The history-making X15 rocket plane took its place last week under two other history markers, the Wright Flyer and Spirit of St. Louis, in A&I. Secretary of the Air Force Robert Seamans presented the experimental plane, first manned vehicle capable of flying in both air and space, to NASA in ceremonies on June 16, exactly ten years after its first flight. In its 198 flights since then it set records for speed—4,535 miles an hour— and altitude—354,200 feet. Both are still unequaled.

Bay Facility to Observe Anniversary

Chesapeake Center Will Celebrate With All-Day Open House June 28

The Smithsonian's Chesapeake Bay Center for Field Biology will celebrate its fourth birthday Saturday, June 28 with a day-long invitational open house. Maryland Governor Marvin Mandel, members of the Maryland Congressional delegation, the scientific community and citizens of the area in which the Center is located have been invited to view its operation and facilities and take part in the anniversary program.

The Chesapeake Bay Center is a 700-acre waterfront research facility dedicated to preserving and enhancing the quality of man's environment through programs of ecological study and education.

The Center is situated on the western shore of the Chesapeake Bay just south of Annapolis, Maryland, in an area of great ecological significance as well as historic and economic importance. It presents a wide selection of typical local ecosystems—from marshes, abandoned pastures, and upland hardwood forests to landfills in cultivation.

Scientific programs at the Center are guided by an academic consortium in which the Johns Hopkins University and the University of Maryland have joined with the Smithsonian. Academic participation by other institutions as well as individual scientists is invited.

The Smithsonian acquired this land and established the Chesapeake Bay Center for Field Biology in June 1965 through the generosity of private individuals and foundations. Both public and private funds carry forward today's far-ranging programs.

PRIMARY OBJECTIVES

To advance existing knowledge of the area's biological populations communities and ecosystems, and their environmental relationships.

• Methodically inventing plant and animal--land and water ecosystems--to provide a scientific base for the study of all aspects of the natural environment.

• Ensuring conditions, both in the short and long term, will be measured against these yardsticks or baselines.

• Conducting the sponsoring appropriate ecologically oriented research.

• Using the Center as an outdoor laboratory to teach ecology on both the undergraduate and graduate levels.

• Hosting seminars, colloquia, public talks and demonstrations in ecology for both participating students and the general public.

• Controlling and recording amounts of chemical fertilizer applied to the Center's cultivated land in order to study the effects of nutrient run-off on the surrounding estuaries.

• Using the personnel, research, and facilities of the Center to assist local festival and civic organizations in planning rational land use for the community.

CURRENT RESEARCH

Research under way today is oriented towards both land and water ecosystems and their interrelationships. Work is being conducted in the following areas:

• Water quality

(Continued on page 3.)

S. I. Movie Honored

"Festival in Washington," the first film produced by the Smithsonian Institution Motion Picture Unit, Office of Public Affairs, has won the top award of the Council of International Non-Theatrical Events (CINE). The Golden Eagle Award will be presented to Public Affairs Director Frederic M. Phillips and producer John O'Toole for this film. In the meantime, CINE will enter the movie, which documents last year's folk-life festival, in various film festivals abroad.
To Zoo's Apes, 'Mother' Means Louise Gallagher

by Mary M. Krug

Louise Gallagher "always wanted a redhead daughter."

And now she has one—a two-month-old darling with long arms, a wrinkled, old-lady face, and thick auburn hair covering her body.

Mrs. Gallagher is Mrs. Bernard F. Gallagher, wife of the Zoo's animal keeper foremost. Manis, the baby, is an orangutan.

Manis is Mrs. Gallagher's first orang, but far from first orangutan. She has been substitute mother to the Zoo's primates for the last 12 years. She has embraced with enthusiasm a job that would probably make other wives run crying to the marriage counselors.

