

PSYCHOLOGY

Teach Backward Children

Brighter future foreseen for nation's mentally retarded children as scientists attack problem through prevention and training. More than half are born to normal parents.

By J. M. MacDONALD

► CAN MENTAL deficiency be prevented?

The answer to this important question affects every community in the United States. In our elementary schools alone, the U. S. Office of Education estimates that at least 20% of American children are so sufficiently retarded as to require some adaptation of their education.

Of persons of all ages so affected, only 10% are in any kind of school or institution. And, until recently, very little was being done about the other 90%, the majority of whom are beyond school age and "staying at home."

In scores of towns and cities across the nation there has been a recent upswing of public awareness concerning this problem. More and more communities have begun to realize the large number of families affected and are trying to do something about the suffering, social distortion, and economic waste involved.

As a result, parent groups have been formed; small parents-supported classes and guidance centers have been started; in many communities public school systems have instituted special education classes; a number of colleges now have training courses for teachers of retarded children; in a number of schools and colleges research institutes have been organized to help meet and combat the problem.

The Training School

Probably the best known of all the research centers in this field is The Training School at Vineland, N. J., a non-profit, private school established in 1888. Here is where the Kallikak study was made; where the term "moron" originated; where the Binet intelligence tests were translated and standardized for American use; where the U. S. Army's Alpha and Beta selection tests were first tried out; where the Vineland Social Maturity Scale, used around the world, was developed; where initial studies in birth injury (cerebral palsy) were instituted.

Each year hundreds of study visitors come to the Vineland school from all parts of the world to observe education and training procedures and to visit its research laboratories. Each month findings in the field of mental retardation are published in The Training School Bulletin which reaches readers in every part of the globe.

Studies pursued at Vineland indicate that more than half of the nation's mentally re-

tarded children are born to normal and superior parents. This has led to extensive experiments in diagnosing and identifying inherited and non-inherited types of mental deficiency since training methods vary widely in these two major categories.

Much of the research at Vineland is directed toward prevention of mental deficiency—a now-recognized "scourge of mankind" which has filled to overflowing state institutions and private schools across the nation. Studies in blood chemistry, glandular disturbances, metabolism, fetal infections, birth injuries, cerebral palsy, mongolism, as well as heredity, have added vastly to the world's knowledge of the problem.

It has been found in pre-natal and post-natal studies at Vineland and elsewhere that malnutrition, measles, meningitis, whooping cough, convulsions, Rh blood factor, epilepsy, polio, falls during pregnancy, premature babies, difficult labor, instruments used during birth, and many other conditions may contribute to children being born with varying degrees of mental retardation.

Members of the Vineland research staff

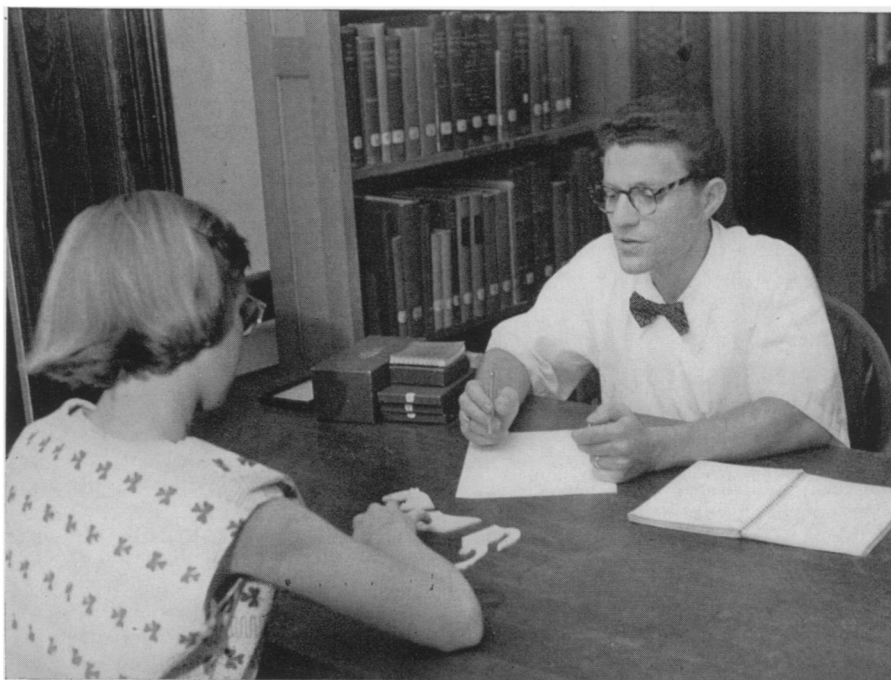
are now at work on a long-range study of difficult labor in childbirth, in collaboration with the University of Pennsylvania's Departments of Obstetrics, Pediatrics and Psychology. Specific factors, such as cephalopelvic disproportion, are being examined in case after case to determine possible brain damage to newborn infants.

"In years to come, if we can help prevent some of these conditions and increase the rate of normal births by many thousands, our years of work will be well repaid," Dr. Walter Jacob, director of the Vineland school, told SCIENCE SERVICE.

