

Species that lasted forty years but were missing at the half-century mark included pigweed, ragweed, peppergrass, plantain and purslane.

There are still eleven bottles buried in the soil of the State College campus. If the ten-year interval schedule is kept up, the end of the experiment will not be reached until the middle of the twenty-first century.

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MEDICINE

Test Hopeful Chemical Treatment of Tuberculosis

THE first group of tuberculosis patients to be treated with promin, new sulfa drug which Mayo Clinic scientists have found a promising remedy for tuberculosis in guinea pigs, will have to be followed for at least one year before the doctors will know whether or not this drug can "cure" tuberculosis in humans as it does in guinea pigs.

Small doses of this drug can be safely given to patients, Dr. H. C. Hinshaw reported to the American Medical Association.

This much, but no more, has been learned from a careful trial in a limited number of patients during the last two months. This trial followed extensive trials of the remedy in guinea pigs infected with human tuberculosis germs. The drug apparently eradicated the disease in guinea pigs, Dr. W. H. Feldman had previously reported. The disease in guinea pigs, even though produced by the same germ as causes tuberculosis in humans, is, however, an entirely different disease, the Mayo Clinic scientists emphasize.

Promin, which is a sugar-containing relative of sulfanilamide, has not yet been released for general distribution. It is a "definite poison," Dr. Feldman said, and must be handled with discretion as is the case with many other drugs.

Finding a dose that can be safely given to humans is therefore considered something of a triumph for its first two months of clinical trial, but it is far too early to say whether or not it will benefit these tuberculosis patients. In fact, it is too early even to expect to find evidence of any effect of the drug in X-ray pictures of the lungs. Doctors generally set three months as the interval between X-ray pictures to check on the course of tuberculosis and these patients have only had promin for two months.

Tuberculosis patients and their relatives are warned not to hope for too

much from the first report of clinical use of this drug, and not to expect to be able to get it.

Promin has also been tried on patients suffering with various other ailments such as pneumonia and staphylococcus

ENGINEERING

Substitutes in Automobiles Superior in Many Instances

SUBSTITUTE materials adopted for automobile parts, because the old materials are needed for defense, in some cases "will stay permanently after the emergency is over, since they will have time to prove their worth, demonstrating hitherto undiscovered qualities," Thomas A. Bissell, Technical Editor of the S. A. E. Journal, told the Society of Automotive Engineers.

"In addition," he added, "the cost of many of these parts will have been lowered through design and production development. This is one of the brightest spots in the picture since the exigencies of the emergency will force many developments that would not have been made under normal conditions."

Pointing out some of the difficulties encountered, he said: "In considering alternate materials for certain parts in the automobile, engineers working for the best interests of national defense often

and streptococcus infections. The results were encouraging but Dr. Hinshaw believes that other sulfa drugs are perhaps a little better in pneumonia and that there is no reason to change to promin treatment in this disease.

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find themselves in a dilemma. Substitution of the alternate material will release a relatively small amount of material needed for defense, when compared with that released by replacing other parts, but production of the alternate parts requires extra machining and processing, entailing additional machine tools, machinists, and other skilled labor needed just as urgently in defense industries as is the critical material itself.

"The example most often cited to illustrate this problem is that of carburetors made of critical zinc alloy versus those of alternate cast iron. The zinc-alloy carburetor die castings weigh little when compared with zinc-alloy radiator grilles; also, they require virtually no machining or processing. Cast iron carburetors, on the other hand, would require additional batteries of machine tools to perform the necessary finishing, drilling, and facing operations."

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MEDICINE

Prevention of Diabetes Possible, Dr. Best Suggests

AREQUEST to American doctors to carry on war-interrupted efforts of Canadian scientists to test on humans a promising method of diabetes prevention was made by Dr. C. E. Best, of Toronto, co-discoverer of insulin, and his associate, Dr. H. E. Haist, at the meeting in Cleveland, for the first time anywhere, of the newly-organized American Diabetes Association.

By giving insulin, a diet high in fat content, and also by fasting, the Canadian scientists have succeeded in preventing diabetes in dogs. By any of these procedures the amount of insulin in the

dog's pancreas is reduced, indicating that the insulin-producing cells of the pancreas are being given a chance to rest. Overwork of these cells with consequent breakdown of insulin-producing ability results in diabetes.

The hereditary tendency to diabetes has been so well established that Dr. Best and his associate believe the measures which prevented diabetes in dogs should be tried, under carefully controlled conditions, to protect children of diabetic ancestry from developing the disease. They have not been able to make such a trial, Dr. Best explained, because

war has called to England for military service the doctor in the University of Toronto medical faculty who would be able to make arrangements for the trial. Dr. Best's own activities are limited to laboratory research.

