

PSYCHOLOGY

Chimpanzees Can Become Addicted to Morphine

CHIMPANZEES can become addicted to morphine so that even when they are very hungry they prefer taking the drug to eating a choice morsel of food, Dr. S. D. Shirley Spragg, of the Yale Laboratories of Primate Biology told the meeting of the American Psychological Association.

This finding at Yale's experiment station seriously challenges the theory that human addiction to opiates is "psychic" and due to abnormal personality or to the "strains of civilization."

Very important to the scientists studying drug addiction and trying to find cure or preventive for it, is the discovery that the man-like apes fall victim to the drug in very much the same way that humans do. Lower animals, even dogs and monkeys show some of the symptoms of morphine addiction; they become physiologically dependent upon it. But these animals do not show an active desire for the drug, as do the chimpanzees.

The chimpanzees, after taking morphine for a few months, will run with great eagerness to the room where the drug is administered and throw themselves across the experimenter's knee for the injection. They will fly into a rage and scream if the experimenter attempts to lead them back to the cage without first giving them the drug. Most striking was the test in which hungry animals discarded their treat of fruit in favor of the drug they craved.

Science News Letter, September 11, 1937

PHYSICS

Sugar Cane Boards Are Stronger Than Wood Ones

NEWEST building aid for America's homes is synthetic sugar cane building board that is stronger than wood and offers three times the heat insulating qualities.

In tests by the Department of Civil Engineering of Columbia University, the new sheathing board proved to be 28 per cent. stronger than ordinary diagonal wood sheathing and 330 per cent. stronger than horizontal wood sheathing.

The material is cheaper than wood and is made of a by-product of sugar cane known as bagasse. In appearance the sheathing boards come in large

panels, one inch thick, four feet wide and twelve feet long. They are coated with a black asphalt layer which prevents the penetration of moisture and one side is sprayed with a thin aluminum coating. The porous nature of the material supplies the air spaces which make it resistant to the transmission of heat.

Bagasse fibers lend themselves to the construction of the building board, for each fiber has innumerable tiny hairs or thorns which interlock with those of other fibers. Thus no binder is needed to give the board strength and rigidity.

The bagasse material is obtained from sugar cane stalks after they are crushed, cooked, digested, cured and cleaned. When the bagasse is separated, it is treated chemically to supply resistance to water, rot, termites, fungi and vermin.

The properties of the material also lend themselves to packing cases for shipments destined for tropical countries. A motion picture company, headed for Samoa, shipped its equipment in such cases and the containers successfully resisted the ravages of pests. Wooden packing cases are sometimes devoured in transit to tropical regions by termites.

After the recent Columbia University tests, the Building Department of the City of New York accepted the material as a substitute for wood in frame construction. The Celotex Corporation developed the process for making the sheathing board.

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SEISMOLOGY

Ocean Bottom Shaken In New Zealand Region

A STRONG earthquake shook the bottom of the Pacific Ocean near the Kermadec Islands, about 800 miles northeast of Wellington, New Zealand, on Wednesday, Sept. 1. Location of the epicenter was determined by seismologists of the U. S. Coast and Geodetic Survey on the basis of telegraphic data transmitted through Science Service.

The epicenter was in approximately 31 degrees south latitude, 179 degrees west longitude. Time of origin was 8:38.9 p. m., New Zealand time. Stations reporting were those of the U. S. Coast and Geodetic Survey at San Juan, P. R., Honolulu, H. T., and Sitka, Alaska, and those of the Jesuit Seismological Association at Fordham University, New York City, and Weston College, Mass.

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IN SCIENCE

ENTOMOLOGY

Permanently Juvenile Insect Found in Florida

"PETER PAN" among insects, a species that never grows up, has been discovered in a ravine in northwestern Florida by Prof. Theodore H. Hubbell of the University of Florida.

The curious creature is a grouse locust that remains in its nymphal or infantile form all its life, never producing wings like the rest of its kindred. It matures only sexually, so that the species may be perpetuated.

This kind of permanent infantilism is not unknown among animals, though it is rather rare. It has never before been observed in the particular group studied by Prof. Hubbell.

The nearest relatives of the new species are found in Central America; but they are ordinary normally winged insects.

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PSYCHOLOGY

Optical Illusions Possible To Totally Blind Persons

BLIND persons can have optical illusions.

The odd way that your eye can fool you into thinking that upright lines are taller than horizontal lines or that parallel lines converge in the distance is duplicated by the "seeing" fingers of the blind, psychologists at the meeting of the American Psychological Association were informed, in a report by Dr. C. H. Bean, of Louisiana State University.

Figures like those ordinarily used to illustrate common optical illusions were given to a group of totally blind children and grown-ups, all but three of whom had been blind from birth. The lines of the figures were in relief so that the blind could feel them out.