Many Needs Urgent

"Urgent now," he said, "are the vast, unmet needs of those retarded children who have already been born and who are entitled to the kind of education, training, and medical care from which they can profit most." He stressed the importance of detecting mental deficiency at the earliest age possible. After a child's handicaps are fully diagnosed, training should begin and continue on and on, as long as any gains are being made.

"Every clue as to how these children can be helped must be pursued. Contributions from parents, physicians, teachers, occupational and speech therapists, vocational counselors and training supervisors, as well



OBJECTS ASSEMBLY TEST—One of a series of tests included in the Wechsler Intelligence Rating Scale is shown being given to a child in the research laboratories of The Training School at Vineland, N. J.

as from playmates and friends, are important in giving the fullest picture possible of the individual child's needs. Only through such carefully planned teamwork can handicaps be minimized or eventually removed. For those whose handicaps cannot be overcome or reduced appreciably, he pointed out that ways are being found to work around such handicaps or to compensate for them.

"I have always believed, and many of my colleagues agree with me," Dr. Jacob said, "that a large proportion of mentally retarded persons need not be a loss to society. Many of them can be taught useful work which helps them and their families, especially in those years when they get beyond school age.

"During the war many did capable jobs in industry, particularly in routine, repetitive tasks in which they often excelled normal workers. They often can do good work, too, in the less complex vocations."

Since World War II, many states have passed legislation and have instituted programs for their mentally retarded constituents. Others have broadened existing programs. In 1949, only 18 states had laws or official standards governing the education of mentally handicapped persons. Today 32 states and Hawaii have such provisions.

These gains are decisive and encouraging. They point to a brighter future for all retarded children and are significant steps in the nation's social progress and economy.

Science News Letter, January 10, 1953

PUBLIC HEALTH

X-Rays Spot Insects

➤ X-RAYS ARE helping to give us cleaner bread and cereal products, from spaghetti to cookies.

Wheat kernels, or grains, that look perfectly clean when you pick up a handful and inspect them may, nevertheless, have insects inside them. When such kernels are ground into flour, the insects are ground along. Bits of ground insects, only visible under a microscope, then get into the bread or other products made from the flour.

The insect-infested wheat kernels, however, can be detected by X-rays. U. S. Food and Drug Administration authorities are now using the X-rays in their watch over the purity of our food supplies.

The X-rays used for this purpose are a special kind. The ones used by your dentist, for example, are much too hard and intense. Such X-rays would go right through the wheat kernel without giving a picture of the holes made by the insects.

Scientists at Kansas State College, Manhattan, Kans., discovered that X-rays, which had been tried unsuccessfully before, could be used for this purpose if soft, or low voltage X-rays were used. The kind they recommended and which Food and Drug officials are now using are like the ones used in the metal casting industry to detect flaws in thin sheets of metal.

The FDA got to the X-raying of wheat kernels by a reversal of its usual process. Instead of going to the source of a contaminated product, it had started with bread, rolls, cookies and bakeries. Finding bits of ground-up insects in such products when inspected under the microscope, it got the bakeries to clean up. But the ground-up insects still appeared in the bread. So FDA went to the flour millers. But even from clean mills, insect-infested flour came out. With the new X-ray technique, FDA is now going to the source, wheat after it is harvested.

Wheat that comes from the fields without insects gets infested during subsequent handling, as when stored on the farm, in grain or terminal elevators, or freight cars.

"They have handled wheat like crushed rock or sand, instead of food," one FDA official declares.

The wheat and other cereal industries are expected to gain from the new X-ray process through the saving in grain that would be a loss because of insect contamination. Wheat badly hollowed out by insects is not worth milling because not enough flour can be got out of it.

Oats, rice, corn and rye can also be inspected by the X-rays. One large cereal manufacturer bought one X-ray machine to examine its grain for insects before processing. The X-rays showed, in addition, growth cracks and other details which enabled the company to improve its milling practice. As a result, this company's officials have reported the machine more than paid for itself in a few months and two more have been ordered.

Science News Letter, January 10, 1953

WILDLIFE

Rabbit Restocking Found Unnecessary

➤ RESTOCKING OF rabbits can be unnecessary and wasteful, says Dr. Ward M. Sharp of the U. S. Fish and Wildlife Service.

Dr. Sharp found that rabbits can hold their own by natural propagation in the most densely hunted areas, so long as there is a good habitat for them. Out of a known population of 146 cottontails in a study area, only 64 were taken by hunters, Dr. Sharp said. The post-hunting season population at the beginning of breeding was 34 rabbits, more than enough to replenish their numbers.

Thousands of dollars could be saved by abandoning useless restocking of rabbits, Dr. Sharp said, and suggested that this money might be better spent for habitat improvement. Dr. Sharp is working with the Pennsylvania Cooperative Wildlife Unit at State College, State College, Pa.

Science News Letter, January 10, 1953

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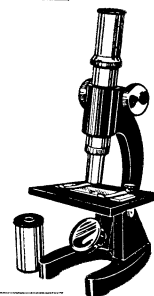
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