

Mr. Dolan's journey totaled 5,000 miles by caravan, 2,500 miles by airplane, and 1,700 miles by river.

Ernst Schaefer, of Goettingen University, was zoologist of the expedition.

Among the 3,100 birds and 140 mammals secured is a hitherto undescribed miniature sheep. The most

spectacular specimens brought back are wild yak, which inhabit an area never lower than 14,000 feet above sea level, and go with wild sheep as high as 17,000 feet. Big bulls stand six feet at the shoulder and weigh from 1,600 pounds to a ton.

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University of Chicago to the American Physiological Society.

The new hormone, called lipocaic, has not yet been used clinically. It will supplement but not replace insulin. Lipocaic apparently controls the utilization of fat in the body as insulin controls the use of sugar. The diabetic patient suffers from a disturbance in the utilization of fat, so that even with insulin treatment he cannot be returned to a fully normal state. The disturbance in fat utilization often causes a premature hardening of the arteries as well as other difficulties. For this reason the fat in his diet must be more or less restricted.

The new hormone was discovered in studies on dogs. When the pancreas in these animals is completely removed, they cannot live more than two or three months even when given adequate amounts of insulin. At death an extreme infiltration of the liver with fat is found. Giving the new hormone together with insulin, after complete removal of the pancreas, prevented the infiltration of fat into the liver and has enabled the dog to live probably a normal life span.

The Chicago scientists are now trying to obtain lipocaic in pure form.

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GENETICS

Biologist Predicts Babies May Come From "Borrowed" Ova

Mother Might Serve Merely as Incubator to Infant From Ideal Parentage; Present Eugenics Condemned

WOMEN having children with neither their own nor their husbands' hereditary qualities—physiologically their mothers, but biologically only their "adopted" mothers—constitute one possibility in a future Utopia sketched by a leading American biologist, Prof. H. J. Muller of the University of Texas, who has for the past three years been carrying on research at the Academy of Sciences of the U.S.S.R. in Moscow, of which he has been elected a foreign member.

This somewhat dizzying suggestion for really radical eugenics is set forth by Prof. Muller in a recently published book, "Out of the Night" (Vanguard Press), which has been in practically its present shape in manuscript form for a quarter of a century, "while the world caught up." Now, Prof. Muller considers publication justified.

There are several developing biological techniques which he regards as promising eventually to make his biological dream a reality. Ovarian tissue might be transplanted from women of extraordinary qualities into prospective mothers of only average hereditary promise, and conception assured through the mechanical implantation of male sex cells from highly gifted men. Or, the ovum might be fertilized outside the body of the mother, and then accepted by her for development and birth. Or the "eugenic" ovarian stock might even imaginably be kept going in incubators, like Dr. Alexis Carrel's famous chicken heart tissue.

This deliberately selective parenthood would have nothing to do with the regular marital life of the commonplace husband and the commonplace wife who would thus "adopt" a baby in the one-cell stage. They would live

together, carrying on their normal love-life in the immemorial fashion—but would carefully practice birth-control, to make sure that all their offspring should be of the "thoroughbred" type. Prof. Muller believes that marital love and parenthood need not, and indeed should not, have anything to do with each other.

For eugenics of the type advocated by many sociologists and scientists today, he has only scorn. The measures are only halfway attempts, inadequate even to achieve their limited objectives, he declares. And he even challenges the oft-repeated assertion that the "best stocks" in present-day society should be encouraged into greater fruitfulness. Today's upper classes, he points out, hold their position largely through their success as competitors, as predators. "Eugenics" that would perpetuate a dominantly predatory class, he holds, is really dysgenics.

Prof. Muller won world-wide recognition some years ago by his brilliant researches in genetics, in which he forced the production of new forms, or mutations, by bombarding germ-plasm with X-rays. Election to membership in the National Academy of Sciences of the United States was one of the honors accorded to him at that time.

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MEDICINE

New Hormone Promises Help for Diabetics

A NEW hormone from the pancreas which may greatly improve treatment of diabetes was reported by Drs. Lester R. Dragstedt, John van Prohaska and Herman P. Harms of the

GEOLOGY

Greatest Hazard From Meteorite Would Be Hot Air

ARRIVAL of a large meteorite—or perhaps an object like the newly-named planetoid Anteros—would probably do more damage upon the earth through atmospheric disturbance than by seismic shock, according to Dr. Frederick C. Leonard, astronomer in the University of California at Los Angeles. To be sure, a direct hit would wipe out life and property in the line of the collision; but for spectators well to the side the greatest hazard would be that of hot wind, unless perchance the blundering celestial visitor should happen to touch off an unstable rock-fault and produce an earthquake through secondary forces.

