SCIENCE NEWS

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THE SAN FRANCISCO MEETING OF THE AMERICAN MEDICAL ASSOCIATION

A NATIONAL conference of all medical patent holders to be held at the headquarters of the American Medical Association was suggested by the board of trustees at the recent meeting of the association in San Francisco, as a means of settling the controversial problem of what to do about patents on medical discoveries, such as that of insulin. At present such patents are held and administered by universities, special committees and foundations and by individual physicians. While physicians are prevented by the association's principles of ethics from deriving any income from medical discoveries, technicians or lay persons connected with the same discoveries, it was pointed out, may profit directly. It also appears to the medical association's board of trustees that patents held under present conditions may be used to influence medical research.

THE present wide-spread practice of renting radium by physicians who do not own and are not experienced in the use of this powerful substance was frowned on by the judicial council of the association. It is considered dangerous for a physician inexperienced in the use of radium to use it merely on the advice of another physician who owns a supply of radium but who has not seen the patient, or from a commercial firm owning the radium. Such a procedure, the council decided, amounts to the unethical practice of prescribing for a patient whom the prescriber has not examined.

A CASE, in which the mother's mental age was six years although she was a grown woman and had had three children, two of which died, was described by Drs. Lloyd H. Ziegler of Wauwatosa, Wis., and Charles P. Sheldon of Boston. The occasional marriages of 10- and 12-year-old girls are widely publicized and arouse enormous public comment, but marriages such as they described of feebleminded adults are far more numerous and far more hazardous to society. Nearly a fourth of fifty unselected married patients seen in one large public hospital during four months were feebleminded. Comparison of the indigent and self-supporting group showed that in the indigent group more than 94 babies died for every 1,000 born alive, while in the self-supporting group less than half this number, about 40, died out of every 1,000 live births. The interval between births was about a year among the indigents and nearly two years among the self-supporting. A combination of three measures were recommended by Drs. Ziegler and Sheldon to solve this problem of marriage and reproduction among the feebleminded. These measures are sterilization, which although slow would help certain individuals to "defend themselves from responsibilities they are ill-fitted to carry"; segregation with vocational training; and compulsory registration of persons with intelligence quotients of 70 or less. This registration information should be available to clerks and clergymen responsible for marriage licenses and to courts dealing with criminal offenders. "If the costs of relief, dependency, delinquency and disease attributable to the feebleminded could be transferred to the ledger on the side of wise segregation and training, not only would there likely be a definite and immediate pecuniary saving, but there would also be future dividends of humanitarianism and prevention."

MENTAL sickness characterized by "depressions," a serious form of mental ailment far worse than the attack of "the blues" that it sounds like, may be helped, according to Drs. Richard H. Young and G. Alexander Young, of Omaha, by metrazol, the drug which, like insulin, is helping shock other mentally sick patients back to sanity. All but one out of 21 such depressed patients were helped by metrazol injections. These patients only had to stay in the hospital 21 days, much less than usual for mental sickness, and showed improvement after the first or second treatment. The average number of convulsion-inducing metrazol treatments was seven. Not enough time has elapsed to be sure that the improvement in the patients will be permanent. In spite of these favorable results it is believed that metrazol treatment should only be used as an addition to other forms of treatment. Metrazol and insulin were used alone and together for patients suffering from schizophrenia. A tendency toward relapse from the improvement following insulin treatment for schizophrenia, indicates that this now widely used treatment "fails to offer any special outlook for the future." It is emphasized that in spite of the striking results with insulin and metrazol, treatment of mental disease must continue along broad lines in which the patient's mental functioning and his past, present and future life situations are taken into consideration.

A BABY'S brain may be seriously damaged by giving too large doses of pain-relieving drugs to the mother during childbirth, is the conclusion of Dr. Frederic Schreiber of Detroit from analysis of case records of 500 children with degenerative changes in their brains. Nearly three fourths, 72 per cent., of these children had not breathed immediately after birth or had difficulty in breathing within the first few days. Dr. Schreiber believes that this disturbance in breathing, whatever the cause, was the reason for the damage to the child's brain. One of the effects of the pain-relieving drugs given in childbirth, he pointed out, is to depress the breathing apparatus of the mother. This might occur to such a degree as to endanger the unborn child who is still dependent on the mother for oxygen and nourishment. In one group of 100 cases in which a drug or an anesthetic or both had been given to the mother, records showed that 77 babies had difficulty in breathing. The records also showed that the average dose of drugs given to the mother was four times the ordinary quantity recommended and in some cases was ten times the recommended dose. Examination after death shows that deficiency of oxygen causes microscopic changes in the brain, and Dr. Schreiber believes that the difference between a living baby with a brain damaged from this cause and one born dead is probably only a matter of degree.

