

CHAPTER 16

"For many years to come, a ghostly protest will be heard in the counsel chambers of the Medical Society whenever anyone wants to take a backward step or compromise on a matter of principle . . . it will be the magnetic and impelling voice of Wells P. Eagleton, M.D."

— Eulogy by a colleague, 1946

While serious discussion went on as usual, in the 1920's, physicians attending the annual conventions of the Medical Society no longer dispensed with dinner in order to have more time for business. The light-hearted frivolity of the era was so pervasive, in fact, that even Dr. Wells P. Eagleton joined in it. One of the world's foremost neurosurgeons, he took part with other dignitaries at one convention in a banquet skit hilariously portraying "living pictures from a family album."

Dr. Eagleton wore his honors modestly, continuing to put the wellbeing of his patients and the Medical Society first in his assumed obligations. One of his many lasting contributions to the Society was the formation of the Welfare Committee. It was proposed in 1919 by Dr. Thomas W. Harvey, Sr. of Orange, who named Dr. Eagleton to serve as its first chairman.

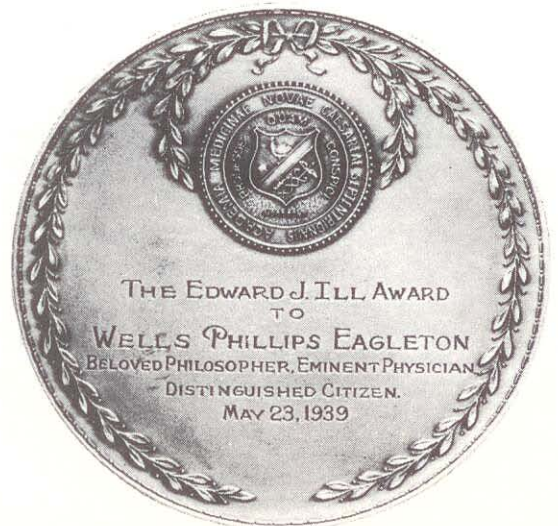
No man was better qualified. One of his remarkable traits was his concern for small matters as well as large ones. He was a man of international renown as a scientist and surgeon; his books and articles on ophthalmology, otology and cranial surgery were translated abroad. His techniques led the way in conquering meningitis and intracranial lesions. Yet he took the time to ask about the children of his staff members, to evaluate the complaints of cranky hospital patients dissatisfied with their food, and to determine whether the wards or the private rooms should be repainted first. He accumulated almost every honor a respectful profession and grateful public could bestow, ranging from the presidencies of The Medical Society of New Jersey and the American Otologic Society to chairmanship of the Newark Council of Social Agencies. He received the first Edward J. Ill award.

His sense of civic responsibility was keen, and he was convinced that physicians had political obligations to their community and state, not so much as office holders but as alert observers and guides in their specialized fields. Following his death in 1946 at the age of eighty-one, his widow bequeathed funds to establish the Eagleton Institute of Politics at Rutgers University, enabling worthy graduate students to undertake advanced studies in political science.

Dr. Eagleton's views on the physician's personal responsibility to political institutions were confirmed by happenings in other parts of the world. In 1941, as the Nazis pushed into one country after another, Dr. Eagleton recalled the time a few years earlier when he had observed Sunday political rallies in Vienna and had been told by an Austrian specialist that these had nothing to do with doctors. The Viennese acquaintance said, "The physician's job is to promote scientific medicine, for which Vienna is famed. That is why you are here. . . . We doctors have nothing to do with politics."



Dr. Wells P. Eagleton of Newark, president of The Medical Society of New Jersey in 1923 and world-renowned surgeon and medical writer, was the first to receive the Edward J. Ill Award. It was established in 1939 in recognition of the eighty-fifth birthday of another notable Newark practitioner, Dr. Edward J. Ill.



Two years later, Adolf Hitler came, and the specialist who had spoken to Dr. Eagleton was killed. His Jewish associates who survived, in most cases, fled to America. "Austria fell to Hitler without a blow," Dr. Eagleton insisted, "partly because the educated, intelligent, patriotic citizens, including the doctors . . . considered politics . . . of no concern to them."

Dr. Eagleton felt that in the United States doctors collectively had little political influence, but in New Jersey, he noted, the Medical Society in 1941 received the thanks of both the New Jersey Senate and Assembly for its services to the state in political-medical matters.

