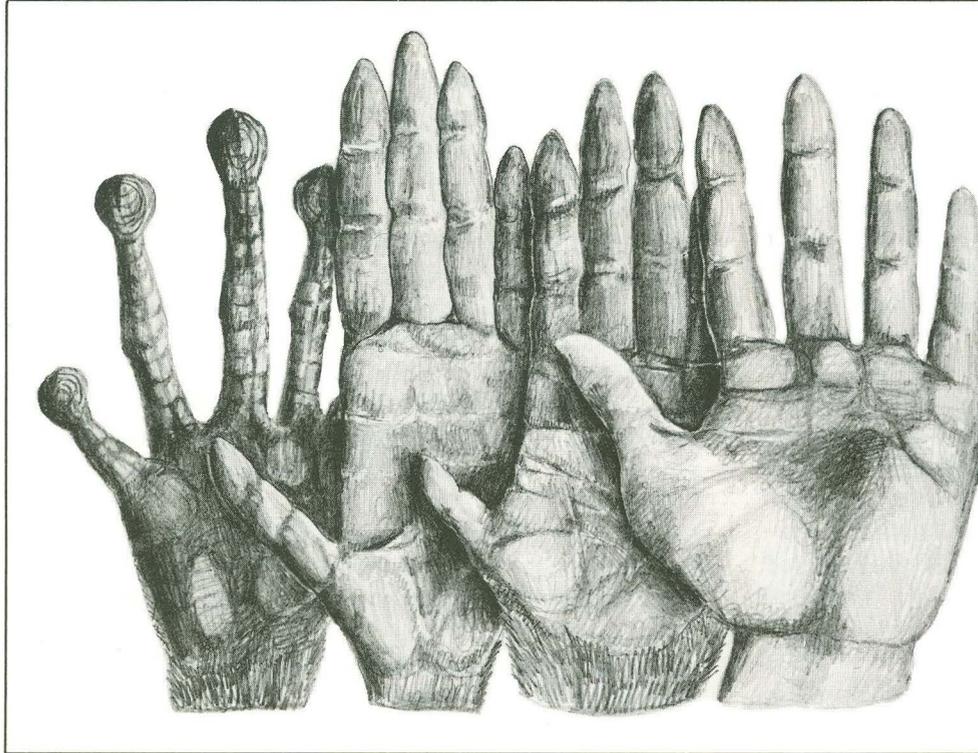


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FERMI NATIONAL ACCELERATOR LABORATORY

FermiNews

LOCOMOTION EXPERT SPARKS CONTROVERSY



Artist Angela Gonzales' rendering of hands depicts locomotion and survival strategies of four modern primates: (left to right) the tarsier, a leaper and clinger, has large finger pads; the gibbon has long, strong fingers for swinging; the chimpanzee can manipulate crude tools with its stubby thumb. The hominid thumb faces the forefinger, an adaptation to bipedalism (upright posture) that increases dexterity.

(Editor's Note: taken from April issue of *Science* 81)

Not everyone agrees with locomotion expert and anatomist Dr. C. Owen Lovejoy that bipedalism (walking upright) evolved along with monogamous mating and the nuclear family. Lovejoy hypothesizes that our primate ancestors walked erect in the forest before moving out onto the savannahs and that regular occupation of the savannahs was not possible until intensified social behavior was well developed.

Science News (August 21, 1982) reports that two groups of scientists working independently have recently challenged Lovejoy's claim that "Lucy,"--paleoanthropologist Donald Johanson's 3.6-million-year-old skeleton of a female ape-like hominid thought to be the earliest known human ancestor--had completely abandoned the trees and had fully adapted an upright posture. A State University of New York at Stony Brook group says that Lucy's bones indicate she was still spending considerable time in the trees. Anthropologist Russell Tuttle of the University of Chicago has come to the same conclusion as the group from Stony Brook, only he argues that bipedality developed in apes, perhaps

millions of years before the existence of hominids.

Lovejoy, on the other hand, argues that bipedality was a necessary component for the evolution of the nuclear family, in which the male foraged and carried home food to the female and children. With the male as the provider, the pair bond was enforced, the males thus had more to do with caring for the young, and as a consequence, the nuclear family developed.

If these theories boggle the mind, Lovejoy will speak on "The Origin of Man: Mind or Mating" at Fermilab on Friday September 24, at 8 p.m. in Ramsey Auditorium. As part of the Fermilab Lecture Series (see page 3 for a historical perspective on the Lecture Series), Lovejoy's illustrated presentation will offer a unique perspective on human origin.

An engaging and articulate speaker, Lovejoy is in demand as a lecturer at universities, museums, and health institutions all across America. He is now Professor of Anthropology and Chairman of the Biological (cont'd. on pg. 3)

FERMILAB WINS DOE 1981 SAFETY EXCELLENCE AWARD

Fermilab has recently won an Award of Excellence for 1981 safety and health performance. This Department of Energy (DOE) award is presented to each contractor who has reduced the incidence rate of lost workday cases to 75% or less of its average for the past three years or one who has kept incidence rate of lost workday cases equal to or lower than the operational type average rate for the past four years. The operational type average rate for DOE research contractors was 1.1.