The same illusions were experienced by these blind persons by means of touch that seeing persons experience through their eyes. Seeing persons, however, do not have these illusions by touch.

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E FIELDS

PHYSIOLOGY

Horse-Racing Responsible For Dope-Detecting Method

A NEW and improved method of detecting minute quantities of morphine has been developed as a by-product of the horse racing business.

New York State racing commission experts, charged with keeping racing honest by making sure horses were not "doped" prior to races, reported having difficulty with oxidation of morphine while analyzing samples of saliva from horses they believed had been doped.

Charles E. Morgan, commission chemist, worked out the new method, which prevents oxidation of the morphine in the sample, as an answer to the problem.

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PUBLIC HEALTH

Yellow Fever Vaccination Given to Plane Crews

ALL FLYING personnel on planes of two airlines operating between the United States and South American countries are being vaccinated as rapidly as possible against yellow fever, the U. S. Public Health Service has announced.

This is one of several measures being taken to protect the United States from importation of the disease which has been proved to exist in Brazil, Paraguay, Bolivia, Peru, Ecuador, Colombia and Venezuela.

An officer of the U. S. Public Health Service has been detailed to do the vaccinating.

The anti-yellow fever vaccine is being supplied by the Rockefeller Foundation of New York in cooperation with the laboratory of the Rockefeller Institute of Medical Research in Rio de Janeiro, Brazil.

The vaccinations are being carried out as part of an agreement recently made between the Pan American Sanitary Bureau in Washington, D. C., and the Pan American Airways, Inc., and Pan American-Grace Airways, Inc.

Another measure agreed on by the airlines and the Sanitary Bureau is that all planes coming from South America

will be thoroughly fumigated during the night with an insecticide made according to formula furnished by the U. S. Public Health Service. The morning prior to embarkation of passengers the planes will be opened and thoroughly ventilated.

Third part of the agreement relates to the certificate of origin which must be filled out and carried by each passenger embarking on any plane at any point north of 30 degrees south latitude, regardless of the direction of his voyage. This certificate tells, among other information, where the passenger has been for the six days prior to embarking on the plane.

Quarantine officers can thus learn whether or not the passenger has been exposed to yellow fever long enough before his arrival for the disease to develop if the passenger is infected. If the passenger is less than six days away from yellow fever regions, as is possible, he may be detained on arrival, or held under observation until there has been time for the disease to develop.

Similar agreements are expected to be made shortly between the Pan American Sanitary Bureau and other international airlines in the western hemisphere.

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PSYCHOLOGY

"Blue" Sounds Made Real In Psychological Tests

TO speak of "loud" colors or "blue" tunes is a commonplace, but to some it is not just a figure of speech thus to couple the messages brought to the brain by one sense pathway with those conveyed by an entirely different sense. This peculiarity of some individuals is known to psychologists as "synesthesia."

Whether the peculiarity can be learned, or whether you are "just born that way," was the subject of an experiment reported by Dr. T. H. Howells, of the University of Colorado. Those taking part were trained to associate red and green lights with certain tones, and then the intensity of the hues was gradually reduced until they were very pale. Then when the tone that had been associated with green was sounded with the red color, the observers were confused about the color. When white was shown with the "red" or "green" tones, the subjects reported the colors corresponding to the tones.

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SOCIOLOGY

More Illegitimate Children Cause Concern for Future

THE bar sinister has played an important part at many stages of human history. Except for psychological and social considerations, it does not matter particularly in many individual cases whether a child's parents happen to be married or not.

But illegitimate children do not turn out so well, on the average, as those who have no stigma attached to their origin. This is the opinion of Prof. S. J. Holmes and E. R. Dempster of the University of California, who, after careful studies of population figures conclude:

"There is no escape from the conclusion that larger and larger proportions of our population are coming to be of illegitimate origin."

Such a situation should be viewed with concern, in their opinion, because unmarried parents are recruited largely from occupational groups which have relatively low ratings on the scale of intelligence. Thus, an increase in illegitimacy dilutes the quality of the racial stream of life.

The financial depression which checked marriages and resulted in a certain amount of demoralization, is blamed in part for the rise in illegitimacy. The investigators believe that the ratio of illegitimate to legitimate births will probably increase so long as the general birth rate continues to decline. But there is hope that the increase in the number of illegitimate children born per thousand of population will be checked.

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PALEONTOLOGY

Ancient Cave Bears Had Dental Troubles

CAVE bears, favorite quarry of cave men in ancient Central Europe, had troubles of their own with their teeth. Studies by Dr. A. Kubacka of the Hungarian Academy of Sciences, on large collections of cave-bear jaws, show that these animals often suffered from tooth cavities, inflamed jaws, supernumerary and mal-erupted teeth, and other dental ailments. In this they contrasted sharply with the jaws of purely carnivorous animals which never show signs of such defects.

Science News Letter, September 11, 1937