"My concept of a good American," Dr. Eagleton added, "is one who has faith in democratic representative government, who aids in the evolution and development of its institutions, and who is willing to fight for their preservation."¹

Dr. Harvey knew he could make no wiser choice of chairman for the Welfare Committee. "Its purpose," he said, "should be to advance the welfare of the profession." With 50 per cent of the medical profession in New Jersey already belonging to the Society, the rest of the practitioners should be urged to join, he said. This Committee, he added, also should be representative of the united profession to confer with employers' associations, labor unions, insurance carriers, and others in matters affecting the status of medical men or their remuneration. Finally, Dr. Harvey felt the new committee should be prepared to work for appropriate legislation if the government adopted social insurance.²

Once again, medical prescience was evident. The Welfare Committee was formed and functioning in 1922 when the new medical amendment to the Workmen's Compensation Law, as prepared by the Committee, became the law. With undisguised pride, Dr. Eagleton declared, "Everything that the medical profession contended for was agreed to by the Commissioner of Labor, representing the state." The Committee then provided a digest of the law and instructions for physicians to follow in handling cases cared for under the compensation law.

The committee's sphere of action was steadily expanded to include public health and preventive medicine, and relationships between physicians and others, such as hospitals, workmen's compensation, and medical care for the indigent.

Its responsibilities became so heavy that sub-committees were formed to give special attention to legislation, public health, medical practice, and public relations. This system of organization was incorporated in the Constitution and Bylaws of The Medical Society of New Jersey in 1937. In the Constitution and Bylaws of 1959, the subcommittees of the Welfare Committee were transformed into four administrative councils — on legislation, medical services, public health, and public relations — all reporting directly to the Board of Trustees and the House of Delegates.

Over many years, an efficient system has been developed for committee work in the Society whereby members also serve on subcommittees pursuing a specialized study or action. Further assistance comes from advisory committees and from corresponding committees in each county society. The system, when established, was unique among medical societies and has proved highly workable.

From the beginning, the Medical Society showed great concern for the education and training of those entering the profession. In 1920, New Jersey educational requirements for a license to practice any branch of the healing art were second to none. But the legislature's willingness to pass a law with no educational requirement for chiropractors threatened to invalidate what had been achieved through all the past years.

"We have entered politics, not as office seekers but as physicians, to help guide and direct the state in health questions for which we alone, by our education, our lives of service, our standards, experience, and associations are fully qualified," Dr. Eagleton stated.³

Legislative bills on which the Medical Society took a strong stand in the early 1920's included provisions for tightened venereal disease control; prohibited use of drugs by osteopaths in their manipulative treatments; established equitable fees to hospitals and physicians in connection with workmen's compensation cases; and required professional representation through appointments of physicians to advisory boards such as the one serving the Department of Institutions and Agencies.

Governor champions profession

In Governor George S. Silzer of New Brunswick, organized medicine found an understanding champion. His message in 1924 included the subject of licensing persons practicing a profession in any way connected with giving relief or curing the ills of the human body. He recommended that where necessary laws should be strengthened so that the proper board would have sufficient power to act in the protection of life and health.

Governor Silzer added, "It is also suggested that the title 'Doctor' should not be permitted to be used except by those who are licensed to practice medicine, surgery and dentistry in connection with the human body."

The need for attention to pending legislation and a broader concern for the welfare of the medical profession as well as the public made the Society recognize that some matters demanded attention at times when a busy practitioner simply was not available. The solution was the employment of Dr. Henry O. Reik in 1924 as the Society's first salaried executive officer.

Dr. Reik was a versatile and talented individual. He had acquired a degree in pharmacy as a means of working his way through medical college. Observing that diseases of the ear were neglected, he chose this field for his post-graduate work at The Johns Hopkins University. He added studies at Harvard University and in Germany, Austria, London and Glasgow. He returned to Johns Hopkins where he was an associate professor, at the same time carrying on a large private practice until an infection acquired in his professional practice developed into general septicemia. His right hand was so badly crippled as a result that he was forced to abandon the delicate surgery for which he had trained.

