

Of the 24 kinds of North American pit vipers, 10 kinds caused all of the bite cases, aside from persons bitten by captive snakes.

The largest and most dangerous serpent in the United States is the Florida diamondback rattlesnake. The pigmy rattler rates as the smallest and least dangerous of the poison group. Aside from widespread copperheads and timber rattlers, most of the species are largely limited to some particular zone.

A surprising feature of the inquiry

is finding the large number of persons bitten by snakes while intentionally handling them. One bite in 15 is received in this way, says Dr. Githens. Of 163 such cases, 47 were ignorant persons, often children, who unwittingly picked up a dangerous snake. Professional snake catchers had 48 of the bites recorded, showmen in fairs or carnivals had 31, and scientists studying snakes or extracting venom had 23.

And supposedly dead snakes inflicted 14 bites.

Science News Letter, August 3, 1935

PSYCHOBIOLOGY

First Birthday Reported For Only Known Chimpanzee Twins

THE TWINS Tom and Helene are to the chimpanzee world what quintuplets are to the human family. They are the only pair of undoubtedly genuine chimpanzee twins known to science. Their first birthday has just been reported to the scientific world.

The story of their development, the cutting of their baby teeth, their learning to crawl and walk and climb, and their mental growth has now been told by their scientific guardians, Dr. Robert M. Yerkes, director of Yale University's Laboratories of Comparative Psychobiology, and Michael I. Tomilin, who had so much to do with their upbringing that, as he puts it, he was accepted as a member of the family. (*Journal of Genetic Psychology*, June.)

Mona, the mother, has been called "an experienced mother." She had already had three babies before the twins arrived. Recently a grandchild of hers, the first "civilized" chimpanzee grandchild born of a captive-born mother, ar-

rived and was announced to the scientific world.

Twins provided no thrill to Mona. Rather she seemed bored with this doubling up of her maternal duties. Nevertheless, she gave them good care and was particularly gentle with tiny Helene, who was the weakling. This tenderness toward the frailer infant was of great interest to those watching her, because, so far as is known, none of the lower mammals ever discriminate in favor of a weakling or runt.

"Such discriminate attention as was manifest in this case of chimpanzee mother and twins may chance to be peculiar to the primates or to the anthropoid apes and man," the scientists report.

The twins were perfect little creatures when born but extremely tiny—only about two or three pounds in weight and very weak. Helene was especially weak and inactive. It was not until the fourth day after her birth that she was

able to nurse. But due to her mother's good care, she picked up weight and was even larger than her twin brother for the first six months. After that Tom took to his supplementary feeding better than Helene and soon outstripped her in growth.

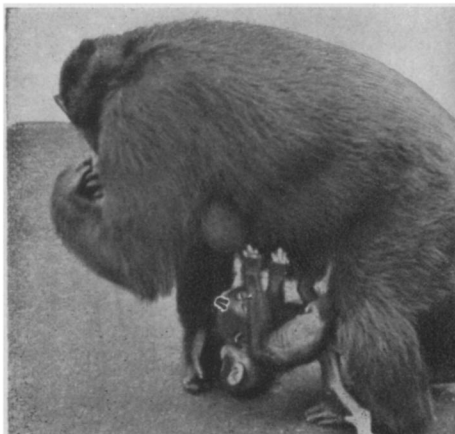
The first teeth came in the same order that the human baby cuts them, but because of the more rapid development of the apes they appeared much earlier.

Personality differences were as obvious in these chimpanzee babies as they would be in any pair of human infants. Tom was always the adventurer, aggressive, eager and playful. Helene, the mother's favored one, was relatively timid, shy and backward. It was she who hesitated to make friends with Mr. Tomilin. She would cling shyly to her mother, and as she grew older would run to her brother for protection. It was six months before the twins recognized each other as playmates, and then it was Tom who would take the initiative in their monkey-shines.

Mona was a modern sort of mother and believed in training her twins to be self-reliant and independent of her. Whether with the deliberate intention of instructing them, or merely to rid herself of her peculiar double maternal burden, she continually trained the children to shift for themselves. She encouraged them in grasping, crawling, standing, climbing and walking. When, for example, a twin, holding to his mother, happened in passing to grasp the cage netting, Mona would seize the opportunity for a lesson. She might push the infant against the netting and move away. Or again she might place an infant on the netting and leave it hanging there to climb, play or scream.

CHIMPANZEE TWINS

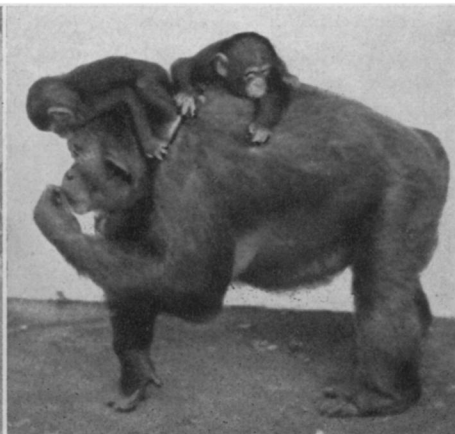
Moments in the life of chimpanzee twins, showing characteristic poses and modes of travel.



