VETERINARY MEDICINE

Suggest Rejuvenating Bulls By Sex Gland Grafts

➤ REJUVENATION BY Voronoff's sex gland grafting methods of 30 years ago should be used now to prolong the usefulness of expensive bulls and other livestock shipped abroad under public and private programs of aid to underdeveloped countries.

So declares Dr. Joseph Y. Peary of Alderson Broaddus College in Philippi, W. Va.

Voronoff's experiments, which included human cases as well as those of bulls, rams and other senile sires, were made 30 years too soon, Dr. Peary says.

In the human cases, glands from apes were used. The withering and resorption of the transplants due to incompatibility of tissues of different species might be overcome now that so much more is known about factors influencing tissue growth, Dr. Peary says.

In Voronoff's animal experiments, however, he used glands from animals of the same species to graft into the glands of sexually worn out males. At that time, 30 years ago, "the expense involved must have appeared excessive in relation to rejuvenating a bull for only a breeding season or two of effective service," Dr. Peary comments in a report to the journal, SCIENCE (March 28).

"Not so," he states, "in our own era of artificial insemination and of egg implantation into foster mothers, when the reproductive power of a progenitor is spread over a much larger herd or flock."

Costly animals shipped to underdeveloped countries, Dr. Peary points out, may become prematurely sterile in an adverse climatic environment. It is for this reason he advises reviving Voronoff's gland grafting methods of rejuvenation.

Science News Letter, April 12, 1952

PSYCHOLOGY

Harvard Men Play Pinball in Gambling Study

➤ WHY DO intelligent people keep on placing bets even when they know that in the long run they are bound to lose, rather than put their money on a sure thing?

The answer to this and other questions about why and how people gamble was sought in experiments at Harvard University, Cambridge, Mass., where 12 students were asked to make their choice of bets as to how the balls of a pinball machine would fall.

The results were reported to the Eastern Psychological Association meeting in Atlantic City by Dr. Ward Edwards of Johns Hopkins University, Baltimore, as follows:

All the students followed the same general pattern of betting and this did not change much when the men just imagined they were betting, when they were betting for worthless tokens or when they were losing or gaining real money.

Having decided on their preferred bet, the men then tried their luck on a pinball machine described by Dr. Edwards as "the fairest gambling device in the history of gambling." The ball was just as likely to fall into any one of its eight boxes as it was to land in any other.

People like to take a 50-50 chance to win a moderate amount rather than a good chance to win a small amount or a poor chance to make a killing, Dr. Edwards found from these experiments.

The long shots are, however, more preferred when real money passes hands than when the gambling is for just chips.

Losing betters make a different kind of choice. People prefer a low probability of losing with a large amount lost rather than a high chance of losing a smaller amount.

Science News Letter, April 12, 1952

MEDICINE

Vitamin B-6 Treats One Leukemia, Speeds Another

➤ A KIND of Jekyll-Hyde role for one of the B vitamins in leukemias has been discovered by Drs. Robert W. Heinle and David R. Weir of Western Reserve University School of Medicine, Cleveland.

The vitamin is B-6, or pyridoxine. Lack of this vitamin may speed the the course of one kind of leukemia, the myeloid type, and treatment with it may in some cases reduce symptoms.

Patients with another type of leukemia, acute lymphatic, however, may be helped by a deficiency of B-6. The deficiency was brought about in two adult patients by doses of another chemical, desoxypyridoxine. The two patients showed some improvement when given this chemical, but the doctors warned, in their report to the National Vitamin Foundation meeting in New York, that "further evaluation of its effectiveness is required".

Science News Letter, April 12, 1952

BIOPHYSICS

Ultraviolet TV Will Aid Biologists

➤ COLOR TELEVISION cameras sensitive to ultraviolet light soon may be coupled with microscopes to produce color pictures of clear specimens on television screens.

Designed to eliminate the old system of staining specimens, the new method is based upon the principle that different parts of the specimen absorb different amounts of ultraviolet light. The television camera translates those different amounts of ultraviolet light into regular colors used in color TV. Engineers who developed the system said various parts of the specimen could be seen with individual clarity.