In regaining his health, he turned to color photography and travel lectures, then volunteered for duty in World War I. "His kindness, tact and good judgment caused him to be consulted about everything," one fellow Army officer recalled. "Indeed he was ubiquitous — if there was a wedding in camp, Major Reik gave the bride away; when we lost one of our higher officers by death, he was designated to arrange and conduct the funeral services."

Dr. Reik came to the Medical Society in 1924; he became the Society's authority on legislation, both state and federal, and was frequently the professional representative in Washington as well as in Trenton.

In 1928, he acquired an assistant, Mrs. Ethel Taneyhill, as field secretary for the Society. Her major duty was to visit schools throughout the state and help initiate regular health studies and programs.

Aware of the historic significance of the Society, Dr. Reik and a special committee, including Drs. J. Bennett Morrison and George H. Lathrope, employed Miss Helen B. Calhoun of Weehawken, a graduate of Barnard College and experienced in research and writing, to prepare a history of medicine from Indian times through the nineteenth century. Approximately \$5,000 was pledged by members of the Society to pay for its preparation and publication, but the Depression prevented completion of the project. After his retirement from the Society in 1933, Dr. Reik and Miss Calhoun were married, continuing their shared interest in writing projects. The medical history was never published, however. Dr. Reik died in 1938.⁴

Medical advances in the 1920's

On a Saturday afternoon in the mid-1920's, as the normal week of work came to a close, the frail young typist in the insurance office asked her supervisor if she could speak to him alone. "I don't have to be a temporary office worker any more," she told him. With tears of happiness, she explained, "When you hired me I said I might not stay very long. It was because I'm diabetic. But today when I saw my doctor he said I'm responding to the new treatment — insulin. I can be a permanent worker now — I'm going to go on living."

Perhaps she never knew her lease on life had come from the discovery of how to crystallize insulin and make it yield dependable results.

In 1865, at a time when diabetes was little understood, Dr. William Johnson of White House in Hunterdon County noted that one of his patients, a lad of twelve, secreted as much as two gallons of urine in twenty-four hours. For a little while, the physician seemed to be bringing the boy to normal health, but "an imprudence in the use of ripe cherries" — or the inexorability of the disease — soon caused the young patient to become greatly emaciated, then sink into a coma and die.⁵

Dr. Alexander N. Dougherty of Newark prepared a report for the Medical Society members in 1878 giving his observations on glycosuria — sugar in the urine. "Evidently diabetes yet awaits its specific, if there be such a thing," he concluded. "Perhaps its quinine will be forthcoming one day, but diet and regimen are the nearest approach to it in our time." He strongly recommended Camplin biscuit — named for the English physician who himself suffered from diabetes and invented a starch-free bran flour.⁶

Dr. Thomas P. Prout of Summit in 1910 suggested that the stress of modern life contributed to the nervous etiology of diabetes. "The human brain has not yet had time to increase its capacity sufficiently to meet these new complex requirements without severe and often harmful strain," he theorized. Diabetes was one of the results, he said, since glycogen storage by the liver and the secretions of the pancreas were all under the control of the nervous system.⁷

Fifteen years later, Dr. Robert Emmet Allen of Morristown was one of the specialists at work on complications occurring in diabetic patients on the insulin treatment. He warned fellow practitioners that the blood sugar must be properly controlled or there would be difficulties, such as lowered resistance to infection, acidosis and coma, neuropathy, and other tissue damage, such as gangrene of toes or feet. He added that such conditions would occur in untreated or improperly treated patients whether they were on insulin or not, but that the conditions were more likely to occur when insulin was used without proper control of the blood sugar since the patient's diet was usually far in excess of natural tolerance. Consequently, an accurately calculated diet became more important than ever when insulin was administered.⁸

Then from Canada came further enlightenment through Dr. Frederick G. Banting who, in 1921, with Charles H. Best, isolated insulin—the internal secretion of the pancreas. Dr. George R. Minot, of Boston, whose own life was spared through the discovery of insulin, found evidence that liver could alleviate and possibly cure pernicious anemia.⁹

Much earlier studies on the pancreas, liver and vasomotor system by the French scientist Claude Bernard, and his book on experimental medicine published in 1865, introduced the concept of an “internal environment.”¹⁰ Modern endocrinology was launched in 1889 when the Franco-American Dr. Charles Edouard Brown-Séquard found that subcutaneous injections of extracts of testis exercised considerable influence on the general health as well as on muscular power and mental activity. He also produced Addison's disease experimentally by extirpation of the adrenals in animals and contributed studies on testicular therapy and pituitary glandular treatment of acromegaly, a condition characterized by enlargement of the head, hands, face and thorax.¹¹

