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PANCREATIC EXTRACT PROMISES TO CURE DIABETES

Diabetes, the disease that ranks with cancer in fatality and incurability, is about to be conquered by medical science, if success continues to attend the use of a pancreatic extract, called insulin, developed at the University of Toronto Medical School during the last year.

It has been known for several years, that the pancreas, an organ situated in the abdomen, in addition to secreting digestive juices, also affects the ability to use the sugar of the food. Improper functioning of this organ seemed to cause diabetes. A diabetic person can not burn the carbohydrates of food so as to get bodily energy out of them. The useless sugar passes off in the urine or accumulates in the blood, and the patient wastes away in spite of a large appetite. Diabetes is considered practically 100 per cent. fatal in children and practically incurable in adults although they may by limiting their diet, especially as to sugar, prolong their lives for years.

Dr. F. G. Banting, a young physician who graduated only five years ago from the University of Toronto, worked on the problem of the internal secretion of the pancreas in the belief that the product of this organ regulated the metabolism or transformation of the sugars. He succeeded in isolating the internal pancreatic secretion of an unborn calf and was thus able to determine its properties and to learn how to extract it from the same organ of cows. The portion of the pancreas known as the "Islands of Langerhans" is used in producing insulin. The extract was tested on animals and it improved the utilization of sugar to such a marked degree that the normal diet could be used. Thus encouraged, all the energies of the Toronto University laboratories, under the direction of Dr. J. J. R. Macleod, were directed toward the perfection of the substance and the treatment.

The extract was first used on advanced human cases of diabetes this spring and the results were so pronounced that the Toronto scientists transmitted their data and described their methods to two large manufacturers of biological products, one in Indianapolis and the other in Toronto, who are now producing insulin for wider experimental use.

Insulin is now being used in five or six clinics in different centers of population. Dr. Elliott P. Joslin of Harvard University, a leading expert on diabetes is experimenting with it, and Dr. Frederick M. Allen who devised a method treatment by diet limitation now in extensive use is also using the new extract on his patients. Small quantities of insulin are being made in private laboratories in this country.

The process of manufacture of insulin is still extremely difficult and unsatislactory and the extract is not yet considered safe for general use. From a more extensive study of its properties it is believed that its production will be cheapened and important knowledge about the absorption and use of food by the body will be obtained.

While sufficient time has not yet elapsed since the beginning of human use of the new treatment to definitely determine its ultimate effects, patients are relieved of the effects of the disease so long as insulin is taken. They are able to eat a hormal meal shortly after and even a considerable amount of sugar without excess Sugar being shown. Some physicians are admittedly treating their patients by the old Wethods only until the new extract is made available to them.

Insulin is not a serum but an extract analagous to that obtained from the thyroid or other glands of the body. One difficulty in its production is the fact that the digestive juices that are also produced by the pancreas tend to digest the organ itself as soon as the animal is killed. Leaders in medical circles characterize in-Sulin as one of the most promising developments of modern medicine.

READING REFERENCE- Felsher, H. Sugar exception in severe diabetes. Journal of Biological Chemistry 50:177-179 Jan. 1922. Landes H. E. and others. Effect of intravenous injection of pancreatic perfusates on.... Archives of Internal Medicine 29:853-66. June 1922.

(A Chat on Science)

IN DEFENSE OF FIREPLACES

By Dr. Edwin E. Slosson

One of the considerable differences between British and American customs is in the matter of house-heating.

The deviation was started out by that patriotic scientist, old Ben Franklin, lamous as the inventor of the Franklin stove. From this beginning America has deoped most elaborate and perfect heating systems by which a thousand rooms can be 'ept at an even temperature all the year round.

On the other hand the British have stuck to their open fireplaces, cumbrous, on the other hand the British have sound to the Americans, returning from a wasteful, and, as it seems to us, uncomfortable. Americans, returning from a loreign tour, rejoice in the comfortable atmosphere of their apartments and declare, This is the first time I have felt warm since I left home". The British fireplace loasts one side of the body while leaving the other side to freeze. One must revolve ore it as on a perpendicular spit to give all sides an even chance and even then air is chilly and damp to breathe. It makes one shiver the more to see all that air escaping up the big chimney, when it is so much needed to warm the room.