Science News Letter, April 12, 1952

IN SCIEN

MEDICINE

Male Mice May Infect Females with Cancer

➤ MALES MAY infect their wives and, through them, their children with a breast-cancer-producing virus if the results of experiments with mice can be applied to humans.

The virus is thought to be transmitted to the children in their mother's mlik.

Dr. John J. Bittner, University of Minnesota scientist, reported in Minneapolis that men may transmit the breast cancer virus to their wives at the time of mating.

However, he said, the men merely serve as carriers of the virus. They seldom develop breast cancer themselves.

Dr. Bittner mated male mice that had been nursed by mothers with the breast cancer virus with female mice without either breast cancer or the virus. Along about the third or fourth litter produced by this kind of mating, the mother mice came down with breast cancer. It evidently took several chances for infection before they got the virus from their mates.

The female children from these later litters also developed breast cancers. They got it from their mother's milk, Dr. Bittner thinks.

Science News Letter, April 12, 1952

TECHNOLOGY

Explosive Charges Heal "Sick" Water Wells

➤ A METHOD of treating "sick" water wells to increase the yield by as much as 300% was reported to the meeting of the American Society of Mechanical Engineers in Seattle by Harvey A. Mylander of the Water Supply Analysts, South Pasadena, Calif.

The process uses small explosive charges accurately spaced in the well casing and set off at calculated time intervals to produce a continuous vibration in the well. Mr. Mylander said the shock waves, which continued over a relatively long period, were powerful enough to dislodge obstructions in the well and would cleanse the perforations in the well casing.

He said clogged casing perforations "nine out of ten times" cut the production of the "sick" wells. Conventional chemical and mechanical methods used by well drillers and well servicing firms to remove the organic growths or deposits from the perforations produced short-lived results, were only mildly effective, or were too expensive. Swabbing, another cleansing method, produced only temporary relief, he said.

Science News Letter, April 12, 1952

CE FIELDS

ENGINEERING

Protect Atomic Workers From Hazards by Air Locks

➤ AIR LOCKS which form a part of the ventilation system currently being used in some atomic plants to protect workers from radiation and toxic hazards were described to the American Society of Mechanical Engineers meeting in Seattle by W. W. McIntosh of the General Electric Co.

Mr. McIntosh reported different zones in atomic plants have been separated structurally and kept at different air pressures so that ventilating air always flows from the less to the more hazardous zone when doors to those zones are opened. The air then is exhausted near the place in the room where the hazard is the greatest.

A second system he described uses powerful exhaust fans to draw fresh air into the plant at the least hazardous spots and to pull it on through the plant to more dangerous spots. Finally it is exhausted at the most hazardous spot.

Before exhaust gases are discharged into the outside air, waste particles are filtered out and then the gas itself is scrubbed. Final discharge point of the gas may be from a stack 200 or more feet in height to obtain a further safety margin, he added.

Science News Letter, April 12, 1952

GENERAL SCIENCE

100% Handicapped Persons Run Successful Businesses

➤ PHYSICALLY HANDICAPPED persons may be given new heart and hope of obtaining employment from the appearance in Washington of men and women who are self-supporting in spite of almost complete disability.

Telling their success stories before the National Conference on Placement of Severely Handicapped, these young people showed employers and fellow victims of crippling disease that it is not necessary for the handicapped to be helpless and dependent.

Among them are:

Miss Mary Krasnagor, a pretty girl in her early 30's from Framingham, Mass. She has been crippled most of her life, suffering from muscular dystrophy. Now she is confined to a wheelchair, unable to walk at all and with very little use of her hands. Some years ago she was declared "non-feasible," that is, no employment could be found for her, so she decided to strike out in business for herself. Today she operates one of the most successful real estate concerns in her area. She owns her own home and supports a father as well as herself, going back and forth to an office to conduct her business which she handles largely by telephone.

Another wheelchair patient, Roger Arnett, with one leg amputated and the remaining one paralyzed, runs his own gladioli farm at Columbus, Ind.