It all started with Vickie Jean, a chimpanzee whose mother was unable to raise her. Mr. Gallagher proposed to bring her home with him from work each evening. Mrs. Gallagher was working herself at the time, and the Gallaghers' daughter Sherrie was only 3½ years old, but Mrs. Gallagher took on the care of the 6-month-old primate. "Within three days that was my baby," she recalls. "I even started inventing reasons to stay home and take care of her."

Until that time Mrs. Gallagher had been firm in her belief that "you couldn't treat any animal like a child," but she soon learned that the way to handle a young ape is to treat it as if you were raising a human baby. In fact, she notes, with the gorillas she has to be even more particular with sterilizing than with herself.

So good a job did Mrs. Gallagher do with Vickie Jean that the chimp's baby brother Donny was entrusted to her the following year. And there has been little let-up since.

The neighbors, at both her present and previous address, have adjusted to the situation by not getting too close. Each great ape has been "accepted as the Gallagher baby," she notes, and the neighborhood children treat them as such, "never as they would a puppy or kitten."

The next-door neighbor has a human baby almost exactly the same age as Manis and "we compare." The orangutan is closer to the development rate of a human baby than are other apes, who were quicker. Manis can scoot now but will not crawl until about six months. She will soon go into a playpen.

When Manis is sick—and her ailments have included the usual childhood scourge coli as well as asthma—she is treated by a regular pediatrician, whose name Mrs. Gallagher thought it best not to divulge. "He mutes me," she said. "Some of his other patients might not understand if I went to the office."

All of the babies have an actual physical need for love and cuddling, but Mrs. Gallagher has learned that orangs are the most affectionate of all. Manis reaches out for her "mother" and clings, especially when there is a stranger present. And when she is not clinging to her mother she clutches a small pillow for security.

Mrs. Gallagher has dressed all of her babies like little humans, and this has led to some understandable doubletakes by strangers. She wheels her charges in a baby carriage. When passersby ask for a poop, she plays it straight and waits for a reaction. "I enjoy tricking people," she says.

A classic reaction came when she took her first gorilla to the grocery store. With its bonnet, sweater, and blanket, only its face was visible. A neighbor, who was aware of the true contents of the blanket, burst into laughter as she overheard another shopper exclaim to her companion, "My God in heaven, I'd love to see what that girl's husband looks like!"

This Harlem view by Leonard Freed is representative of the works in "The Conceived Photographer," an exhibition of the selected works of Werner Bischof, Robert Capa, Freed, David Seymour and Don Welner in A&I until August 24. There is an admission of 50 cents for adults and 25 cents for children to benefit the Anacostia Neighborhood Museum.

Contrary to the assumption of most people, the apes do not swing from the chandeliers or climb on the drapes. In fact, Mrs. Gallagher believes they are easier to discipline than children. The first time they start to climb on the sofa, she disciplines them. Then they are no more trouble.

In fact, people have given her more trouble about raising her charges than the animals have. The Gallaghers had to get an unlisted telephone after repeated calls from individuals who demanded directions to the house so that they could bring their children to see the baby, or who were offering unwanted advice on raising it or were other varieties of nuisance.

Another trouble with the mother role is ending it. The apes are with Mrs. Gallagher night and day for at least six months, and then they must learn to make the change from cribs and ruffled diapers to cold, bare cages.

They do not have to go through this shock all at once. On their first Zoo visit Mrs. Gallagher goes into the cage and feeds them there. They are acclimated over a period of days to being left alone in their new surroundings, and so far none has taken easily to being exposed to the public with no clothes on. Leonard gorilla even tried to hide behind a blanket the first time he was placed nude in the cage.

Mrs. Gallagher keeps records for Zoo director Ted Reed on each baby's growth rate, health, and behavior. Although she has had no formal zoology training, her talent for mothering has drawn favorable notice of the National Institutes of Health, which has asked for advice on raising its chimps. She did such a satisfactory job on Vickie Jean, that the Depart­ment of Health, which had purchased the chimp, bought her brother Donny sight unseen when it learned that Mrs. Gallagher had raised him, too.