Cancer control

Cancer and its control were discussed at frequent meetings of the medical profession. In 1900, New Jersey had the distinction of having the lowest death rate from cancer of any tabulated state.¹² But in all parts of the country, the rate increased in the next ten years, probably in part because of more accurate diagnosis. In 1904, the State Department of Health observed that the cancer rate had nearly doubled in the previous twenty-five years, reaching 5.61 per 10,000.

Dr. Dowling Benjamin discussed X-ray as a cure for cancer in 1902 and from the experiences at Cooper Hospital in Camden told his colleagues, “Practical tests show the X-ray does modify cancers and that it stands today as the only thing outside caustic or the knife that will remove the disease.” He warned that X-ray was too new for its permanent effects to be known.¹³ Two years later, Dr. Philip Marvel of Atlantic City saw promise in the treatment of malignant processes by both X-ray and radium.¹⁴ In recent years, cancer studies also have been carried on in connection with chronic diseases of the aging.

While knowledge of cancer and other little-understood diseases were being sought, the ductless glands were one of the areas of internal medicine where

important discoveries were made in the 1920's. Thirty years earlier, Dr. Moritz Schiff had experimented with the effects of excision of the thyroid in dogs and the cure of these effects by thyroid grafts and thyroid extract given internally. He is credited with revealing the nature of myxedema and cretinism.

A young man of twenty-three with the size and measurements of a seven-year-old helped bear out theories concerning the pituitary gland for Dr. David L. Poe of Newark in 1928. The patient had been accidentally shot in the temple when he was seven or eight years old. On an X-ray plate, a foreign body still could be detected in the region of the hypophyseal gland. Evidently there was pressure from this bit of the exploded bullet, and it had so interfered with the normal pituitary gland as to bring somatic growth to a standstill.

A desire to learn about diseases of the endocrine glands prompted the Medical Society to invite Dr. Lewellys F. Barker of Johns Hopkins to the annual meeting in 1914, where he discussed the main types of disease of the pituitary, thyroid, parathyroid, pancreas, adrenals, thymus, gonads and others. "As a man's ductless glands are, so is he," became a familiar phrase as the possibilities of proper glandular replacement became clearer.

Serums, toxins and germs

A new era of preventive medicine began with serologic discoveries by Pasteur and others in the 1880's. By the early 1900's, physicians were hopeful of controlling several of the most frequently fatal diseases, among them typhoid fever and diphtheria.

In 1907, Dr. Benjamin A. Waddington of Salem called serum therapy the most epoch-making event in the world of medicine and science. "The whole theory of infectious disease has been brought down to a single scientific basis . . . that infectious diseases are caused by germs . . . By means of these germs we can transmit disease to the lower animals and from their dead bodies we can regain [the germs] again in pure culture. An injection of the living germs of diphtheria or their product — toxins — will kill a guinea pig within forty-eight hours. It is not necessary to inject the living culture," he added. "We grow the germ in beef tea and filter it out."

How serum therapy worked to provide immunity was not immediately understood. Pasteur thought that the multiplication of pathogenic microorganisms in the body exhausted substances necessary for their maintenance so that they ceased to grow and when the person recovered, he was immune. Others thought the microorganisms threw out some substance that accumulated in the body to prevent development, or that some action of white blood corpuscles accounted for the immunity. Now toxins are known to induce antibodies when injected in humans or animals. Bacteria stimulate the production of antibodies that are antagonistic to such invaders. In the mid-twentieth century, specific toxins had been found for many diseases, including whooping cough and scarlet fever. Earlier ones were isolated in typhoid fever and diphtheria. In the latter, the antitoxin gave brilliant results in all forms of the disease. Even when used upon the appearance of symptoms, it was estimated to have reduced mortality by half and favorably affected the clinical course of the disease. Doctors found the antitoxin

to be most effective when administered early — even before bacteriological confirmation of diagnosis, and there were no serious after-effects.

