the gorilla turns out to be quite amiable.

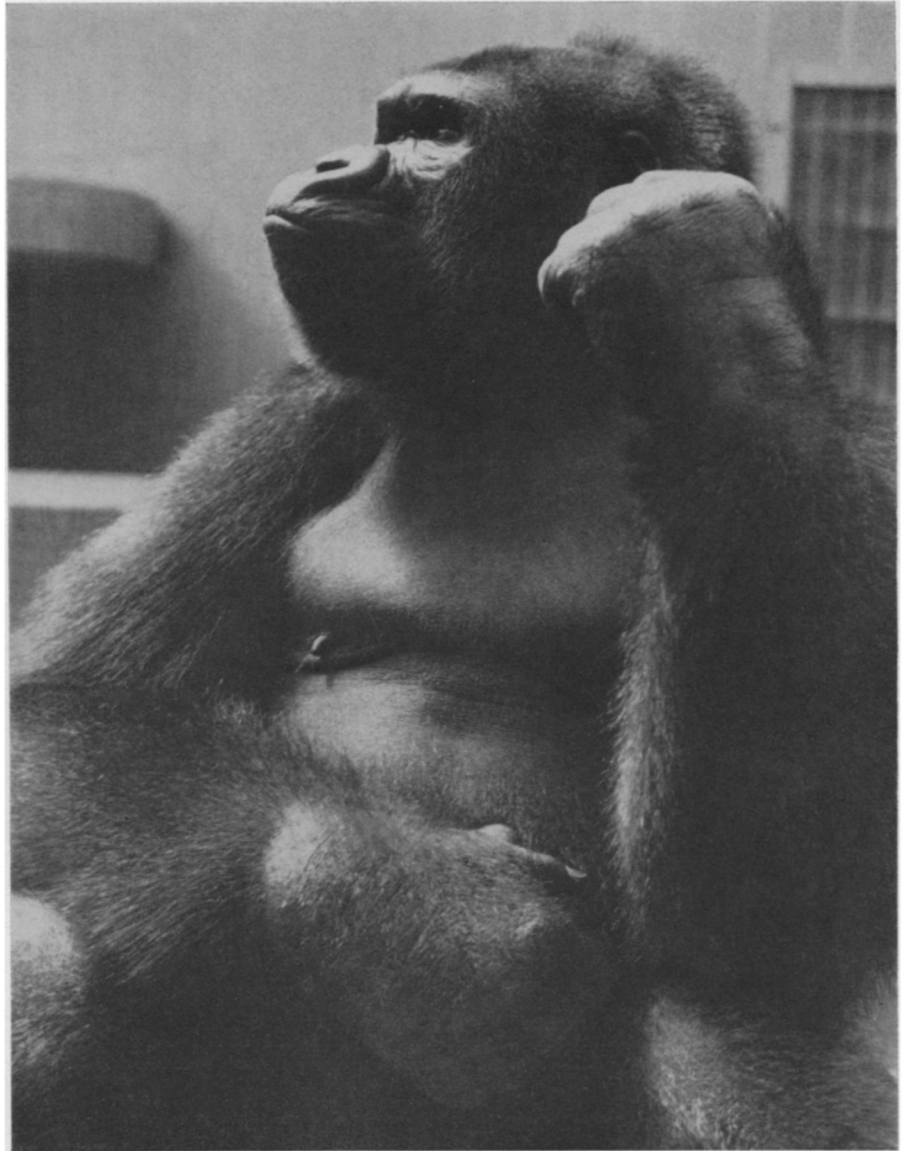
It was zoologist George B. Schaller who destroyed the myth of gorilla ferocity when he walked into the animal's territory unarmed. On occasion the animals approached within yards of him, but never attacked. Unprovoked, they turned away. "The gorillas proved amiable far beyond my wildest expectations," he remarks.

He became the unchallenged authority on gorillas with his hallmark study, "The Mountain Gorilla," in the early 1960's.

He emphasizes the point that in the gorillas' natural African habitat the essentials of existence—food, nest material, companionship and mates—are there for the taking. "There is no competition for these items, and with everyone fully aware of his status in the



orangutans alone remained in the trees.