Mrs. Gallagher and Manis

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CONCERN

MNH Honors 8 Volunteers

Eighty-one individuals—about a third of them teenagers—have been cited by the Museum of Natural History for outstanding volunteer assistance to the museum. Specially designed certificates "in recognition and appreciation of valuable services rendered as a volunteer assistant in the scientific pursuits of the NCFAs of Natural History" were presented to the group in ceremonies in the office of Director Richard Cowan.

The wide range of interests of these volunteer assistants is reflected in the recommendations for the awards, which cover such diverse activities as "sorting archeological refuse materials from hearths of the ruins of Ponsa, Caroline Islands, Micronesia," "discovering and calling attention of the museum to the existence of a cave fissure containing Pleistocene vertebrate fossils," and "channeling vertebrate fossil material from the Canal Zone to us from the Micocene exposures."

"This corps of volunteers not only has added very materially to the resources of the museum but, clearly, is a reservoir of goodwill which provides support for the programs and interests of the museum in many intangible as well as tangible ways," Assistant Director Paul Krierin noted.

The museum awards will be presented twice a year. The next occasion will be in late August, just before the summer volunteer help returns to school.

David Scott

(Continued from page 1.)

David Scott assumed the directorship of the National Collection in 1964, it was a small bureau barely visible in the foyer of our Museum of Natural History. Last month it celebrated the first anniversary of its opening in its permanent home—a dramatic transformation for which Dr. Scott deserves a major share of the credit.

"Dr. Scott's resignation follows upon a meeting of the National Collection of Fine Arts Commission. At that meeting the Commission responded to my earlier request for full discussion of the charter and future directorship of the NCFAs. It is my hope that, with the help of the Commission, we will be able to appoint a successor to David Scott who will preside over the next phase in the NCFAs' development with the same dedication which David Scott brought to the phase we have just completed."

Photo by Mary Krug
Bay Area Ideal for Study of Ecology

(Continued from page 1.)

- Distribution and abundance of native and introduced aquatic vegetation
- Productivity of plankton in the bay and rivers
- Fish populations, varieties, distributions, rates of growth, and predator-prey relationships
- Diseases of aquatic plants
- Ecology of aquatic birds, especially ducks, geese, and swans
- Studies of land plants and animals
- Vegetation mapping
- Population studies of birds and relation to plant communities
- Underlying mechanisms of vegetation change
- Host-parasite relationships of birds, viruses, and blood parasites

DESCRIPTION OF THE CENTER

The 700-acre Center presently consists of two tracts owned by the Smithsonian Institution. The topography ranges from rolling upland to nearly level lowlands and swamps. The sandy-loam soil supports forests of differing ages and compositions interspersed with cultivated and abandoned fields. The shoreline includes sandy beaches, eroding bluffs, and extensive brackish marshes. The lower portion of one watershed, Muddy Creek, is surrounded by Center land. This affords it some protection and provides access for researchers to one of the small estuaries of the Chesapeake Bay. Directly across the estuary are densely populated residential communities, a contrasting type of land use valuable for comparative study. The Center also includes the complex of small islands known as Poplar Island near the eastern shore of the Bay.

Thus, the natural life of the Center is diverse, reflecting the varied environmental conditions of the central Atlantic region generally.

ADMINISTRATION

The Chesapeake Bay Center for Field Biology is managed by Director Francis S. L. Williamson. He and his staff are Smithsonian.

The academic consortium—The Johns Hopkins University, the University of Maryland, and the Smithsonian—is central to scientific programming. Two members each for the three cooperating institutions plus three outside members constitute the Center's Scientific Advisory Committee.

The Center welcomes applications from pre- and post-doctoral researchers and visiting scientists to participate in research programs. Along with staff investigators, applications for use of the Center for educational purposes are also solicited.