The Schick Test was cautiously, then enthusiastically, endorsed in the 1920's as a means of discovering the susceptibility or immunity to diphtheria. In 1922, Dr. Joseph Shapiro of Union Hill forecast its value in schools and institutions and anticipated its use as a routine measure. His predictions were correct. The Schick Test, coupled with dilute toxin administration to induce immunity, dropped the diphtheria rate from 43.3 deaths per 100,000 in 1900 to one death in 1962 in a population of over 6,000,000.

The Schick test involved the cutaneous injection of a diluted diphtheria toxin, that, in a subject susceptible to diphtheria, would cause an area of skin reddening and induration. It was devised by Dr. Bela Schick, a pediatrician and allergist born in Hungary in 1877. After serving as a specialist in children's diseases at the University of Vienna, 1918-1923, he came to Mount Sinai Hospital, New York City, as director of pediatrics. He continued as a consultant there and at other hospitals until his retirement in 1942. In 1957, on the occasion of his eightieth birthday, celebrations noted his remarkable accomplishments in two specialized fields of medicine.

Dr. I. J. Wolf, Chairman of Pediatrics at the Miriam Barnert Hospital, Paterson, in 1965 compiled the book of tributes entitled *Aphorisms and Facetiae of Bela Schick*. This token of affection and esteem honored Dr. Schick, an elder statesman in medicine.

"You all remember what a terrible disease diphtheria was," Dr. J. W. Martindale of Camden reminded colleagues in 1912, "and how the poor child struggled to get his breath in membranous croup. Every case of membranous croup I saw died — before the advent of antitoxin. I thoroughly believe any case of diphtheria seen on the first day will be cured if antitoxin is administered at once in sufficient dosage. Twenty years ago, every case of epidemic cerebro-spinal fever was fatal," he continued. "Then Simon Flexner produced a serum that is curative in a large number of cases. . . . With the needle in the spinal canal, the surgeon injects Flexner's anti-meningococcus serum and the course of the case is modified, and in many cases the patient is cured."¹⁵

Other diseases were yielding too: in 1902, smallpox caused 432 deaths; typhoid, 428; whooping cough, 281; tetanus, 60; and rabies in humans, nine. Not a single death due to any one of these was recorded by the State Department of Health sixty years later.¹⁶

Tetanus fatalities reduced

Until antitoxins were introduced, rabies and tetanus were almost always fatal. Treatment for both came in the serum discoveries of the 1880's. By the early 1900's, New Jersey physicians found it possible to save some tetanus cases with heroic doses of anti-tetanus serum.

Dr. Daniel Strock of Camden related his experience with such a tetanus case in 1906. The patient was a hod carrier who had punctured his foot a week earlier with a sharp wire nail. At the time the patient was admitted to the hospital, the wound was unhealed; his body was in the typical rigid arch, with heels braced and knees and thighs somewhat elevated. His jaws were tightly locked and he had convulsions at hourly intervals. Ten cc. of

tetanus antitoxin were injected every two hours. In addition, symptomatic treatment by ten grains of chloral hydrate was given every two hours with occasional sodium bromide and calomel. The antitoxin was continued day and night, every two hours, for fifteen days, and thereafter for several days at four-hour intervals, then tapering to daytime administration only. On the twenty-first day, the patient was in a wheelchair, and two days later, the specific treatment was discontinued. He had received serum injections that totaled the equivalent of nearly four and a half pints, with no lasting ill effects.

Successes such as this prompted physicians to use the serum for Fourth of July firecracker wounds, even before symptoms of infection appeared. While doing all they could to avoid tetanus infections, many physicians strongly resented the necessity of treating wounds that should never have been allowed to occur. As early as 1835, the New Jersey doctors had helped institute a law to prevent the burning or vending of firecrackers. But the "Glorious Fourth" continued to be an irresistible occasion for such resounding noise makers, and the physicians were almost alone in protesting the senseless risk of physical injury. There continued to be at least one accident victim in each community where toxins saved the life but not the affected fingers, hands or eyes. It was not until 1937 that the combined efforts of the medical profession and other organizations achieved a well-enforced law against the sale or use of firecrackers in the state.