DISCOVERY of a new body mechanism which helps toward recovery from pneumonia was reported by Dr. Oswald H. Robertson, of the University of Chicago. The new mechanism consists of certain large, germ-eating cells which appear at a certain point in the disease, engulf the red blood cells, the white blood cells which had previously fought the pneumonia germs, and the germs themselves. It is thought that the patient begins to recover as soon as these large cells appear. This mechanism alone is not considered enough to bring about recovery. Dr. Robertson thinks there is some general, still undiscovered process which does part of the work. Part of the recovery mechanism must lie in the pneumonia-germ-killing power of the blood, any other factor being unknown. If both parts of the recovery mechanism are effective, recovery occurs, but if either one fails, death follows. According to Dr. Robertson, resistance to pneumonia by means of a substance in the blood that kills the germs is not enough to prevent the ailment. Experiments with dogs showed that if there is obstruction of the air passages in the lower part of the respiratory tract, where the lung's mechanism for getting rid of foreign material is not extensive, the disease may develop even if the blood has germ-fighting antibodies. Such an obstruction may occur in a cold when the infection reaches the lower part of the breathing system.

DR. LOUIS SCHWARTZ, of the U. S. Public Health Service, reported that nearly three-fourths of all occupational diseases are the skin troubles suffered by workers from handling materials used in industry. About one out of every 100 workers in industry suffers from such trouble. The metal industries produce nearly a third of the entire number of skin cases, and domestic and personal services and the food industries have more cases than building and construction industries. Plants, metals, alkalis, solvents, petroleum products and dyes are the chief offenders. Germs play a part by entering wounds and causing infections. Heat, cold, radium, x-rays and sunlight also are causes of some of the industrial skin diseases. Drs. Earl D. Osborne and James W. Jordan, of Buffalo, stated that about half the claims for workmen's compensation in the United States are due to skin diseases, and about half of these could be prevented. The way to prevention, they said, is to educate the worker to keep his hands as clean as possible and to wear special aprons, gloves and shields, and to provide these and facilities for cleanliness. In addition, they recommended care in the selection of workers, since persons whose skin is already irritated or who have had any type of eczema or ringworm are more likely to develop sensitiveness to materials handled in their work. Some of these cases of skin disease are due to special sensitiveness of the individual worker and some to irritants themselves such as strong acids, alkalis, metallic salts, soaps and cleaners, fat solvents, cement, plaster and many others.

DEAFNESS, nervous and emotional disorders, excessive fatigue, "the evil results of the loss of sleep," transient changes in blood pressure and the pressure within the brain with consequent increased pulse rate and irregularities in the heart rhythm, and digestive disturbances may all be caused by noise, it appears from the report of Dr. Carey P. McCord, of Detroit. These ill effects of noise were discovered as a by-product of the work of a special committee of the American Medical Association studying air conditioning. The closed windows and doors required by air conditioning, it was soon found, helped lessen the evil effects of noise, chiefly street noises. Deafness due to the noise they are exposed to at work is well known among boiler makers, blacksmiths, machinists, weavers, forgemen, aviators and railroad workers. Deafness in only one ear, that used for the telephone, is often found in train dispatchers. The first damage to the ear from noise, Dr. McCord said, probably has its beginning in fatigue. Pointing out the effect noise has in reducing productiveness in industry, Dr. McCord said that while irregular and unexpected noises are more distracting in routine work than repetitive noises of the same loudness, sustained noises reduce production about 7 to 8 per cent. About 90 per cent. of industrial noise can be reduced by 50 per cent. This means that manufacturers of machinery will have to produce noiseless or less noisy machines. The automobile is an example of what can be done in this line. The user of the machine can do much to reduce noise by proper maintenance. Sound deadening materials, as used in radio broadcasting studios, can be used to eliminate much noise. Finally Dr. McCord suggested "ear defenders" of wax, cotton or soft rubber, and soft soled shoes when vibration is a factor, as personal aids to noise reduction.