We Americans have been disposed to attribute the retention of the inadequate and heonvenient fireplace to British backwardness and indifference to comfort. But now seems that the British have some scientific justification for their preference bedes personal prejudice and native conservatism.

In the first place the lireplace is not so wastern as the first place the lireplace is not so wastern as the first place the lireplace is not so wastern as the first place the best gave the first place the lire first place the lire first place the lireplace is not so wastern as the first place the lireplace is not so wastern as the first place the lireplace is not so wastern as the lireplace is not In the first place the fireplace is not so wasteful as it seems to be. An inout tgation made in Manchester of all solds of the heat of the fuel consumed. A gas line-place is twice as good, for its efficiency of radiation is 50 per cent of the heat value of the gas consumed. Besides this advantage gas is a more economical of using coal since in gas-making the ammonia and tar are saved and coke is obof using coal since in gas-making the ammonia and the least of the An electrical heater is best of all since it sends out 75 per cent of the

energy of the current in radiant heat and light.

Another point in favor of the fireplace is that radiant heat has been found to have certain physiological advantage over warm air from a steam-heating apparatus. Heat can be conveyed in two ways:

First, it can be carried by a current of hot air. This is called "convection". Second, it can go by itself as ether waves. This is called "radiation".

In the case of radiation no air or any other medium is necessary. The sun's rays come to us through 93,000,000 miles of empty space without heating it or lighting it in the least. So, too, any glowing body, such as a bed of hot coal or a gas log or an incandescent electric wire, gives off radiations that travel straight across the room without heating the air much although they heat up any solid body they may strike. But what we call a steam "radiator" would be more properly described as a steam-coil air-heater for most of the heat we get from it comes to us in currents of warmed air.

Now the Englishman, rightly or wrongly, does not want warm air. He wants cool air and a hot grate. He does not want an even temperature and a still atmosphere. He wants an uneven temperature and drafts. Professor W. A. Bone, Chairman of the Fuel Economy Committee, stated the British ideal clearly in his report to the Association for the Advancement of Science meeting recently at Hull when he said:

"The more nearly the conditions under which our living rooms are warmed and Ventilated approach those of a warm summer's day - a cooling breeze blowing around the head, the varying sunshine warming one side of the body and the warm ground for the feet - the more comfortable and healthful they willbe. The desirability of such conditions, which may be contrasted with the warm air of rooms heated by convection from steam coils, probably explains the Englishman's decided preference for the radiation from an open fireplace during our dreary British winters over the various forms of central heating which are favored in America and other countries where the winters are colder but brighter."

Professor Bone is kind enough to allow us a loop-hole for our preference in a difference of climate. But it is evident that more is to be said on the side of radiation than we have considered.

Perhaps also we have gone too far in our endeavor to secure a uniform temperahumidity in our big buildings.

Professor Huntington of Yale says that the hardest work and highest thinking of the world is done where the temperature is variable and winds are frequent. His arbetter off are the people. Perhaps the same applies to houses.

READING REFERENCE- Proper construction and use of open fire places. Heating and ventilating 18:47-8. Nov. 1921. Shuffrey, L. A. The English fire place - ies. London, B. T. Batsford (1912).

The earth wobbles a little about its axis.

tive eyesight.

CHARACTERIZE DR. ABRAMS AS PSEUDO-MEDICAL ROCKET

Characterizing Dr. Albert Abrams of San Francisco as "the latest rocket to blaze a somewhat polychromatic course across the firmament of pseudo-medicine," the American Medical Association has issued a summary of his exploits as a result of numerous requests for information received by the Association.

"In the field of diagnosis Dr. Abrams claims to have evolved a system of abdominal percussion, practiced in connection with certain electrical apparatus he has had made, from which heddrives what he is pleased to term the Electronic Reactions of Abrams, abbreviated ERA," says the summary.

Dr. Abrams is now in the east lecturing on his methods. Pearson's Magazine has Published extensive articles on his work by Upton Sinclair and others. Users of his electrical apparatus are claimed to number over 300, and some of these are said to be enjoying incomes of from \$1,000 to \$2,000 a week from the use of the Abrams apparatus.