The pace of modern life

While toxins were preventing tetanus fatalities and providing immunity to formerly prevalent diseases, and insulin was offering hope for diabetic control, hypertension appeared as a possibly diabetic-related disease. In the 1920's, Dr. Frederick C. Roberts of Easton, Penna., incriminated high blood pressure as a feature and early complication of diabetes. Since there were no initial symptoms, identification of hypertension in the early stages usually happened, he said, when a supposedly healthy person was examined for life insurance or other purposes. Such early recognition could forestall serious illness later, since the heart, brain, kidney or blood vessels bore the brunt. With its causes not actually known, prophylaxis included sensible diet, removal of possible infections, such as diseased teeth and tonsils, and, in menopausal cases, ovarian extract and rest and bromides. The salt-free diet, in Dr. Roberts' experience, was of only occasional benefit and far from a sure cure.¹⁷

Neurasthenia and other nervous conditions prompted a symposium at the annual meeting of the Medical Society in 1906. Dr. Thomas P. Prout of Summit warned against mistaking paresis for neurasthenia. He also found that "nerves" and cerebral exhaustion were unlikely to occur in adolescents. "Any group of nervous symptoms developing in a child past fifteen years of age, should make us think first of the insanity of adolescence," he said. Cases of neurasthenia from simple exhaustion did occur between the ages of twenty-five and forty, he found, but a modification of the Dr. S. Weir Mitchell plan of total bed rest gave swifter results in the twentieth century patients.¹⁸

"No-nonsense" treatments seemed the best answer to neurasthenia in Dr. W. Blair Stewart's experience. He and his Atlantic City colleague, Dr. Philip Marvel, had the opportunity to see the typical nervous society woman, physically and mentally depressed and in need of complete rest. Dr. Stewart remarked that the demands of society exacted on young women in the drawing rooms and ballrooms were sources of neurasthenia.

Acknowledging causes resulting from railways accidents, surgical injury, shock and heredity, he concentrated his remarks on the patient exhausted by social duties. "Absolute rest in bed for four to six weeks, not even exerting herself to turn in bed, or feed herself, and with no personal reading, correspondence or visitors," were items in his regimen for women. "Very few men can stand this method," he observed.

Endorsing physical fitness with a vengeance he added, "If many of our so-called nervous ladies and men were influenced to go into the country or into their own gardens and take care of hoeing, weeding, raking . . . abandon the constant necessity of being 'dressed up,' live on the plainer more substantial food of the working classes, there would be less need for complaints, medicines, massage and electricity." Identifying the average neurasthenic as a lover of drugs and particularly hypnotics, Dr. Stewart suggested it was better not to revolutionize the patient's methods on the first visit but to impress the positive intention of gradually doing away with drugs.¹⁹

Dr. George H. Balleray of Paterson thought the treatment of neurasthenia should begin before the patient was born — by treating the mother. "If more attention were paid to the hygiene of childhood and youth, there would be fewer cases to treat," he said. Dr. Richard Cole Newton of Montclair agreed that proper hygiene rather than drugs seemed indicated and suggested in 1905 that modern neurology was at the parting of the ways — and might go either with psychiatry or internal medicine. He thought neither exclusively could be the answer, anticipating a later day theory of treating the whole person.²⁰

The nervous diseases of childhood, particularly chorea, concerned Dr. Charles H. Scribner of St. Joseph's Hospital, Paterson, in 1909. Once known as St. Vitus' Dance, with the muscular twitchings said to prove the patient was possessed by a devil, chorea was found to be closely connected with scarlet fever, rheumatic fever, and resulting heart lesions. Isolation, quiet and medicines supportive to the heart were indicated for a disease regarded as infective and connected with streptococcal infection of the throat and tonsils.²¹

Mental defectives

The mentally ill were gaining more specialized treatment too, partly because of efforts by Clifford W. Beers (1876-1943), who spent much of his adult life in New Jersey. His book, *A Mind That Found Itself*, appeared in 1908. Having recovered from a psychotic episode, he became a guiding spirit in the nation-wide movement that launched the National Committee for Mental Hygiene in the following year.

Changing the name of the Trenton institution from "asylum" to "hospital" in 1893 helped to symbolize the roots of scientific care. There was recognition that the chronically insane should be in established centers

and employed at suitable occupations; that early treatment was necessary; that patients should not be treated like criminals, and that clinics should be established for those who feared they were going insane or who wanted after-care when they returned home.

