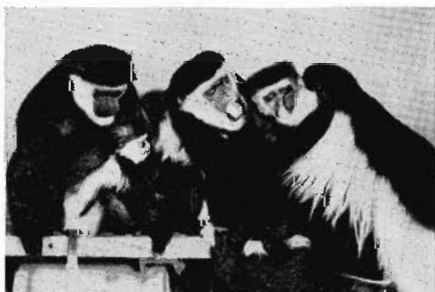


The Mountain Guereza

Robert Horwich & Leland LaFrance



Research is an important activity at the Chicago Zoological Society's Brookfield Zoo facility, under the guidance of its Director, Dr. Peter Crowcroft, and its Associate Director for Research and Education, Dr. George Rabb. Dr. Rabb's dual responsibilities are not just coincidence. The philosophy behind research at Brookfield Zoo is that it should contribute information about animals that can be incorporated into the zoo's public education program as well as develop new knowledge to share with zoologists at other zoos, at universities, and at natural history museums. A sample of some of that research is presented here.

Zoos and natural history museums are naturally complementary, and zoo and museum curators have traditionally worked closely together. In fact, encouraging zoos to undertake research on their animal populations was a particular interest of Karl P. Schmidt, Field Museum's renowned Chief Curator of Zoology from 1940 until 1955, and of Alfred E. Emerson, the

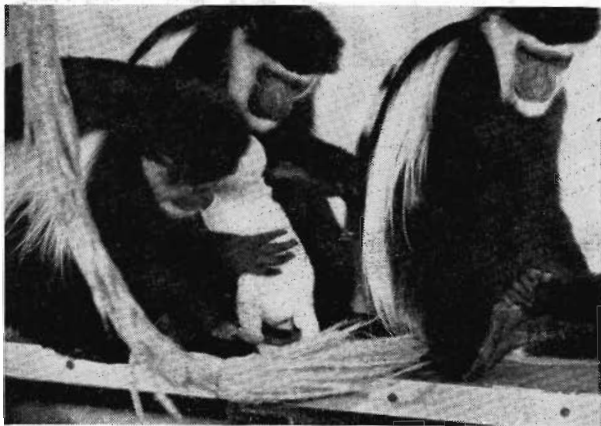
distinguished Professor of Zoology (now Emeritus) at the University of Chicago and Research Associate at Field Museum. Drs. Schmidt and Emerson were both long-time trustees of the Chicago Zoological Society and were instrumental in the initial appointment of a research zoologist at Brookfield Zoo. The tradition of cooperation between the two institutions was carried on by Dr. Austin L. Rand, the Museum's Chief Curator of Zoology from 1955 to 1968, who contributed so much to popularizing natural history education; he was chairman of the zoo's scientific advisory committee.

Recently, as part of a long-term zoo research study, a perceptive ethologist and a patient photographer began filming the behavior of a captive troop of Mountain Guerezas, Colobus guereza, shortly after the birth of its youngest member. These animals are a species of social, leaf-eating East African monkey that lives in close-knit troops of two to thirteen individuals, composed typically of a single adult male, one

or more adult females, and their offspring of varying ages. Within the tropical rain forest that is their natural habitat each troop maintains its integrity and territory through visual and vocal displays.

Dr. Robert Horwich and Leland LaFrance selected and organized parts of the film footage to show three stages of growth of the infant within its social matrix: mother-infant unity; individuation; and socialization. The picture-story presented here was taken from their completed 24-minute color film, with voice narration, which is now being prepared for general distribution. Inquiries about the film should be directed to the Education Department, Chicago Zoological Society, Brookfield, Illinois.

Dr. Robert Horwich is Research Zoologist, Leland LaFrance is Photographer at Brookfield Zoo.



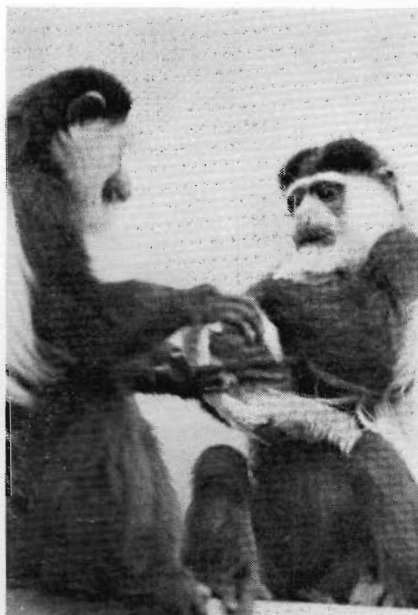
Mother-infant unity

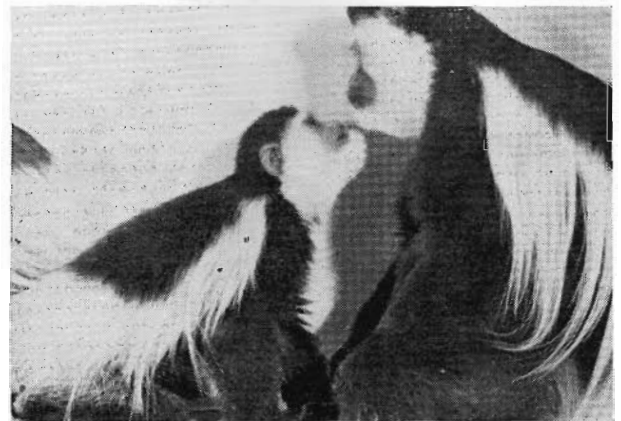
The white newborn Mountain Guereza begins life on the nipple. Here it finds food and security.

