

behavioral sciences

Talking with a chimp

Chimpanzees cannot be taught to speak as a man speaks because their mouths and throats are not built for speech, but they can learn to do almost anything with their hands. Realizing this, R. Allen Gardner and Beatrice T. Gardner of the University of Nevada in Reno have spent more than five years teaching Washoe, a chimp, to talk with her hands—using the sign language of the deaf.

Henry S. Odbert of the National Science Foundation's psychology program points out that many scientists were unconvinced that what the chimp has achieved is really language in a scientifically accepted sense. But by the time the animal was five years old she was using more than 130 signs well enough to convince some skeptics. The chimp learned to name herself and friends; to ask for flowers, sweets, blankets and even activities; and to apologize for mischief and toilet accidents. She also asks questions and talks to herself.

When Roger Brown, a Harvard University psycholinguist, learned that the chimp was using signs in combination—groupings of two or more signs to make meaningful sentences—he said, "it was rather as if the seismometer left on the moon had started to tap out 's-o-s.'"

Honesty in job applications

Honesty does not seem to be the accepted policy in filling out job application forms. In a sample of 111 application blanks Irwin L. Goldstein of the University of Maryland in College Park found that 57 percent of the applicants disagreed with their previous employers on duration of employment and salary earned. The typical applicant overestimated job duration and pay. Goldstein reports in the October *JOURNAL OF APPLIED PSYCHOLOGY* that there was also substantial disagreement on the reason for leaving the previous job. The largest amount of agreement between applicant and previous employer occurred on the nature of the previous position.

Daytime dreams

For obvious reasons dreams have been primarily studied as nocturnal phenomena. John M. Taub of the University of California in Santa Cruz wondered what might be the differences between dreams that occur during the night and dreams that occur during daytime naps. He reports in the October *JOURNAL OF ABNORMAL PSYCHOLOGY* on the dreams of 16 male and 21 female college students who habitually had afternoon naps as well as an average of 7.9 hours of nightly sleep.

The subjects gave specific descriptions of their most recent nocturnal and afternoon dreams. The two sets of dreams were analyzed for content, perceptual imagery and vivid fantasy. Dream reports from naps had less fantasy and fewer elements of an aggressive nature, but contained more contemporary references and familiar settings than the night dreams. Nocturnal dreams contained more acting out of aggressive impulses and had strange settings.

The dream content differences might be attributable to differences in sleep stages from which the dreams were recalled, or to sleep-length variations, or both. Taub concludes that the phenomenological effects of sleeping at different times of day must be further explored.

Exercising the eyes

Specific cells in the brain control various forms of vision (vertical, horizontal, movement, etc.). If these cells are not used they do not make the proper connections and they become nonfunctional. Colin Blakemore of the Physiological Laboratory in Cambridge, England, has shown this in his experiments with cats. He reported this work last week in Washington at the first annual meeting of the Society for Neuroscience.

Cats were raised in a special visual environment. With a device around their necks, to keep them from seeing their bodies, the cats saw light only when they were placed in cylinders painted with either vertical or horizontal lines. When placed in a normal environment the cats responded to either vertical or horizontal stimulation, depending on the type of conditioning they had received. For example, a vertically reared cat could detect a vertically positioned object. When the object was put into a horizontal position it became invisible to the cat.

This, says Blakemore, has implications for child rearing. Children should be raised in a visually varied and stimulating environment. This will exercise all of the cells involved in vision and keep them from becoming nonfunctional. The same, he presumes, holds true for all of the senses.

Neonatal conditioning

Conditioning in the first four weeks of life, the neonatal period, may be significant for later patterns of behavior. But valid research evidence relating early conditioning to later behavior has been difficult to obtain because of the absence of conscious awareness or cognitive recall during the neonatal period.

Psychologist Virginia Johnson of Los Angeles reported at the neuroscience meeting that in an experimental program based on experiential recall a number of subjects were able to recall neonatal experiences. The subjects were given high doses of methylphenidate—a mild brain-stimulating drug. Interviews conducted after the drug was discontinued elicited recall sequences that reflected early conditioning affecting known patterns of later behavior. They were frequently specific with respect to psychopathological symptoms. Johnson says this suggests that neonatal experiences leave permanent memory traces; that such experiences are significant for later behavior and that they are accessible to certain recall techniques.

Paraplegic bladder control

Past attempts to empty the bladders of paraplegic patients by electrical stimulation have not been successful enough for clinical use. Electrodes implanted on bladder nerves or directly on the bladder wall to excite the muscle produced only partial contraction.

Blaine S. Nashold Jr. and Harry Friedman of Duke University Medical Center implanted electrodes in the conus medullaris of the spinal cords of animals. By controlling the electrical stimulation in this area they produced complete bladder contraction. They reported at the neuroscience meeting that three of four of their patients who have undergone this treatment have achieved adequate bladder emptying.