"By means of this system it is claimed that Abrams can diagnose the sex, race and disease' af a patient he has never seen, says the American Medical Association report. "All that he needs is a smaple of blood from the individual. A few drops of blood, from a person who must be facing west but who may be a thousand miles or more away, are put on a piece of paper and the paper is placed in what Abrams calls his 'Dynamizer'. This is connected with his 'Rheostatic Dynamizer', from which, in turn, wires go to the 'Vibratory Rate Rheostat' that is connected with the 'Measuring Rheostat'. From the 'Measuring Rheostat' comes a wire at the end of which is an electrode which is pressed to the forehead of a healthy individual (the subject') whose abdomen is being percussed. The 'subject' must face west, also.

"The whole arrangement is reminiscent of one of Goldberg's inimitable cartoons, depicting a fearful and wonderful device for waking up in the morning or committing suicide or something equally interesting. The nub of the whole matter is, however, that the alleged diagnosis is made by mapping out various areas of resonance and dulness in the 'subject' who is being percussed. Dr. Abrams claims to be able to tell by this means whether the individual whose blood is being 'tested' is suffering from syphilis, sarcoma, carcinoma, typhoid fever, malaria, gonorrhea or tuberculosis and, if so suffering, where the diseased area is located! He can also diagnose pregnancy by the same method!!

"So skilful has Dr. Abrams become in his diagnoses that he can substitute for the drop of blood, the autograph of an individual, living or dead, and subject it to his tests and declare whether or not the individual is or was a sufferer from syphilis, etc. He has, in fact, reported the results of subjecting the autograph of Samuel Pepys to his 'electronic reactions' and finding that this famous diarist suffered from mongenital syphilis; of finding the same for Henry Wadsworth Longfellow and also for Edgar Allen Poe, and, in the latter, adding that he also got the 'reaction of dipsomania'. The autograph (written in 1775) of that stern old moralist Dr. Samuel Johnson gave the 'reaction' for acquired syphilis and tuberculosis.

"Nor is this all. Dr. Abrams now announces that by his 'electronic reactions' 1922) of his house-organ Physico-Clinical Medicine he maps out the areas of dulness for (1) Catholic, (2) Methodist, (3) Seventh Day Adventists, (4) Theosophist, (5) Protestant, (6) Jew. Just why the area of dulness of a 'Methodist' should be in the lower quadrant of the abdomen while the area of dulness of a 'Protestant' is in should have such a much larger area of dulness than the Christian. These points

Will, doubtless, be cleared up later.

"In the field of treatment Albert Abrams claims equal marvels. He has discovered that all drugs that are specific in the treatment of disease have a definite vibration rate. He has, therefore, devised another instrument which he calls the 'Oscilloclast'. This is capable, so it is claimed, of producing vibrations of various rapidities. Instead of using a drug, one starts the 'Oscilloclast' going, moves the indicator to the number corresponding to the vibration rate of the indicated drug and applies the instrument to the sufferer, who then gets, it is alleged, the therapeutic action of the drug in question. The 'Oscilloclast' is not for sale; it can be leased, to those who are willing to pay the price and sign a contract that they will not open it."

The American Medical Association has announced that it will take up Abrams' fantastic vagaries for serious consideration when the American Astronomical Society appoints a committee to determine the truth or falsity of the theory of Voliva, head of the Zionites, that theearth is flat. Several years ago, Dr. Abrams was given an Opportunity to test the blood of 200 patients from the University of California and Stanford University clinics whose diagnoses were known, but he rejected the offer and has since warned his followers not to submit to such blood tests.

READING REFERENCE- Abrams, Albert. New concepts in diagnosis and treatment. San Francisco, Philopolis press, 1916. Albert Abrams. in Journal of the American Medical Association, v. 78:1072. April 8, 1922. See also p. 913, March 25, 1922.

PLANT LICE CAUSE MINIATURE RAINFALL

Do not blame meteorology for the ten foot square "rainfall" that has been heralded from Alexandria, Va. Entomology explains it. Protesting at the fanciful explanations and the mystery that has been thrown about this phenomenon, Dr. W. J. Humphreys, professor of meteorological physics of the U. S. Weather Bureau, Washington, declares that plant lice produce the supposed rain.