In a recently revised safety film for Fermilab, Director Leon Lederman says the following:

"I take Safety extremely seriously. A good safety record is essential to the Laboratory's future. Let me tell you why it is important to all of us who work here. In order of importance, I list three reasons:

1. It affects your physical well-being. Primarily, it protects you from accidents which can be crippling or worse. Secondly, there is an important psychological uplift to work in a safe environment, where you trust the good sense of your colleagues and are, in turn, trusted by them.

2. It affects you economically. Poor safety is an economic drain on the Laboratory's funds. We spend about \$2M per year on safety. Our Workman's Compensation costs have been as high as \$3M. This simply subtracts from the funds available for salary increments, and it subtracts from funds needed for carrying out our tasks. Poor safety reports weaken our case for adequate funding in Washington, and that affects everyone's job security.

3. It affects your job satisfaction since a laboratory burdened by safety problems and safety costs cannot function in a manner which insures success in its primary mission.

Thanks to the hard work of our Safety organization, I am happy to say that the situation is improving impressively. The continuing cooperation of everyone is essential. We cannot tolerate risking the hard labors and creative efforts of so many because a few individuals do not heed the simple rules designed to keep Fermilab safe. An accident-prone employee is of no use and no interest to Fermilab. I urge you all to read the **Safety Handbook** and use your best judgment for the greater good of all of us."

COMPUTING OFFERS COURSES

The Computing Department will offer the courses listed below during September and October. The exact class schedule will be determined after the sign-up period ends September 22.

1. **Introduction to the Cybers (Physics/Engineering Applications).** Primary emphasis will be on how to create, run, and debug Fortran programs; how to use existing programs from the system libraries; and how to do graphics, both at a terminal and in batch jobs. Duration: three 1-1/2 hour lecture demonstrations interspersed with three 1-hour lab sessions for supervised "hands-on" experience.

2. **Introduction to the Cybers (Non-Scientific).** This course will be oriented toward those doing text-processing on the Cybers and is supplementary to the course on the ICE text editor and the RNF text formatter. It will cover how to manage files more effectively, how to use "procedures" to automate frequently performed tasks, and how to use the MAIL, NEWS, GRIPE, and WHO facilities. Duration: two 1-hour classes.

3. **RIM Data Base System.** This class will cover how to use the RIM data base management system and the RIMPLLOT interactive graphics program for plotting from a RIM data base. Since there is a wide spectrum of RIM applications, some classes will have a more mathematical emphasis than others. Accordingly, interested employees should preregister by contacting Jeanne Ingebretsen, either by phone (ext. 3931), mail, or the mail facility on the Cyber (user number is 94661). Information required is name, extension, possible area of interest in RIM, and times not available within the next three weeks due to vacation, etc.

Sign up for either of the two Cyber introductory classes by calling the Computing Department, ext. 3205.

FERMILAB LECTURE SERIES BEGINS SEVENTH YEAR

Over the past 6 years, the Fermilab Lecture Series has presented 38 lectures. Such renowned speakers as Jane Goodall, Carl Sagan, and John Callaway have packed Ramsey Auditorium to overflowing for their lectures on primate behavior, the origin of life, and the nature of news gathering. Leon Lederman was the most recent lecturer to fill the house for his talk on the nature of matter and the relationship of the research at Fermilab to our understanding of the evolution of the universe.

These lecturers and other outstanding speakers have come to Fermilab to present Friday evening talks which are open to the general public as well as the Laboratory community. Under the direction of Jeff Appel, the Lecture Series started with partial funding from the Illinois Humanities Council. Since its inception, the series has concentrated on lectures on science and technology and their effect on our lives and our society. A very loyal and enthusiastic audience has developed for these lectures over the years.

The lecture series, like the arts series and exhibits, is a part of the Auditorium Committee's work. The choice of a topic and lecturer is made following discussions by committee members. Frank Cole, who has directed the lecture programs for the past 3-1/2 years, contacts the speakers, explains the character of the series to them, and acts as host for the speaker and the audience. Once the arrangements are made, Angela Gonzales designs a unique poster to announce the program.

Producing the lecture series has allowed those involved with it to savor success and, on occasion, to rise to the challenge of the moment. January lectures are historically "weather disasters," and the committee recalls one year when a speaker got only as far as the Boston airport where he spent all day as he could neither get to Fermilab nor return home! Another speaker spent 3-1/2 hours in a limousine lost between O'Hare and the Laboratory while Auditorium Committee members waited less than patiently.