A means of diagnosing diabetes in its early stages is badly needed, Dr. Best declared, pointing out that at present doctors do not see diabetic patients until most of the insulin-producing cells in

the patient's pancreas are destroyed.

The death rate from diabetes is rising "at an alarming rate" and so is the number of cases, in spite of efforts being made to fight this disease, Dr. Cecil Striker, of Cincinnati, president of the new association, declared in outlining methods by which the association hopes to aid the three-quarters of a million diabetics in the nation.

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POPULATION

U. S. Can Expect as Many Indians By 1980 as in 1492

Present Trends Indicate Indian Population Will Exceed 700,000 Within the Next Forty Years

REVERSING the vanishing red man trend, Indians in the United States are now multiplying so rapidly that by 1980 the country may actually expect to have as many Indians as when Columbus landed in 1492.

Reporting this prospect to the Institute on the Future of the American Indian, in New York, Dr. Frank Lorimer, director of population studies at American University, predicted an Indian population exceeding 700,000 and possibly reaching 750,000 in the next 40 years, judging by present trends. There are now about 360,000 Indians, and in Columbus' time, by conservative estimates of anthropologists, there were 700,000 to 800,000.

Birth control in Indian families was proposed by Dr. Lorimer, as one solution to the Indians' future economic worries which will increase if their numbers grow too rapidly.

Declaring that, aside from health hazards, the problems of rapid population increase are clearly economic, Dr. Lorimer said:

"I venture the suggestion that it may be wise to proceed along all three of the possible lines of solution I have suggested—allocation of new lands, development of new economic techniques, and limitation of births."

What these solutions would mean to tribal life, the cultural and political changes involved, the sociologist added, are questions for study by specialists on Indian life.

Dr. Lorimer advocated more attention to studying Indian population trends, to

gain facts needed in understanding Indian problems in different areas.

Possibility of establishing population registers in various areas, where a continuous record of Indian births, marriages, migration, and deaths could be kept was suggested, as one way of supplementing census data. Such registers are kept in European countries under church or civil authorities, Dr. Lorimer pointed out.

That Indians, whom some scientists rate the world's healthiest people in pre-Columbian times, are on a new upgrade in health, was reported by Dr. J. G. Townsend, former medical director for the U. S. Office of Indian Affairs.

Indians in the United States still have more tuberculosis and more trachoma than the general population, he stated. But blame for the tuberculosis can be laid to economic ills, in Dr. Townsend's opinion, not to any special predisposition of the Indian race to this disease. Indians, he said, are now developing a natural immunity to tuberculosis.

Hope that trachoma, once a terrible scourge to Indian eyesight, will be wiped out in a few years was forecast by Dr. Townsend. The discovery by Indian Service physicians and consultants that trachoma is caused by a virus and that it can be made non-infectious by sulfanilamide treatment is having world-wide repercussions, bringing hope to other peoples afflicted by the disease.

Pointing out that the newer hospitals for Indians have laboratories well equipped for research, Dr. Townsend suggested important opportunities for

study. The rarity of cancer among Indians and the supposed peculiar immunity of Navahos to scarlet fever, he cited as points worthy of investigation, with benefit to Indians and possibly to the world at large.

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RESOURCES

Cork Trees, Rubber Bushes Being Grown in California

CORK trees from Spain and rubber bushes from Mexico are being cultivated in California State Experiment Station nurseries, in an effort to replace supplies from abroad, diminished or threatened with total cut-off by disturbances overseas.

During the coming autumn, 10,000 cork oak seedlings will be distributed free of charge to all persons presenting satisfactory evidence that they can plant and care for 50 or more trees. Experimental plantings in various parts of the state have already indicated that California's soil and climatic conditions are as suitable as those of Spain for the successful production of cork.

The rubber bushes are of the species known as guayule, native to Northern Mexico, of which there are already successful plantations in the southern part of the state. The new stocks being grown are in a nursery sponsored by the Continental Rubber Company, whose directors wish to learn whether guayule can be successfully produced in the interior valleys of California.

Guayule does not produce its rubber in the form of latex or milky sap, as most commercial rubber plants do. Its rubber occurs in solid particles and shreds embedded in the plant tissues, constituting from 18 to 20 per cent. of the plant's weight. It is extracted by grinding up the plant in water, which permits the rubber particles to float to the top.

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