New data from explorations in Siberia, published recently by the Society for Research on Meteorites, of which Dr. Leonard is president, reveal details of the terrific blast of hot air which accompanied the great meteorite of June 30, 1908.

If a cosmic mischance had directed the flying planetoid Anteros to earth, friction would undoubtedly have

caused tremendous heating, both of the upper atmosphere and of the planetoid's surface. Much more serious would have been the compression and heating of air ahead of the missile. At the moment of arrival of the planetoid at the earth's surface, this intensely heated air, blocked by the sudden encounter with the nearly incompressible crust of the earth, would be forced out with terrific violence to all sides. The resulting hot wind would doubtless relegate hurricanes and tornadoes to the limbo of mild zephyrs by comparison. One shudders to think of the result had the

great Siberian meteorite arrived a few hours later, striking a point in southern Sweden.

Periodic claims by air pilots that they have been compelled to dodge meteors are scouted by Prof. H. H. Nininger, secretary of the aforementioned society, whose data indicate that none of the heavenly missiles came within twenty miles of any aircraft. Furthermore, the normal speeds of ten to fifty miles per second, ascribed to meteors on entering the earth's atmosphere, would scarcely give time for even a trimotored ship to "duck" out of the way.

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PHYSIOLOGY

Ectogenetic Babies Are Still Far from Human Realization

Doctor Gregory Pincus, Who Developed "Unfathered" Rabbit Eggs in Glass, Frowns on Imaginative Hopes

BABIES born in a bottle (or produced "ectogenetically," to use a more learned-sounding word) are still very far from human realization, Dr. Gregory Pincus of Harvard University emphasizes. Dr. Pincus is the young biologist who has created something of a stir even outside biological circles by starting the development of rabbit ova, or eggs, in glass dishes without the intervention of the male elements, or sperm cells.

These "unfathered" rabbit eggs were induced to start the normal processes of division and differentiation by treating them with salt solutions more concentrated than normal blood, and also by heating them to a temperature of 45 degrees Centigrade, which is about 113 degrees on the commonly used Fahrenheit scale. When this treatment was first applied to the unfertilized eggs of such creatures as sea urchins and frogs by Dr. Jacques Loeb, about a generation ago, the resulting "parthenogenetic," or "virgin-born" organisms were the center of a whirl of popular interest comparable only with that aroused by the advent of the Dionne quintuplets in our own day.

But Dr. Pincus frowns upon any tendency to read into his experiments and their results the dreams of such imaginative scientists as J. B. S. Haldane, who predicted that some day babies would be produced in bottles of suitable nutrient fluids outside human

mother's bodies. He states:

"Rabbit eggs subjected to the described treatment have behaved as though fertilized, and to date have followed development to early blastocyst

stages, both in vitro and in vivo upon transplantation into recipient females after treatment. A more extensive statement is not justified."

Reduced to non-technical language, this means that the chemically or heat-treated rabbit ova have gone through only the very earliest stages of development, either in the glass dishes in the laboratory or when re-introduced into the bodies of "foster-mother" rabbits after suitable preparation. A blastocyst is that early embryonic stage of an organism that consists essentially in a hollow, fluid-filled sphere of cells, only one layer thick. It has as little visible resemblance to a rabbit—or a human baby—as can well be imagined. Yet all living higher animals, including ourselves, were once blastocysts.

Whether mammalian eggs can ever be carried past this blastocyst stage, to eventual birth and full growth, Dr. Pincus is not yet prepared to state. Early stages of growth seem to be fairly easy to start under a number of different abnormal conditions, but mortality is high in all of them—100 per cent. in many. Whether these artificially activated rabbit eggs can eventually be made to leap that lethal hurdle is a question that only further experimentation can answer.

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EVOLUTION OF ARC LIGHT

The new "peanut" light (left), developed by the Westinghouse Lamp Company, is claimed to be man's brightest source of light. A small globule of metallic mercury, in a tiny quartz tube about the size of a roasted peanut in its shell, vaporizes when submitted to an electrical discharge, and sets up a brilliant glow of light similar in color composition to that of sunlight. Dr. John W. Marden, Westinghouse research scientist, is comparing its light with that of a replica of the original carbon arc light developed by Sir Humphry Davy in 1813, (center) and a replica of Faraday's original mercury arc light dating back to 1835.