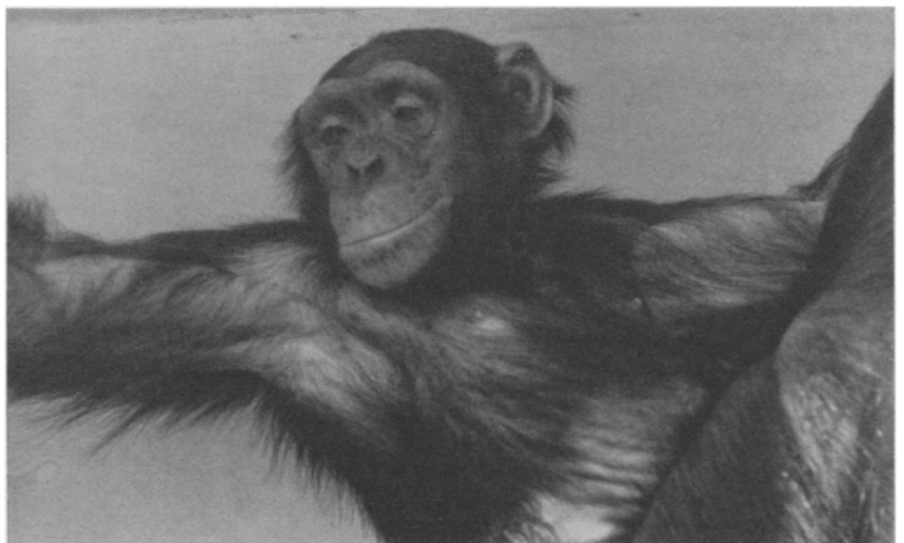


Contrary to myth, the shy gorilla is amiable rather than ferocious, reveals emotions in its eyes.

Photos: Yerkes Primate Center; Norris Durham, Pennsylvania State University



Orang baby—not melancholy.



The extrovert chimpanzee has an atypical, socially mobile life in the wild.

. . . great ape studies



Like human infants, baby gorillas explore everything with their mouths.

group, there is rarely any strife beyond the occasional bickering which is apt to occur even among the most congenial companions."

The gorilla social group, which averages about 20 animals, is always dominated by a silver-backed male, grizzled by age. This dominance hierarchy promotes peace, says Dr. Schaller, and members of the group seem genuinely to like their benevolent, silver-backed dictator. On down the line, males dominate females and females dominate juveniles; the social exchange is close and affectionate; Dr. Schaller finds it much like that of a human family, with a polygamous mating system—"a type for which man certainly has a predilection."

Emotionally, the gorilla has earned a reputation for shy introversion; some call him phlegmatic. Dr. Schaller, however, observed a range of emotions in these animals, from hesitation and uneasiness to curiosity, boldness and annoyance. Emotions are visible mostly in the eyes, he says. But like the human, gorillas will bite their lips when uncertain, frown when annoyed and youngsters throw tantrums when thwarted.

Curiosity is common to all the great apes. Like the human infant, the baby gorilla explores everything in reach with its mouth.

Dr. Duane Rumbaugh of San Diego State College, who recently tested a baby gorilla through its first year, stated unequivocally during last month's Second International Congress on Primatology, in Atlanta, that its exploratory behavior equals that of human infants. "A gorilla is a curious, attentive, persevering individual," says Dr. Rumbaugh. But lacking manual dexterity, the gorilla eventually becomes frustrated.

Compared to the gorilla, with its stable social group, the chimpanzee appears to be unusually, even mysteriously, mobile. It does travel in groups, covering a range of six to eight miles, but those who have studied chimps in the wild claim that members are constantly changing, moving in and out of groups.

Chimps actually do not have fixed groups, says English primatologist Dr. Vernon Reynolds of Bristol University, who spent eight months watching them in Uganda's Budongo Forest.

He compares the chimp's social mo-

bility with man's. Friends will stay together for weeks and sometimes months, says Dr. Reynolds. Groups are constantly splitting up. Chimps also appear to lack a dominance system; they have leaders, but leadership is not maintained through force. The top animal seems to maintain his dominance through displays—he ruffles the hair on his shoulders, hoots, sways from side to side, sometimes rushes pell-mell down a slope. Such displays attract other chimps who relate to their leader with affection.

Only the arboreal orangutan, dangerously close to extinction, has yet to be tracked in its habitat—Borneo and Northern Sumatra. The inroads of civilization and hunters have depleted the stock, and unless recently imposed conservation measures can rebuild it, naturalists will have difficulty finding the animal, much less studying it, except in captivity.

It is rare today for the average Borneo native to see one orangutan in his lifetime, says Dr. Richard Davenport of the Yerkes Primate Center in Atlanta, home of the largest collection of great apes in captivity.

Dr. Davenport has himself seen few of the great tree-living apes in the wild. Except for mother and offspring, the animals seem to travel alone, but whether such solitary behavior is natural or a result of the thoroughly disturbed environment is unknown.

An orangutan's reputation for melancholy stems from its apparent solitude, independence, lack of curiosity and unresponsiveness, as compared to the chimp. But those working with young animals in captivity find them mischievous, sociable when housed together and filled with curiosity.

In the laboratory, says Dr. Davenport, an orang is the most destructive of all three apes. "If anything is loose, he'll find it and make it looser." On one occasion at the Yerkes Center, oranges reached through the bars of their cages to unscrew every light bulb that had been installed in the corridor.

But because oranges are less expressive than the extrovert chimpanzee, scientists have taken longer to recognize their emotional cues. "If an orang is upset," says the primatologist, "he may squeak; a chimp will scream. In excitement or anger, a chimp will bare all its teeth; the orang may bare one."

One strange orang habit, observed only in captivity, seems to have no obvious explanation. The new mother frequently will park her baby on top of her head so that arms and legs dangle down on all sides. Given a head of cabbage, the orang peels off the outer leaves and makes a skull cap. After it finishes the rest of the cabbage, it sooner or later eats the hat.