These insects are found on sycamore and other trees by the thousands. They are little brown mites, three-sixteenth to one-eighth of an inch long, which suck the sap from the leaves and squirt it out of their bodies. This secretion is the liquid that falls and appears to be rain.

The spot in Alexandria does not deserve the fame that is has achieved, Dr. Humphreys holds, as there are dozens of trees in Washington that are producing the same
kind of "rain". Several of these are located on Pennsylvania AVenue and are so plentiful with the sticky moisture that pedestrians avoid passing under their aphid-infected branches.

the pavement or ground much longer than would the same amount of rain water. It has been suggested that something of this sort made the famous manna of the Israelites in their flight through the wilderness from Egypt.

It is also declared absurd to explain the Alexandria "rain" as the exuding of to do something of the kind, none of the trees of the Virginia city are of this species.

Rain seldom falls in a ground-wetting shower over an area of less than one square Even the falling of rain in one part of the District of Columbia and not in another is an extremely local condition.

HOOVER ANNOUNCES GREAT CHILD HEALTH PROGRAM

Two important events in the history of voluntary effort to advance bhild health in America were recently announced by Herbert Hoover speaking as retiring president of the American Child Hygiene Association.

The two great national voluntary societies devoted to children's health, the American Child Hygiene Association and the Child Health Organization of America, have completed a consolidation that will result in a national institution coordinating all voluntary effort in this field.

Through the munificence of the Commonwealth Foundation this organization will be able to undertake in three American cities a complete demonstration in every avenue of protection of child health. The funds, amounting to \$230,000 a year, have been made available for this work for a number of years, and it is proposed to choose a city in the far West, one in the middle West, and another in the South.

Mr. Hoover characterized as "enormous" the results of the great campaign of voluntary child health work that has been going on for many years. He gave as an outstanding accomplishment the reduction of infant mortality in the birth registration area of the United States from 106 per 1,000 births in 1918 to 78 in 1922. This is a reduction of over 27 per cent. in only four years. State bureaus devoted to child hygiene have grown from 28 to 46 in the same period.

American fashion, "by general public agitation by voluntary effort and conviction of the public of the righteousness of definite courses of action andultimate incorporation into official and organized voluntary action by the community."

"There is much still to be done although our public concern with education, health, welfare and joy of childhood is already far beyond that of any other country in the world," said Mr. Hoover. "The ideal to which we should drive is that there should be no child in America that has not been born under proper conditions, that does not live in hygienic surroundings, that ever suffers from under-nutrition, that does not have prompt and efficient medical attention and inspection, that does not receive primary instruction in the elements of hygiene and good health. It is the purpose of these associations to supplant ten policemen with a single community nurse."

The objects of the combined child health associations, as announced by Mr. Hoover, are; First. That we stimulate appreciation of the service that can be done to children and the nation in the matter of health. Second. That the enormous activity in America for the welfare of children and mothers shall be directed in a scientific manner and by scientifically trained men and women. Third. That these applications of science shall reach every corner of the country and every child in it. Fourth. That these efforts on behalf of children shall be built upon the solid rock inspiration in the local community to its responsibility, and not built upon the shifting sands of over-centralization.

READING REFERENCE- Symposium on how to further progress in health education and Publicity. American Journal of Public Health 12:279-89. April, 1922. Bradley, F. Public health and public libraries. Modern Hospital 18:357-58 April, 1922.

this wood is one of the most valuable sources of ethyl or grain alcohol.

WOULD KEEP BODIES IN RUNNING ORDER

"Why do we not more readily realize that frequent examination of the most delicate of machines, the human body, is not only necessary, but profitable?" Dr. Donald B. Armstrong, executive officer of the National Health Council asked the American Medical Editors convention at Cleveland in the course of an address urging the extension of preventive medical practice.

"We overhaul our automobiles regularly," he said. "We do not expect any piece of machinery to run for ever without inspection, oiling, and repairing, and it is certainly worth while to take the human machine to the doctor regularly for a periodic medical and health examination."

