

MEDICINE

Rats Uninjured By Subshock Dose of Insulin

DAMAGE to body organs due to heavy insulin dosage required in shock treatment for the mental disease, dementia praecox, may be avoided by lesser insulin doses, it appears from studies reported by Dr. Frank N. Low and Dr. H. Ward Ferrill, of the University of North Carolina (*Endocrinology*, December).

Five successive generations of white rats were given insulin doses just under amounts necessary to cause shock. Examination of the rats after death and study of their organs under the microscope showed no damage directly traceable to the insulin.

Some psychiatrists believe that results in dementia praecox treatments with insulin are just as effective if shock is not produced. There is some evidence that shock-doses of insulin damage the human system. The North Carolina experiments indicate that sub-shock insulin doses are safe.

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ENTOMOLOGY

Mexican Bean Beetles Spread Over Eastern U. S.

A FOREIGN enemy that devastates American fields, but specializes in fields of only one kind, is described in the new Smithsonian Institution Report. It is a beetle from Mexico, whose devouring appetite is restricted to one group of plants, the legumes. Its attacks therefore are limited to fields of beans, peas, clover, alfalfa and related plants. However, because of the importance of this group of plants in agriculture, the Mexican bean beetle is rated as a major crop pest.

It is no newcomer in this country, although its destructive spread has occurred in recent times. It apparently crossed the border into the Southwest nearly a century ago, during the Mexican War. Ecological factors in that region seem not to have been particularly encouraging to it, for it did not increase to pest proportions.

Shortly after the First World War, however, it appeared in Alabama, possibly carried there in a shipment of alfalfa from one of the Southwestern states. In the moister, warmer climate of the Southeast it thrived and spread rapidly, for it is a restless flier during the hottest days of summer and it lays huge numbers of eggs. By 1932 it was reported from all the states east of the

Mississippi except two at opposite corners of the map, Wisconsin and Florida.

It seems now to have become relatively stabilized in its distribution, and its spread has slowed down.

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SEISMOLOGY

Earthquake Felt In Fairbanks, Alaska

AN earthquake shock of moderate intensity was felt in Fairbanks, Alaska, early on Saturday morning, Dec. 20. Seismologists of the U. S. Coast and Geodetic Survey observatory there, reporting through Science Service, calculated that its epicenter was about 20 kilometers (12.4 miles) from Fairbanks, probably southeast of the city. This region is known to be actively seismic; there was a severe quake there a few years ago. This earthquake began at 3:46.5 a.m., local time.

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ARCHAEOLOGY

Mountaineer-Caveman Lived on Texas Border

A PRIMITIVE type of prehistoric mountaineer cave man, whose existence had been detected in Texas caves, has now turned up "over the border." Skeletons and belongings of one of the strangest Indian groups have been unearthed in four Mexican caves and 16 other sites, by a Smithsonian Institution archaeologist and Mexican laborers, the Smithsonian reports.

Pronounced one of the most primitive types of Indian life yet found in the New World, the mountaineers are now believed to have spread over a considerable area several thousand years ago. The expedition to trace their southward extension was led by Walter W. Taylor, Jr., a Smithsonian collaborator. They had been first detected in the Big Bend region of Texas by Frank M. Setzler of the National Museum.

Caves of the mountaineers yielded rush woven sandals and matting and stone weapon points and arrow shafts used in hunting, but they had no pottery for housekeeping. They were not farmers, depending rather on gathering seeds and grinding them, it is supposed.

The ancient mountaineers were odd looking, judging by the discovery that their skulls at the back were large and thick. The majority, it appears, may have had heads noticeably bulgy at the back.

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PHYSIOLOGY

Dogs May Sweat Through Skin As Well As Tongue

THAT old fable that dogs pant because they cannot sweat has been "shattered" by discovery of sweat glands in their skins, says the editor of the *Lancet*, (Nov. 15).

J. G. Speed, an Edinburgh researcher, has found sweat glands in the skin of the lips, head, back, thorax, shoulders, thighs and pads of the feet, a finding previously reported by numerous other investigators but apparently not generally known.

Nevertheless, the dog does pant, comments the *Lancet* editor, adding that it would be interesting to know how effective the skin sweating is and whether all breeds of dogs are equipped with sweat glands in their skin.

Absence of visible moisture on the skin may be due to efficient evaporation while the probability of water vapor enmeshed in the hairs suggests the reverse, the *Lancet* editor states.

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SURGERY—PSYCHOLOGY

Safe Brain Lobe Removal Reported at Northwestern

WHEN the dominant frontal lobe of the brain is removed, the remaining frontal lobe takes over new functions to such an extent that "a deficit in powers of association is frequently impossible to detect," Dr. John Martin, of Northwestern University Medical School, reported.

In 8 out of 10 such operations reported by Dr. Martin, the patients not only survived but are able to lead normal, useful lives, having returned, as Mr. Martin put it, "to a position of social and economic integrity."

The operation was performed because of tumors of the frontal lobe. The frontal lobe, Dr. Martin said, is one of the few locations in the brain where such a radical operation as complete removal should be done, when feasible, to give the patient maximum benefit, although the operation is by no means a "benign procedure."