In 1883, the Medical Society had seen another of its recommendations accomplished with the establishment of the Council of Charities and Correction. In 1919, that Council was renamed the State Department of Institutions and Agencies, having jurisdiction over the state mental hospitals, tuberculosis sanitarium, village for epileptics, training schools for feeble minded, the commission for the blind; state reformatory for women; the institution for the retarded at New Lisbon; and, in 1921, the Woodbine Colony for men and boys with severe mental deficiency.

Despite the feeling among many physicians that sterilization was a proper precaution in mental cases, a test case terminated in the Supreme Court in 1913 ruled unconstitutional the Act of 1911 making such provision.²²

"The examination of the whole subject of mental hygiene is well worth the attention of the medical student," the Medical Society had declared in 1850.²³ In 1918, Dr. Henry A. Cotton, medical director at the State Hospital in Trenton, following the recommendation of those earlier physicians, reported that some mental cases under his supervision had been cured by extracting infected teeth, removing infected tonsils, and carrying out basic medical prophylaxis.²⁴

In the early 1900's, Dr. Madeline A. Hallowell, whose mother also had been a physician, was the supervisor of the State Home for Feeble Minded Women, at Vineland. She encouraged county medical society meetings at the institution so that physicians could see the level of attainment achieved by patients with varying degrees of mental deficiency.

Generations of Kallikaks

Dr. Henry H. Goddard, of the Vineland Training School, also presented programs of unusual interest, particularly in connection with the *Binet* tests which he had introduced to America in 1908 and which helped to measure the intelligence of normal and deficient children at different ages. His book on the Kallikak family became a classic in sociology. It traced the progenitors of a feeble-minded girl in the institution through six generations, beginning with Martin Kallikak, a Revolutionary War soldier of good family, who became acquainted with a feeble-minded girl and fathered her illegitimate son. That son in turn established a family, with most of the descendants remaining in the Pine Barrens of southern New Jersey. By the early twentieth century, there were 480 descendants, of whom 143 were feeble-minded, thirty-six illegitimate, thirty-three immoral — chiefly prostitutes; twenty-four confirmed alcoholics, three epileptics, three criminals, eight brothel keepers; eighty-two died in infancy and forty-six were either normal or could not be traced.²⁵

Martin Kallikak married after the Revolution, and from this legitimate line came 496 descendants, including doctors, lawyers, judges and educators. There was one instance of insanity but there were no feeble-minded, no epileptics, no criminals, no prostitutes. Only fifteen children had died in infancy in the span of more than a century.²⁶

In the 1920's, medical men were learning and achieving as they had never done before. Dr. Louis K. Henschell, on the staff of the State Hospital at Morris Plains, spoke of the discovery of the causative agent of syphilis and the use of Salvarsan (arsphenamine or "606").

More accurate diagnosis and treatment were made possible by roentgen rays, and the use of powerful induction coils and cathode tubes for making improved X-ray shadows aided in diagnosing incipient cases of tuberculosis. Stereopticon radiographs enabled the gastroenterologist to observe his patient's digestive processes on a bismuth-buttermilk meal, and a silver salt solution in the ureter permitted the surgeon to look for the dilatation above the stone as a more positive evidence of disease.

Vitamins were "born" in New Jersey in 1935 when Polish scientist Casimir Funk coined the word while engaged in research for the U.S. Vitamin Corporation. Funk found few interested in his experiments, however, and was to win his fame abroad. His work was carried forward a few years later by Dr. Robert R. Williams, another research scientist in New Jersey. He performed his vitamin studies at home after his day's work as a director of Bell Telephone Laboratories. Dr. Williams and his son-in-law, Dr. Robert E. Waterman, later research director of the Schering Corporation, developed vitamin B₁, first in pure form and later in synthetic form which made it practical for mass production.

The century had begun with vitamins little understood. Within twenty years, numerous vitamins were labeled, their specific functions identified and synthetics discovered for their composition in great quantities. Merck and Co. was among the pioneers in the work. The firm is particularly credited with development of Vitamin B₁₂, vital for patients with pernicious anemia. The new vitamin discovery was a welcome substitute for the prescribed half-pound of raw liver daily.²⁷

Woman's Auxiliary

Official recognition of the important role held by the wives of the Medical Society members came in 1926. Conceived primarily as a social organization, the Society was to receive increasingly purposeful help from the Woman's Auxiliary as the specter of government-managed medicine was raised.