But it is not only necessary to persuade people to go to the doctor, it is also necessary to interest the doctor in making a thorough examination of a supposedly well person, Dr. Armstrong said. While it is exciting and important to take out a incipient symptom of tuberculosis, or a minor heart defect, in order that these beginnings of disease might be remedied before a serious or fatal development took

READING REFERENCE- McCarty, M. T. Periodic medical examinations will increase average longevity. Nationals Health 4:202-4 April, 1922. Renow, L. Systematic reexamination in preventive medicine. Bulletin Academy de Medicine Paris 86:316-18, December 6, 1921.

CAN NOW BROADCAST ON 400 METERS

A new class of radio telephone broadcasting stations, to be known as class B, more channels for the distribution of entertainment, news, lectures, and such matter. Previously, only a wave length of 360 meters was authorized for such service while meters is used for broadcasting crop reports and weather forecasts.

Stations licensed in class B must maintain their broadcasting reasonably free from harmonics and their service in other respects must be held to a high standard. Intermission periods in their regular program. Failure to maintain the standards prescribed may result in the forfeiture of the 400 meters privilege and cause the station to use the more common 360 meters wave length.

KEEP TRACK OF DEATHS BY COUNTING CASKETS

Checking the sales of coffins is the way Florida is putting a high degree of bureau of vital statistics of that state, told the American Public Health Association. This is necessary, because mortality statistics of Florida in comparison with population have very little meaning on account of transients being several times numerous than the people of Florida themselves.

An average for a period thirteen years shows that farmers realize only sixty-bushels out of every potential yield of one hundred bushels of corn planted in country.

DENIES OLD SAYING, SAYS FIGURES LIE

The old proverb that figures do not prevaricate was given the lie when Dr. Raymond Pearl of the Johns Hopkins School of Hygiene and Public Health attacked current statistics before the American Public Health Association convention.

Statisticians today donnot give a true picture of public health conditions. Most of them are not consciously unfair, he said, but too often give an incomplete picture because their data are inadequate and do not represent a true cross-section of the community.

Among the defects pointed out were lack of corrections for age and sex distribution of the population involved, lack of statement of probable error of results, and bad logic.

Statistics, he warned, should not be interpreted merely for the purpose of maintaining this or that theory, but should have a scientific evaluation.

CALLS THE DOCTOR TO WATCH THE COOK

Handlers of susceptible foodstuffs should be placed under adequate medical supervision, according to a suggestion made by Willard E. Ward, food inspector for Brookline, Mass., before the American Public Health Association convention. He urged that health authorities study the food problem from all angles, that they may be in a position to provide constructive leadership in maintaining an adequate, economical, and safe food supply as a fundamental asset to the health and prosperity of the nation.

SOFT DRINK SLEUTHS WORK DOUBLED BY DROUTH

Prohibition has more than doubled the work of inspecting soda fountains and soft drink manufacturing plants, James P. Kilcourse, chief of the bureau of food inspection of the Chicago Department of Health told the American Public Health Association. The rapid expansion of the business produced unsanitary conditions, but inspection has now been so systematized that sanitation can be kept at a high standard.

MEAT EATER'S DIET CAUSES NEPHRITIS

Races living in the temperate zones habitually eat two or three times as much protein as required, Dr. L. H. Newburg, of the University of Michigan Hospital told delegates attending the fifth annual convention of the American Dietetic Association at Washington. He cited evidence which indicates that chronic nephritis and hardening of the arteries are due to this abuse of protein.

High protein diets fed to rabbits produce these diseases while they occur much frequently among meat eating animals than among those animals which feed upon diets yielding small amounts of protein and show little chronic renal diseases.

Obtain sufficient supply of liquid from the leaves which they eat.

Manganosite, the rare green oxide of manganese, is said to make a very pretty stone.

FINDS BODY STORES VITAMIN SUPPLIES

The body can store up vitamins for future use. Dr. H. C. Sherman, of Columbia University, in an address before the American Public Health Association meeting at Cleveland emphasized the importance of taking more than the minimum amount of vitamins required.

Laboratory animals fed on the minimum amount of vitamins required for growth and then deprived of them altogether fail rapidly, he said, while animals which have been given a large surplus of vitamins have continued to grow for some time after the vitamina have been taken away. Human beings fed on the minimum amount have not always been saved from the so-called deficiency diseases.

The amount of vitamins in meat will vary considerably according to the diet upon which the animal has been fed. The same is true to a lesser degree of the nutrition afforded vegetables and fruits in different localities.