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CE FIELDS

GEOGRAPHY

South American Scientist Honored With Medal

INTER-American science relations received new emphasis in the award of the American Geographical Society's Charles P. Daly Medal to an eminent South American scientist, Dr. Julio Garzón Nieto, chief of the Office of Longitudes and Frontiers of the Colombian Ministry of Foreign Relations. Details of the award are given in *Geographical Review*. (January)

Dr. Nieto has for the past 30 years supervised the preparation of a great map of Colombia, on a scale of 1 to 500,000, based on astronomical observations. Sheets of this map are expected to be of great value in connection with the Western Hemisphere's self-defense against aggressor nations.

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ARCHAEOLOGY

Prehistoric Indian Homes Set in Order, Burned

DISCOVERY of Indian pit houses, which were carefully set in order and then burned over 1000 years ago, was announced to the New York Academy of Sciences by Prof. Ralph Linton, Columbia University anthropologist.

The stone metates on which the Indian women ground their meal were stacked against the wall and pottery was placed in the southwest corner of the house, and every pit-foundation home that has been excavated in the area was thus arranged and then fired, Prof. Linton said. He advanced the theory that the Indians deliberately burned these homes because of a death in the house. The houses were occupied in the 750-850 A.D. era, it is believed.

Prof. Linton reported the discoveries following a visit to excavations at Gobernador, N. M., which Edward J. Hall, Jr., has been conducting for Columbia University.

Unique features of the Indian settlement which is coming to light, said Prof. Linton, are the burials and also stockades which the owners customarily built around a large pit house and its as-

sociated granaries, fireplaces and shade shelters. No post barricades of the sort have been found previously in Southwest Indian country, nor have archaeologists previously found there the practice of exposing the dead and then burying them, although both these customs were familiar to Indians in some other parts of the country.

Possibility that these Indians may have come from the north, and may have been ancestors of modern Navaho Indians was suggested by Prof. Linton.

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PHYSIOLOGY

Drunk Tests Questioned, Time of Drinking Important

POLICE tests for drunkenness may be unfair to suspected motorists, experiments just reported by two Stanford University Medical School physicians indicate.

Their challenge is aimed at police tests which rely on the concentration of alcohol in the system as an index to drunkenness. Results of such tests are admissible as evidence in drunken driving cases in several states and cities.

Writing in the *Proceedings of the Society for Experimental Biology and Medicine* (November), Drs. Henry Newman and Mason Abramson conclude that drunkenness depends not alone on how much you drank, but when you drank it. They do not imply, however, that motorists can drink with safety.

They assert: "The presence of alcohol in the body over a period of several hours affects a change in the response of the nervous system to alcohol with the result that concentrations which originally produced drunkenness no longer are capable of showing this effect."

Two men were tested by requiring them to aim a gun at a moving target while under the influence of alcohol. Accuracy dropped rapidly after the first drink, but gradually returned to normal despite small doses which kept up the alcohol concentration in their systems.

In one test the amount of alcohol in the subject's system was kept constant for four hours after the first drink. A second drink, equal to the first, did not affect his aim.

"Apparently," the authors state, "the four-hour period at a lower alcohol concentration had been effective in 'adapting' the nervous system. . . ."

Drs. Abramson and Newman conclude that "the effect of a given concentration of alcohol depends not only on its absolute value but also on how long a time it has been present in the body."

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ARCHAEOLOGY

Case Grows Against Flies As Infantile Paralysis Carriers

THE CASE against flies as the culprits that spread infantile paralysis is strengthened by a discovery reported by Dr. Albert B. Sabin and Dr. Robert Ward, of the Children's Hospital Research Foundation and the University of Cincinnati College of Medicine (*Science*, Dec. 19).

Flies caught in Cleveland and Atlanta in the neighborhoods of infantile paralysis patients were infected with the virus of the disease, these doctors found. Previous discovery of the infantile paralysis virus in flies was made in insects trapped in rural areas, in one instance near a privy used by three households in which there were infantile paralysis patients.

Discovery of the virus in city flies is considered more significant, especially since the infected flies were found in modern neighborhoods with good plumbing and in which several children had mild illnesses that might have been abortive infantile paralysis at about the same time other children had recognized attacks of the disease.

Flies as carriers of the disease fit with the theory, suggested by recent evidence, that the virus attacks through the alimentary or digestive tract rather than through the olfactory nerve from the nose. Suggestive also is the fact that the fly season and the infantile paralysis season coincide.

"Among the many problems which these findings raise for future investigations," say the Cincinnati doctors, "the question of whether or not the virus may actually multiply in the flies deserves the most careful attention."

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METEOROLOGY

Moist Wind Paints Trees White on Exposed Side

See Front Cover

THE FROST KING, not the Snow Queen, produced the decoration shown on the front cover of this week's SCIENCE NEWS LETTER. It is an unusually heavy deposit of hoarfrost due to a moist wind that blew for several days across the cold top of Mount Roan on the Tennessee-North Carolina state line.

All the frost was deposited on the windward side of the balsam trees. The other side was as green as in summer. Thus, winter and summer met on this cold mountain top.

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