Lovely young Miss Iride Valmassy, also a muscular dystrophy patient, holds down a job with the campaign division of the National Foundation for Infantile Paralysis in Detroit, working in a wheelchair. Unlike Miss Krasnagor, Miss Valmassy has full use of her hands, however.

Ralph Buckley, a paraplegic of Nashua, N. H., has been supporting himself at clerical work in a textile plant.

In addition to their regular work, these people have been contributing their services to aid the handicapped.

Science News Letter, April 12, 1952

MEDICINE

Chemical X in Marrow Seen as Leukemia Aid

➤ CHANCES of curing leukemia patients now seem much better, thanks to discovery at the National Cancer Institute, Washington, of an anti-radiation substance that might also be curative for any future atom bomb victims.

The substance, so far called X because its identity is not known, exists in bone marrow. Transfusions of living bone marrow save animals from radiation death when given even several days after otherwise fatal doses of radiation, Dr. Egon Lorenz has found. Even very small amounts of substance X are effective.

For the leukemia patients the hope is that this substance would make them able to stand much larger doses of radiation, perhaps large enough ones to cure the leukemia.

The work is still in the early experimental stages. Among problems to be solved are finding the substance in bone marrow that has this anti-radiation effect and then finding ways of getting enough of it to use for trials and perhaps treatment of patients.

Science News Letter, April 12, 1952

TECHNOLOGY

Big Plastic Bottles Can't Break With Crash

➤ THE WORLD'S largest unbreakable plastic bottles for transporting large quantities of poisonous or corrosive acids were exhibited at the National Packaging Exposition in Atlantic City.

Capable of holding 13 gallons, the polyethylene containers are blow-molded in one piece by Plax Corp., Hartford, Conn. Used in plywood containers designed by Greif Bros. Cooperage Corp., Delaware, Ohio, they form the first smash-proof carboys ever produced.

Science News Letter, April 12, 1952

BIOLOGY

Tree Frog Now Coming Out of Winter Hibernation

See Front Cover

➤ COMING OUT of hibernation about now is the tree frog, or tree toad, as it commonly called. This frog leads a varied life as it passes through the different seasons of the year.

During the cold winter months it hibernates in the ground, generally under the mud in the bottom of a pond. In the spring it lives in a shallow pond during its mating season. After its jelly-like masses of eggs have been deposited in the water, the frog goes up into the trees and bushes to live until cold weather returns in the late fall. Color changes possible for the amphibian are through buff, gray, olive and pale green to almost white.

A tree frog is difficult to locate in a tree because it flattens itself out to look like a piece of lichen on the bark of a tree, becoming dark gray or tan on a dark tree trunk. It is well known, however, from its familiar tree-frog song which it usually sends out just before a rain. As it sings it blows up its throat to immense proportions, as shown on the cover of this week's SCIENCE NEWS LETTER.

Science News Letter, April 12, 1952

ENGINEERING

Furnace Burns Liquor Wastes From Paper Plants

➤ CALCIUM-BASE SULFITE liquor, a stream-polluting waste product from paper mills, can be burned in a furnace described at the meeting in Seattle of the American Society of Mechanical Engineers by H. A. Sorenson of the division of industrial research at Washington State College.

Disposing of sulfite liquor has been a problem to paper mills, Mr. Sorenson said. The simplest and cheapest way to dispose of it is to dump the waste into nearby streams and rivers. But public opposition and legislation indicated another solution to the problem was needed.

An eight-foot-long, sheet-steel, horizontal cylinder insulated on the inside with firebrick was constructed at the college for experimental burning of sulfite liquor. A conventional-type oil burner was placed in one end of the furnace from which oil was sprayed into the furnace, producing a fire to burn the sulfite liquor. A steam-atomizing oil burner nozzle was used to spray the sulfite liquor into the furnace. Later it was discovered that the liquor would burn without the support of the conventional oil burner.

Efficiency of the furnace was figured to be 76%, but making the fire more turbulent should raise the figure substantially, Mr. Sorenson reported.

Science News Letter, April 12, 1952