It is hoped that the Center, through its program of research and education, will become a significant focal point for educational institutions, local State and Federal agencies, legislative bodies, and other segments of society concerned with the quality of our environment.

Dr. Frank Williamson, director of the Chesapeake Bay Center, keeps a close watch on the changing face of the natural surroundings. The fallen tree can tell him much about the life cycle of the area.

Storns Olson is resident manager of the Chesapeake Bay Center. An ornithologist, he is studying a bird skull in the headquarters building, which contains a lecture hall, offices, dormitories and kitchen facilities in addition to work space and study areas.
Man and beast and their social behavior were compared for three full days last month at the world's biggest specialist in the field at the Smithsonian's third international symposium. Dr. Alex A. Kwapong, Vice-Chancellor of the University of Ghana and chairman of the symposium, offered the following synthesis of the proceedings at the closing banquet.

We have come to the end of the Third International Symposium of the Smithsonian Institution on Man and Beast and have had our rich feast of Comparative Social Behavior. On this occasion, as a man trained in the classics, my mind naturally—or should I rather say instinctively—goes back to the most accomplished of Plato's dramatic dialogues, the Symposium.

It is said that you have an intellectual banquet or dinner party, Plato has immortalized, with as much artistry and poetry as with philosophy, the nature and origins of love. That Symposium was, of course, not like our own, "scientific" or international symposium in an all- Athenian party given by the tragic poet Agathon in his house to his eight guests of whom Socrates was the most important. I recall the Symposium not only because of its relevance as a cultural gesture or because like our own it was characterized by wit, friendliness and intellectual integrity; but also because of the brilliant fantasy of its ale, spirit of inspiration which Plato has put into the mouth of the comic poet, Aristophanes.

Man today, says Aristophanes, has evolved from the first human creatures who were originally of three sexes, male, female and hermaphrodite. When these rebelled against the gods, Zeus bisected them as a punishment for their pride. Man today is therefore but a mere half of his original tripartite whole and 'Love is the desire and pursuit of the whole', that is, man's endeavor to reunite himself to his former lost half.

It is a beautiful and humerous fantasy and Plato does not, of course, expect us to take it too literally or seriously.

Every generation and every people have their own mythology on the origins and nature of man. And in all these, man's kinship with and origins from the beasts have been a recurrent theme. This is, for example, particularly true of the view of the life of the Akan people in Ghana to whom I belong, in whose language and culture, through proverbs and folklore, Man's inter-connection with Beast is richly portrayed. And in all this, the tendency to anthropomorphize, that is, to cast Beast in human terms, has diverged very gradually from monkey or apelike stock to what he is now, just as modern, closely-related animal species have diverged from common stock.

This process of divergent gradual evolution has produced Man—Homo sapiens—who, until the recent advances of anthropology, was often said to be "unique," that is to say, not essentially different from animals, that he was something altogether apart. It is this from our textbook limitations that we have in their possibilities. In our enthusiasm to embrace the new discipline of ethology, the biological study of behavior, it seems to me that it is essential for all of us to take seriously one of the clear points on which there has been a consensus, and it is this: We need to bring Man and Beast together, but we must also keep them apart.

Every educated man of today, whatever his hue or nationality, now accepts without question the fact that Man "has evolved, slowly and gradually, from ancestors which were far more similar to other mammals than Man is now. This means that everything Man is and does must have evolved, through a long series of minute evolutionary steps, from what his animal ancestors were and did. Man has diverged very gradually from monkey or ape stock to what he is now, just as modern, closely-related animal species have diverged from common stock."

(Tinbergen, On theoblining of Marriage and Parenthood.)

The process of divergent gradual evolution has produced Man—Homo sapiens—whose recent advances of anthropology, were often said to be "unique," that is to say, not essentially different from animals, that he was something altogether new; and that he was divided from animals by a deep and unbridgeable chasm. This is the view of the various presentations during the Symposium, each based upon different premises, is that man is unique only in the sense that he is "strikingly different" from the other animals. Man is unique all right, but he is an animal of a kind. In Timperley's paraphrase of George Orwell's dictum "all animals are unique, but Man is more unique than others." (Ibid).