SINUS disease starts in infancy and the first five years of your life were the most important ones for determining whether or not you would be troubled with this ailment, it appears from the report of Dr. W. Walter Wasson, of Denver. He advises warm air for sinus sufferers. On this point, he said: "Fresh air with oxygen is desirable and many times necessary, but I doubt if this air should be cold. Patients with chronic sinus disease do better if their sleeping rooms are well ventilated, but ventilated with warm air of the proper humidity." This advice on treatment is based on the observation that most young children with sinus disease show a seasonal cycle, their sinuses showing a definite lack of air supply beginning about October and continuing till warm weather returns. Such children would be better off in a warm climate in the winter and attention should be paid to the air in their sleeping rooms. Discovery that sinus disease starts in infancy was made with x-rays. At birth the sinuses are filled with material which must be removed. This process takes from two to five weeks and the degree of clearing conditions the future development of sinus disease. Children whose sinuses clear promptly have fewer attacks of sinus trouble later in life. If the nose clears on only one side or not at all, sinus trouble usually occurs later. If the disease develops in infancy it may subside by the fifth birthday, but, if it does not, it becomes more definitely established, with changes in the tissues and bones.

—JANE STAFFORD

ITEMS

THE giant Douglas DC-4 air transport scored "perfect" on its initial two-hour flight test in the hands of Major Carl Cover, test pilot and vice-president of the Douglas Aircraft Company, makers of the plane. The big plane, developed as a type for America's five major air lines, carried a gross load of 53,000 pounds at takeoff. It required less than half of the 2,800-foot runway of Cloverfield to get into the air. Two months of further flight testing will now follow. Seats and special instruments for eight flight observers have been installed in the plane.

NEW streamlined editions of two of America's most famous trains, New York Central's Twentieth Century Limited and Pennsylvania's Broadway Limited, were recently placed in service between New York and Chicago, cutting the running time by half an hour to 16 hours. The 16 hours now required for the extra fare train trip is the fastest ever run between New York and Chicago by rail.

MAYON, Philippine volcano which recently erupted, has a long reputation as a trouble-maker. It was first heard from in white man's history in 1616, and since then has been "in the papers" at frequent intervals. During the nineteenth century alone it blew off not less than twenty-seven times. Four of these eruptions took toll of human life. The first, just at the turn of the century, killed an unspecified number—"several persons" is all the record states. Then in 1814 came a major disaster, blotting out 1,200 lives. An eruption in 1853 killed 33 persons, and a larger one in 1897 killed 350. During the present century there was another major volcanic disaster in the Philippines, when another crater, Taal, exploded and destroyed many native villages, with a death list of 1,335.

EXPERIMENTS conducted by the U. S. Department of Agriculture indicate that apple trees of the future, breaking precedent with apple trees of to-day, may grow on their own roots. Government experimenters have succeeded in inducing stem cuttings of desirable varieties of apples to send out roots, according to Dr. F. E. Gardner, in charge of nursery stock investigation for the Bureau of Plant Industry. In the past, grafting was necessary because seedlings do not produce true to variety and because cuttings of stem tissues would not take root. Springtime taping of the growing root with black tape right up to the growing tip or enclosing the shoot in a black tube so changes the shoot that it will take root when removed from the tree in the fall. It is only necessary to make the basal cut, Dr. Gardner declares, before planting.

SYNTHETIC abrasives, made in electric furnaces, where hardness and the shape and size of the grains are under rigid control, are replacing natural abrasives rapidly, economists find. Last year, more than 8,000,000 tons of synthetic abrasives, mostly silicon carbide and aluminum oxide, were used by American industry, while less than half of that tonnage of natural abrasives was used, according to U. S. Bureau of Mines figures. The "sand" in sandpaper is now usually carefully-graded crushed garnet. Diamonds, the hardest known crystals, are still used almost exclusively for cutting and polishing other diamonds, and for drilling through rock. No synthetic substitute for diamonds has yet been found.