

# behavioral sciences

*From our reporter at the 9th International Congress of Anthropological and Ethnological Sciences in Chicago*

## Neanderthal speaking ability

Human evolution produced at least one specialization, the Neanderthal, that appears to have moved off the direct line that resulted in modern humans. Neanderthals lived between 35,000 and 100,000 years ago in Europe and may have died out because they did not have the ability to speak. Philip Lieberman of the University of Connecticut reconstructed the talking apparatus of a Neanderthal, a contemporary human, a newborn human baby and a chimpanzee. Silicon rubber casts were made of the air passages, including nasal tracks and voice box. Muscle arcs on fossil skulls were used to determine the speech apparatus structure of the Neanderthal. By bouncing light through the reconstructions, Lieberman and his co-workers were able to determine possible sound frequencies and simulate any sounds Neanderthals could have made. Lieberman concludes that Neanderthals' vocal tracks were inadequate for speech. The chimpanzee, however, could probably establish a speaking ability.

## Aggression in the zoo

To grasp the full implications of human aggression and violence it is necessary to understand violent behavior among all species of the primate order, says anthropologist Dale R. Givens. In one study, Givens observed a large group of baboons in the London Zoo and concluded that all primates, including humans, become aggressive when deprived of their natural habitat and placed in overcrowded and artificial environments.

The baboons had been gathered from several savannah areas in Africa and combined in a large, new zoo colony. "Since few of the animals knew each other and baboon social structure is based on a dominance hierarchy, a new pecking order had to be established through fighting," says Givens. "This resulted in open warfare in the baboon colony." He concludes that overcrowding and urban cultures produce similar aggressiveness in humans. "I think," he says, "that since the evolution of the human race until comparatively recent times took place under hunting and gathering conditions, we can argue that the crowding of urbanization is similar to a caged zoo environment."

## Cultural pluralism in the U.S.S.R.

Lenin proclaimed the right of Soviet citizens to self-determination. Now, 56 years after the Russian Revolution, this right is still being upheld—at least as far as certain ethnic groups are concerned. Julian V. Bromley of the Institute of Ethnography at the Academy of Sciences of the U.S.S.R. in Moscow headed up a group of 34 Soviet anthropologists who attended the ICAES. There are still 130 ethnic groups in the U.S.S.R. that maintain a diversity of languages and life styles. These ethnic cultures, says Bromley, are not only persisting but are being enhanced and encouraged. Native languages, for instance, are aided and supported by the government and remain the official languages in specific states. Ilja Gurvich, a specialist in Northern Russians, said these peoples are being taught to use tractors and snowmobiles but "folk arts are being kept in full measure." About the future of such groups, Bromley said, "it is possible that several hundred years from now there will be a merging and total assimilation but in the future we can foresee, there will be nothing of that kind."

# transportation

*Three representative plans for new urban transportation systems taken from papers delivered to the West Coast meeting of the Society of Automotive Engineers and from a recent National Academy of Engineering publication: "Transportation and the Prospects for Improved Efficiency."*

## Chicago: Intermodal systems

The most successful innovation to improve mass transit in Chicago, using existing systems, is the integration of various facilities into a smoothly functioning whole, according to Chicago's Commissioner of Public Works, Milton Pikarsky. From park-and-ride facilities to bus-rapid transit transfer terminals, Chicago's commuters are increasingly able to step from one mode of transportation to another quickly and conveniently. Special lanes for buses in train terminals allow immediate access for bus passengers to train platforms and "bus only" lanes on the highways allow buses to travel some distances in half the time taken by cars.

Besides the usual advantages of mass transit—buses require only about a tenth the road space per passenger required by autos—Chicago has discovered that intermodal transfer facilities stimulate the growth of business in their immediate neighborhoods.

## Dallas: Multilevel systems

Some 500 years ago, Leonardo da Vinci designed multilevel cities to separate people from transportation systems. Now Dallas is issuing \$348 million in bonds to build such a facility, providing what Vincent Ponte, Dallas' planning consultant, calls a city of "liveliness, variety, interest."

Already, three underground trucking terminals are under construction to eliminate street docking, several boulevards have been straightened and widened, and the first of a ring of garages around the city center is under construction.

Pedestrians will stroll through promenades bordered with shops and other business establishments, passing under or over street traffic. A 20-block segment of this promenade system is under construction.

Finally, the split-level concept will be integrated with a new rapid transit system, a new city hall, a freeway loop system and a new international airport.

## Toledo: The 'total system'

One of the most ambitious new plans for urban mass transit is that of Toledo, Ohio, where Toledo Area Regional Transit Authority (TARTA) engineers Charles F. Whitten and Hilary T. Hornung say they can make Toledoans "a transportation offer they cannot refuse."

The key to the system is the Bi-modal Transit Vehicle (BTV), a bus that becomes a train. After making the rounds of neighborhood bus stops under manual control, the BTV enters a guideway system where a computer takes over, connecting several vehicles into a train and speeding them off to the downtown area.

In the BTV, the TARTA people see a solution to the problem of providing passengers with both the convenience of an automobile and the speed of a train. A conventional rapid transit system alone, they discovered, would make only a 1.8 percent dent in the number of auto trips. With BTV, they believe, 17 percent of the trips can be diverted to mass transit.

Since the vehicles needed for Toledo's new, totally integrated, system are almost identical to those projected for use on the Golden Gate Bridge, the respective authorities are planning a joint research project to construct an experimental guideway, probably in Toledo, later this year.