In body and functions, Man is very similar to other mammals; his uniqueness lies, however, in the matter of behavior. Some of his thoughts and functions in a unique way and has produced his language, culture and his civilization. But this culture is as much rooted in man's biology as in his environment. This insight into the importance of biological factors in culture evolution is one of the crucial contributions made recently by the science of ethology to human understanding.

Man, as a result, possesses the unparalleled ability of handling on his experience from one generation to the next, and thereby radically changing his environment, both physical and social. This cultural evolution is, of course, much faster than genetic evolution. Next Sunday, the astronauts of Apollo 10 take off on the penultimate journey that should land man on the moon. Yet these astronauts have not genetically evolved any man, nor have they chosen to cooperate best when at their most competitive. Nevertheless, that there are limits imposed on us by the rate at which human behaviour can be adjusted and modified and that we are all conditioned by the much slower speed of genetic evolution. "Man's limited behavioural adjustments have been drastically altered by the culturally determined change in his social environment and that is why man is now a misfit in his own society."

It is in this context that I have found particularly illuminating and rewarding the discussions on "aggression" during the Symposium. The nature and scope of "aggression" in animals, I think, have been placed in reasonable perspective, and shown to be a complex, through interactions between factors both internal and external, both genetic and environmental. "Aggression" is not a simplistic, mechanistic process nor is it the only pebble on the animal behavioral beach (if I may be allowed this mixed metaphor). Competitive and "aggression" in the world of non-human primates is also accompanied by fear and withdrawal and, as John Crook has so vividly depicted in their organization within the group, "Men, like monkeys" and I quote, "appears to cooperate best when at their most competitive. Nevertheless, human beings alone, like monkeys, are socially mobile and may change the frame of his narrow sectarian concern to broader avenues of wider significance. An understanding of the forces controlling the maintenance of social positioning in his group, his sense of identity, in-group membership and role transfer in relation to self-esteem would much improve our chances of social control."

So far from giving way to despair and defeatism, I am encouraged by the results of the Symposium. The development of behavior is very complex, so far much progress has been made in analysing it, and with respect to men, only a small beginning has been made. I would like to as a human being, and to a scholar from a continent which is the home of the australo-pithecanthropian ancestors of man, the homedarys baboon which has been so extensively studied and the Bushmen of the Kalahari desert, of whom we have been taught and seen as a further example of evolutionary development, that is to say very much today very much is also a serious and "truly scientific and powerful anthropotheorist" of Homo Individuum or an "intelligent and educational" animal species, is characterized by wit, friendliness and intellectual integrity; but also because of the brilliant fantasy of its ale, spirit of inspiration which Plato has put into the mouth of the comic poet, Aristophanes.

We have been haunted by Marvin Bresluer that to achieve this synthesis, social biology and sociology must come together in sympathy as a "unified life science that would define the nature and limits of a new science of human behavior."

And here I may be permitted, in conclusion, these brief remarks, to end as I began by going back to ancient Athens. Let me remind you of Sophocles' great hymn in his Antigone which the Chorus sing to the ingenuity and limitations of Man:

Wonders are many on earth, and the greatest of these
Is man, who rides the ocean and takes his way
Through the deeps, through wind-swept seas of perilous seas
That surge and away.
He is master of ages Earth, to his own will bending
The immortal mother of gods by the sweat of his brow, as
As year succeeds to year, with toil unending
To good or evil ways! Great honor is given
To the wise, to the honest, and to the just.
Sage only death.
Hunting the savage beast from the upland rocks,
He has found its remedy,
With sleight of hand;
The use of language, the wind-swift motion of brain
And the justice of heaven.

That is why man is now a misfit in his own society.

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