Other females in the troop show great interest in the newborn. The mother allows them to take and carry her baby. These infant transfers may occur during the infant's first day of life. Despite the extra attention of the other females, the two-month-old infant prefers to be with its own mother and on her nipple, often returning to her immediately following a transfer. This may discourage transfers.

The other females mouth, sniff, and groom the infant—even more frequently than does its mother. Females often sniff or kiss the infant's back during and immediately after a transfer.

During the first part of its life, the infant constantly uses its mother's nipple as an ever available source of security.





Individuation

As the infant's pelage starts to change to adult coloration, a period of intense scratching begins. The relationship to pelage change is uncertain.

Scratching, when it first appears, is uncoordinated, arrhythmic, and often misplaced, sometimes even missing the infant itself and ending on the mother. Those scratches falling on itself may give feedback to help the individuation process. Scratching, like other individuation behaviors, begins in an uncoordinated manner, but becomes more integrated as the infant develops; specifically, scratching becomes more directly placed and shorter in duration.

The infant gains identity as it pays more attention to itself than to the comfort it has with its mother.

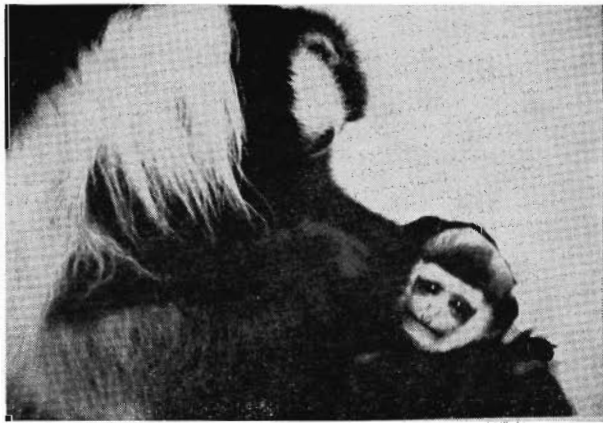
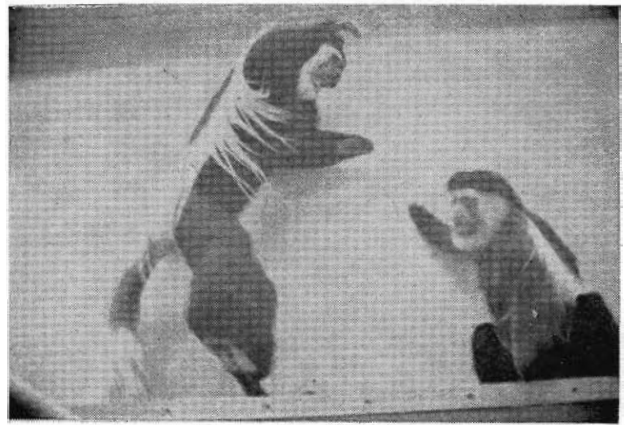
The infant moves out from the maternal cavity more and more. It reaches out, explores things, explores itself, and explores other individuals in the troop in an asocial manner.

Although the Colobus monkey doesn't ride on its mother's back during transit as baboons do, it, like other Old World monkey babies, does climb on her and use her as a base for pre-social play. The female tolerates the infant's behavior, although it sometimes appears to be annoying to her.

Individuation marks the beginning of an interest in solid food. The infant shows interest in the food its mother eats by sniffing her mouth, as do other individuals in the troop. Such sniffing is common in most Old World monkeys; it seems to give the other troop members an idea of what the individual is eating.

There is a period of mouthing of various objects. This is common in many other Old World monkeys and in humans. The infant mouths its own hand as well as parts of its mother. Mouthing is an important behavior of this individuation period. At the same time the hands begin to manipulate and explore objects as the infant grows. Later the infant integrates the use of its mouth and hands.





Socialization

Lip-smacking occurs consistently in social contexts after about 50 days of age, indicating that the infant is moving into the socialization period. Though lip-smacking is first noticed at 18 days of age, at that early stage it is outside of social context.

The infant lip-smacks as it shows great interest in the dominant male. The male may respond by lip-smacking and gently pulling the infant's head toward him. Earlier in the infant's life the male has few interactions with it. As the infant grows, the male may carry it occasionally. The young male may repeat some of the mild interest the dominant male shows, cupping the infant under the chin. He may capture the infant as it travels by itself. He may attempt to carry the infant but is unable to control it as well as adult females do.

As the infant develops socially, it is controlled more by the others in play. Often it responds from the security of the maternal cavity. It shows great interest in the play of other troop members.

Social play in *Colobus guereza* is common in

older juveniles and adults. In captive troops, all individuals play at one time or another, including adult females. They play with other adults as well as with the young of the troop, although play most often occurs between individuals of similar ages. With individuals of different ages, the older one seems to modify the intensity or roughness of the play, being more gentle with the younger individual. Play includes a great deal of mouthing of each other's face, arms, hands, and feet. Occasionally play ends in grooming.

The period of intense mothering of the infant gives way to a gradual disenchantment, until scenes such as this rejection of a five-month-old infant become common.

But the youngster is allowed to find some security on the nipple until it is over a year old. From the security of the maternal cavity, that holds the Guereza baby between womb and entry into a group of adult peers, the young monkey passes from mother-infant unity through individuation to gradual weaning, and on into adult socialization.

Out of the infant comes the adult. The Guereza troop renews itself.