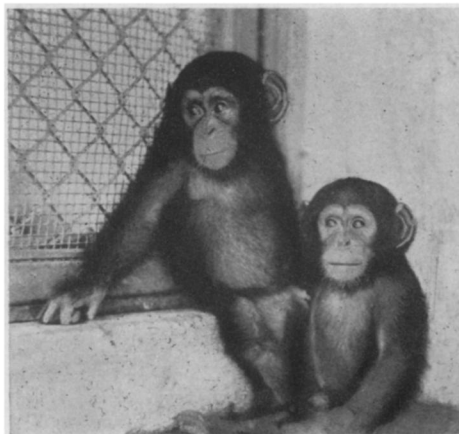
Hitch-Hiking



Hey—Wait for Me!



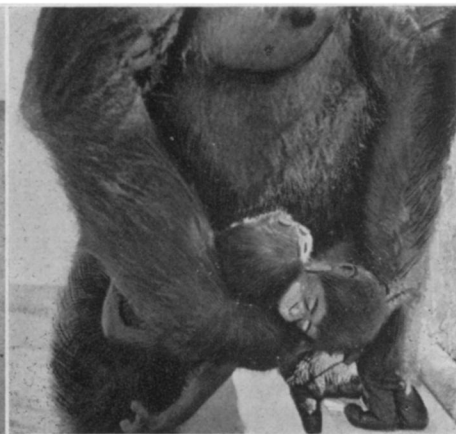
All Aboard



The Twins: Tom and Helene



Chow



Forty Winks

When Mona was tired of the clinging babies, or wished them to fend for themselves, she would sometimes resort to discipline. She might brush one aside, shake it, strike it or bite its hands—always gently.

"Sometimes as the mother thus roughly treated her young she would scream as if in impatience or anger," the scientists said. "To us the behavior suggested impotent rage, for the infants usually complained so bitterly that they compelled their mother to relent."

Like a human bad child, when the chimpanzee infants failed to get what they wanted, they would throw themselves on the floor and scream.

"Mona seldom could long resist this infantile appeal. Manifestly struggling against conflict, she would go to the infant, take it up and for a time indulge it. Then self-interest having gained dominance, she would once more antagonize the twin and the scene would be repeated.

"Usually the infant won eventually and peace was restored."

Even modern-minded Mona would rock her babies to quiet them, however. When the little one was restless or complaining, the mother would hold her hand or arm under the baby and then move her arm rhythmically back and forth until the child was soothed to rest. The mother was so large and the babies so tiny that both twins could thus rest on one arm of the mother.

Science News Letter, August 3, 1935

Eastern brook trout cannot withstand competition with other species of fish, but they thrive if protected in high mountain lakes, in pools and quiet streams.

Milk that is over 50 hours old cannot be sold in the city of Chicago, according to a new ruling.

PHYSICS

Prof. Bohr Opposes Einstein In Quantum Theory Controversy

Leading Exponent of Theory Points to "Ambiguity" In Einstein's Test As Applied to Quantum Mechanics

CONTROVERSY reigns in the world of mathematical physics.

Following Prof. Albert Einstein's attack on quantum theory (*See SNL*, May 11, 1935) on the grounds that it does not give a complete description of physical reality, the battle is now joined by Prof. N. Bohr, the famous scientist of the Institute of Theoretical Physics at Copenhagen.

Prof. Bohr is one of the leading exponents of quantum theory, for certain developments of which he was largely responsible. The theory was initiated by Prof. Max Planck, and other names associated with it are those of de Broglie, Dirac, Eddington, Heisenberg, Jeans and Schroedinger.

Prof. Bohr's initial rejoinder is in the form of a letter to the editor of *Nature* (July 13). He is shortly to publish a longer communication in the *Physical Review*, where the paper by Prof. Einstein, Dr. Boris Podolsky and Dr. N. Rosen was also published.

Prof. Bohr's criticism of the deductions of Einstein and his co-authors is based on disagreement with their criterion, or standard of test, of physical reality. He does not think that their definition of this reality can be appropriately applied to problems of quantum mechanics.

Said Prof. Bohr:

"Since, as the authors show, it is always possible in quantum theory, just

as in classical theory, to predict the value of any variable involved in the description of a mechanical system from measurements performed on other systems, which have only temporarily been in interaction with the system under investigation; and since in contrast to classical mechanics it is never possible in quantum mechanics to assign definite values to both of two conjugate variables, the authors conclude from their criterion that quantum mechanical description of physical reality is incomplete.

"I should like to point out, however, that the named criterion contains an essential ambiguity when it is applied to problems of quantum mechanics." *Science News Letter, August 3, 1935*

CHEMISTRY-ANIMAL HUSBANDRY

Spectroscope Detects Traces Of Selenium in Soil

WHAT may be a new aid in combating cattle poisoning caused by the animals eating plants grown in selenium-poisoned soil was reported to the Third International Conference on Spectroscopy, meeting at Massachusetts Institute of Technology.

Dr. George R. Harrison, professor at M. I. T., has been able to detect spectroscopically traces of selenium as low as one part in a million.

Science News Letter, August 3, 1935