Impressed by the quality of the series and the loyalty of the audience, the Illinois Humanities Council awarded five separate yearly grants to the Laboratory for the lecture program. Regardless of whether the presentation is a "big-name" personality or a less well-known expert with a valuable message, nearly every seat in the
(cont'd. on pg. 4)

LOVEJOY OPENS LECTURE SERIES

(cont'd. from pg. 1)

Anthropology Area Committee at Kent State University, Professor of Human Anatomy at Northeast Ohio Universities' College of Medicine, and Assistant Professor of Physical Anthropology in the Department of Orthopaedic Surgery at Case Western Reserve University. In addition, Lovejoy has worked as a research associate at the Cleveland Museum of Natural History in collaboration with Donald C. Johanson.

Tickets to Lovejoy's lecture are \$2, \$1 for senior citizens. Tickets are available at the Information Desk in the atrium of Wilson Hall. For more information and phone reservations call ext. 3353. Due to ticket demand, phone reservations must be paid for within five working days or the tickets will be released for sale.

COLLOQUIA SPEAKERS ANNOUNCED

Dr. Jack Schwartz, New York University, will present "The NYU Ultracomputer A Large Scale Parallel Architecture" at the R&D Computer/Fermilab Colloquium Series on Wednesday, September 22, at 4 p.m. in Ramsey Auditorium.

A number of University groups are designing highly parallel computers which can perform at rates orders of magnitude faster than today's supercomputers. This talk will review work on the NYU Ultracomputer, a machine of this class.

Dr. Robert Laughlin, Lawrence Livermore Laboratory, will present "Two-Dimensional Electrons in Strong Magnetic Fields: The Quantized Hall Effect" at the Fermilab Colloquium on Wednesday, September 29, at 4 p.m. in Ramsey Auditorium.

The physics of inversion layers will be briefly reviewed and an account given of how the study of these systems led to the discovery of the Quantized Hall Effect.

LECTURES SUPPORT THEMSELVES

(cont'd from pg. 3)

auditorium is filled. Everyone has his own favorite talk, but many fondly recall lectures on such diverse topics as photography from space, earthquakes, and the beauties of the Tutankhamen treasures.

During the five years of funding from the Illinois Humanities Council and with additional support from Universities Research Association, the lectures were free. When the Illinois Humanities Council decided that the lecture program was strong enough to stand on its own, it was decided to ask the audience to share in the expense of having the lectures brought to the Laboratory since Department of Energy funds cannot be used for such activities. The success of the program and the appreciation of the audience are born out by the fact that the house is still filled. The Auditorium Committee is continuing its efforts to bring the kind of lectures which both delight and inform. The series remains true to its themes of science, technology, and human values; it continues to have the support of both Laboratory audience and neighbors from the surrounding communities. It is a credit to the Laboratory and to the dedication of the group of volunteers on the Auditorium Committee who make it all possible (see August 5, 1982, issue of **Ferminews** for story on the Auditorium Committee).

OCTOBER AUDUBON OUTING SET by Dave Carey

Blue- and green-winged teal, shovelers, redheads, wood ducks, hooded and common mergansers, scaup, ring-necked ducks, Canada geese, and many other rare and exciting species of waterfowl converge on Fermilab in October to begin their trip to more congenial climes for the winter. To take maximum advantage of this anticipated spectacle, an Audubon bird outing is scheduled for Sunday, October 31. Interested persons should meet at the east entrance gate at 9:30 a.m. We will circumnavigate the lakes south of Batavia Road in search of our elusive denizens, and finish about noon. Participants should bring binoculars and bird guide, and wear warm clothing suitable for hiking (coat and tie not required). For more information, contact Dave Carey, ext. 3639.

The Fermilab International Film Society showing of "Knife in the Head," originally scheduled in Ramsey Auditorium for Friday, September 24, has been rescheduled for 8 p.m. on Saturday, September 25 to accommodate the Lovejoy lecture on the 24th.

PERFORMING ARTS SEEKS PLAYERS

The Performing Arts Society of Fermilab is interested in getting musicians (including singers) together. The Society, a branch of the Creative Arts Society, was recently formed by the Quality of Life Committee. Gordon Thomson from Rutgers University is the chairman. According to Thomson, "You need not rate yourself a level A musician to participate and have fun; I'm more of a C level myself!"

A practice room in the Village is available where people may get together for chamber music, folk music, or just plain practice sessions. A sign-up sheet is in the Users Office, Wilson Hall, 1E.

SUGGESTION BOX NEEDS FEEDING

Fermilab employees have several ways to bring matters of concern to the attention of top management. For example, employees may arrange to meet with any level of supervision up to and including the Director--or an ombudsperson is available for those who may prefer that approach.

Another frequently used means of communicating is the Suggestion Box which is located in the atrium on the west side by the elevators. The Suggestion Box is checked the first of each month. The Site Services Department has the responsibility for reviewing the items and routing them to the appropriate group for response. A copy of the suggestions together with the written response is posted on the Free Speech Bulletin Board on the west side of the cafeteria dining area.

CONGRATULATIONS TO...

the [REDACTED]

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