Milk, eggs, fruits and vegetables in ample quantities were recommended by Dr. Sherman to supply these mysterious vitamins.

"Vitamins," said Dr. Sherman, "are like electricity. They can be handled and studied through their effects, but their exact nature is not yet known. Recent chemical experiments, however, seem to indicate that at least two substances may be involved in the effect hitherto attributed to vitamin A and similarly to vitamin B".

READING REFERENCE- Mitchell, H. H. Necessity of balancing dietaries with respect to vitamins. Science N.S. 56:34-7. July 14, 1922. Sherman, Henry Clapp. The vitamins. N.Y. The Chemical Catalogue Company. 1922.

MEANNESS IN BOOZE LOCATED BY EXPERT

Just why "pure corn liquor" or "moonshine" has a more vicious kick than aged-inthe-wood whiskey was explained to the American Public Health Association meeting at Cleveland by J. M. Doran, head of the industrial alcohol and chemical division of the Federal Prohibition Commissioner's office.

Before and after prohibition analyses show that the only essential difference between the "aged-in-the-barrel" and "moonshine" whiskies is in the aldehyde content, human interior, he said, and can only be eliminated by fractionating in an alcohol column or long aging in wooden barrels.

Salts of zinc and copper also contaminate many illicit liquors. The evidence than seems to indicate that the after effects in cases of alcoholism are worse before prohibition, Mr. Doran warned.

Aside from the ghastly effects of the drinking of wood alcohol, redistilled denatured alcohol, tincture of ginger and other dangerous concoctions, home-made "moonshine" was declared a most serious problem.

The average size of meteorites which fall on the earth is computed to be no larger than a grain of wheat.

Water is still brought to Athens, Greece, by the aqueduct built under the Roman Hadrian in the year 146.

TABLOID BOOK REVIEWS

"Electricity". Sydney G. Starling, pp. 245. Longmans, Green & Co., 55 Fifth Avenue, New York. \$3.50 net.

The latest volume of the British series of "Science in the Service of Man", giving a sketch of the history of electricity and explanation of familiar apparatus such as magnets, batteries, dynamos, motors, telegraph, telephone and radio, as well as the modern theory of electrons.

PROPER FOOD BEFORE BIRTH PREVENTS BAD TEETH

Blaming the lack of bone building elements in the average diet for the increasing prevalence of tooth decay among children in this country, Dr. Clarence J. Grieves, in an address before the recent meeting of the American Child Hygiene Association declared that this condition could be remedied by a liberal and well-balanced ration for the young and for their mothers before they are born.

Calcium and phosphorus are the principal bone and teeth building materials and it is the absence of these substances to which he attributed the 25 per cent of decay found in the teeth of eighty-five per cent of the school children of this country.

Dr. Grieves placed especial emphasis on the importance of the diet of the expecmother and of the child during the first seven years of its life.

The diet, nutrition, and metabolism of the mother must be seriously considered, he said, for the normal development of the jaws depend on the prenatal formation of the baby teeth. During the first seven years the child is learning to eat, and the law that the teeth will play in the nutrition and health of the individual is large-lay determined during this period. If the baby teeth become decayed, the permanent teeth are likely to come in wrong, eating be impaired, and gum diseases result.

The cells of the tooth germ construct the best tissue they may from the available materials. However, not only must there be an ample supply of the calcifying elements in the diet, but conditions in the blood and tissues must be such that the cells are able to use these necessary constituents of bone and teeth.

Dr. Grieves, while recognizing that the lack of vitamins may cause gum diseases, important to much attention had been paid to vitamins to the neglect of themore important calcium and phosphorus.

WOULD TREAT POTENTIALLY TUBERCULAR CHILDREN

Numerous cases of tuberculosis would be prevented if undernourished and markedly under weight children were diagnosed as "potentially tubercular" and treated accordingly, Dr. Kennon Dunham, assistant professor of medicine of the University of Cincent of told the American Public Health Association meeting at Cleveland. The treatmoval of such children, he said, is the same as that for tuberculosis, that is, reskercise, and recreation.

to Damascus.

More skunk was exported from this country during the first six months of this than any other raw fur.