

they think they can be valuable as aids in game-bird conservation. It works out this way: game birds like pheasants and bobwhite will take cover and not move a feather so long as a hawk is overhead. The idea is to have one of the big birds "wait on," as falconers say—circle slowly overhead, while the game refuge keeper searches the brush for them, perhaps with a well-trained dog. With the birds "frozen" in this way, he should be able to make the necessary game censuses and get a close-up view of his birds for health and general conditions, which would not be possible if they were not afraid to break cover.

Use of hawks against crows, which are sometimes destructive to game bird nests and eggs, is probably not so simple a problem, though hawks are used for driving out rooks in England. The trouble is, that a wild hawk knows a crow is no

good to eat. If a tame hawk can be prevented from ever tasting crow, by taking his prey away from him promptly and giving him a pigeon already dead, as the rook-hunters do in England, it might help to rid a district of crows. For Corvie is a wise old bird, and will vacate if he finds the neighborhood getting too bad for crow health.

The Craigheads are indignant at the intransigent attitude of many game commissioners and wardens, who insist on regarding all hawks and owls as "vermin," killing them indiscriminately. Most hawks, and practically all owls, feed largely or exclusively on rodents, and so should be regarded as beneficial birds, entitled to full legal protection and the encouragement of everybody who is a real friend of wildlife.

Science News Letter, May 11, 1935

MEDICINE

Cortin Promises to Conquer Wasting Disease of Children

CORTIN, the hormone produced by part of the adrenal glands and recently hailed as a life-saving remedy for usually fatal Addison's disease, may prove to be very useful in ameliorating the unhappy effects of a baffling disease of children, muscular dystrophy.

Work done on several cases of progressive muscular dystrophy, hypertrophic muscular dystrophy, and myasthenia gravis, in comparison with other abnormal conditions and normals, was reported by Dr. M. X. Sullivan of Georgetown University to the American Society of Biological Chemists.

A chemist himself, Dr. Sullivan became interested in the muscle disease when he found it was accompanied by certain changes in the body chemistry. In this disease a substance called creatine, which is normally changed in the body to creatinine during muscle activity, is excreted via the kidney as unchanged creatine, scientists found. Investigating further, Dr. Sullivan, aided by Dr. Walter C. Hess and P. Irreverre, found that relatively appreciable amounts of guanidine are excreted in this disease, generally in a combined form readily converted to free guanidine by oxidation with silver oxide or mercuric oxide.

Guanidine is a protoplasmic poison and prevents the passage of an impulse over nerves to muscles. The muscles remain inactive and gradually waste away. Glycine, long considered valuable in checking the progress of the dystrophies, did not eradicate the simple guanidine derivatives but did seem to check the progress of the disease more or less.

Case Described

In one case of a seven year old boy, treatment for several months with cortical extracts taken in pill form brought about changes towards normality. The wasting of the muscle which characterizes this disease was checked, the appetite improved, weight increased, and the excretion of material yielding guanidine ceased.

Dr. Sullivan described a new colorimetric test which he had developed for free guanidine not given by combined guanidines. Material yielding free guanidine he finds is excreted in muscular dystrophies, especially pseudo-hypertrophic muscular dystrophy, but not in a similar disease of adults called myasthenia gravis. Some possibility exists that the cortin treatment taken early may actually have curative value.

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ASTRONOMY

Moon "Rays" May be Mirrors of Volcanic Ash

EVER since the telescope was invented and first turned on the surface of the moon scientists have been puzzled over the cause of great bright "rays" which radiate, like petals on a daisy, from some of its craters. Thirty thousand craters have now been observed on the moon's surface and 30 of them show such "ray" characteristics. Much speculation has been advanced which interpreted the rays as giant valleys or hills that reflected the sunlight back to man on earth.

The committee on Lunar Geology of Carnegie Institution of Washington has just suggested a new explanation of these long bright rays, some of which can be traced for more than a third of the moon's circumference, or over 2,000 miles.

Dr. George W. Munro of Purdue University reports, "it is quite probable that the rays, which to us are such an important feature of the lunar face, would be quite undetectable to one on the moon itself."

The reason appears to be, Dr. Munro suggests, that the highly reflective bright streaks are not great valleys or mountains but rather striplike lunar "mirrors" composed of volcanic ash which covers the earth's satellite.

Each particle of this ash reflects sunlight. In general the ash specks have a random distribution which scatters light in all directions. If, however, the moon were struck a violent blow it is highly possible that vibration waves would be set up on the surface. While persisting for only a short interval of time, such vibrations could orient particles so that their reflecting powers would greatly increase in a given direction.

If one asks where the moon would receive a violent shock that could cause the vibrations scientists point to the already existing evidence of the havoc wrought by millions upon millions of meteor impacts on the moon.

The moon, Dr. Munro reports, (*Science*, April 26) has its history plainly written on its face. Its larger craters are easily classified as to age. (*Turn Page*)

23 LANGUAGES

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