which were done chiefly for developmental purposes. The malaria parasite was discovered by Charles Louis Alphonse Laveran in 1880, and the mosquito was definitely incriminated as the transmitter of the parasite from man to man by Sir Ronald Ross in 1898. Knowing the cause of the disease and the transmitting insect it was desirable to learn all that could be known of the life history in nature of the parasite and of the insect mosquito host. Scientific workers throughout the world, entirely too numerous to name here, have added more and more to our knowledge, and further important studies are being made all the time. Present knowledge has shown where the most vulnerable points are in the life history of both the parasite and the mosquito. Attacks on them at these points have been successful in control of the disease in proportion to the thoroughness with which the measures could be applied.

In numerous instances practically 100 per cent. of control has been obtained in small areas. But the cost in effort and money has limited the control by intensive methods to these small areas as compared with the total area involved. Intensive work plus the more general application of measures directed against the parasite and against the mosquito have led to so great reduction until many are beginning to feel that malaria is no longer a serious problem in the south. Let us hope that there will be no disappointment in this regard. But let me point out the fact that while the decline in malaria prevalence and severity has been much greater during the past ten or twelve years than during any previous period of equal length, the year 1927 has brought a little discouraging news. Reports have been received that malaria incidence has increased noticeably in many localities (and, by the way, a good many of these are in the state of Tennessee). Whether this is only a temporary tendency or not remains for the future to determine.

There is great need for further knowledge about the influences that determine the life and survival of parasites in both the human and the insect host. Why does one man recover from the infection easily and another only with great difficulty? What causes the development of gametes? Why do they survive and infect mosquitoes sometimes and not others? What are the natural conditions, environmental, nutritional and otherwise, besides those already known, that influence mosquito breeding and transmission of malaria? These and many other questions of vital importance await further researches along parasitological lines.

Pellagra is one of the largest and most important medical problems of the south. The generally accepted theory that it is caused by faults in diet has only served to detract from interest in other lines of research as to the true cause of the disease. Until this is discovered we can only surmise as to the possible assistance parasitology may give in the solution of the problem of its control. Experimental transmission of the disease to monkeys by W. H. Harris (5), of New Orleans, in 1913, with material that had been passed through a Berkefeld filter, indicates that the infectious agent belongs to "the filterable viruses," but this does not lessen the probability of transmission of the specific virus by insects as in the case of other virus diseases carried by insects, like yellow fever, dengue, etc. In fact the long definite incubation period of experimental pellagra tends to encourage the thought of an insect host. The field is an inviting one, and as long as so little is known, it is reasonable to suppose that parasitology may help to solve problems of this disease that is killing hundreds in the south every year and from which thousands suffer.

These are only a few of the many medical problems of the south to which parasitology bears close relationship. Not only is research in parasitology to discover facts of practical application in medicine needed, but in my opinion there is great need for more parasitology, medical parasitology if you will, in the curriculum of the medical schools of the south. Medical students should be instructed in parasitology not merely from the standpoint of diagnosis and treatment but they should learn more of the life history of the parasites which cause the parasitic diseases they treat so they will be prepared to take the part they should as practicing physicians in prevention as well as cure.

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WILLEM EINTHOVEN

DR. WILLEM EINTHOVEN, for forty-two years professor of physiology in the University of Leyden, died on September 28, 1927. He was born at Samarang, Java, and studied medicine at the University of Utrecht, receiving assistance from the Dutch government on condition that he would go back to the islands after graduation, to practice. Early in his student career he attracted favorable attention by an able investigation of the mechanism of the motions of pronation and supination of the forearm. While studying physiology under Donders, he developed an active interest in ophthalmology, the influence of which is reflected in several of his earlier researches and is to be perceived in much of his later work.

During Einthoven's last year as a student at Utrecht the chair of physiology at Leyden became vacant. Donders was asked by the government to nominate a new professor and finding no one of experience who could lecture in the vernacular, he urged that Einthoven be chosen on the basis of his great promise. The offer was made, carrying with it automatically a release from the obligation to return to the islands to practice medicine. The young medical student, not yet graduated, felt a natural hesitation about accepting so great a responsibility. It was largely due to the urging and encouragement of his fellow-student, Karl Koller, later to become well known as an ophthalmologist and the sponsor of cocaine anesthesia, that Einthoven finally accepted.

From the character of Einthoven's published work it might seem an easy inference that he had been especially interested in physics and mathematics as a student, or that he had fallen under the influence of some particularly inspiring teacher in these subjects, but this was not the fact. He realized, however, in taking over his academic responsibilities, that it would be necessary for him to know more about these subjects. In the course of a conversation regarding his days at Utrecht he recalled that one of his first acts after accepting the call to Leyden was to visit a bookshop and purchase a copy of a book on differential and integral calculus written by the late H. A. Lorentz, for many years his distinguished colleague at Leyden.

Einthoven is best known for his work on the electrical action currents of the heart. Following the discovery by Waller that these currents could be detected at the surface of the human body, he was quick to anticipate that their study might reveal important facts about the nature of the heart action in disease as well as in health. He commenced his studies in this field with the Lippmann capillary electrometer and an ingenious assemblage of accessory apparatus largely of his own devising. He was not long in discovering the limitations of the capillary electrometer, and independently of Burch, he discovered a method of correcting the readings of this instrument. Realizing that the time and labor required for a thorough study of the subject by this method would be almost prohibitive, he was led to consider other possible means of recording the rather feeble and somewhat rapid variations of electrical potential attending the heart-beat. As a result of his study he produced a new physical instrument, the string galvanometer, whose field of usefulness is by no means limited to the work of the physiologist. The original model of this instrument, after undergoing a few alterations suggested by experience with it, operated so well that it could hardly be improved except in the minor matter of mechanical simplification.

Within a few years after he described his string galvanometer, Einthoven began the publication of a series of papers dealing with studies made with its help in various fields of physiology. The earliest of these dealt with electrocardiography and covered the field so thoroughly that with the exception of the studies of auricular fibrillation and auricular flutter, which were made by others, little of major importance has been added which was not at least touched on in these first papers. Indeed, in his first long paper on electrocardiography there is to be found a record of a case of auricular fibrillation in man, though he was not aware of its significance.

Among his other published work the paper on the action currents of the vagus is a classic. His paper with Jolly on the action currents of the retina is also a remarkable piece of work. He wrote several papers dealing with the physical aspects of his galvanometer, which appeared in Drude's *Annalen,* and one on its construction, which was published in Pflueger's *Archiv.* The papers on graphic registration of heart sounds are also well known. In recent years he applied his knowledge of the production of extremely fine quartz fibers to the construction of a new instrument for direct registration of sound in which the quartz fiber is moved by the air molecules impinging immediately upon it. Among his recent papers also should be mentioned an important investigation of the relation between mechanical action of muscles and the accompanying action current.

In 1924 he visited the United States as the first lecturer under the Dunham Foundation at Harvard University. After delivering the Dunham lectures he lectured at a number of universities in the east and middle west, and while on this lecture tour he received the information that the Nobel prize in physiology had been awarded to him. In 1926 he was elected a foreign member of the Royal Society of London.

Cautious and painstaking in all his work, Einthoven was slow to publish and thought less of priority than of his duty to be correct. His sudden death has probably left numerous manuscripts unpublished, as it was his custom to keep them several years before publication. Charming in personality, his chief characteristic was modesty, though he could be very firm in defense of a thesis he believed to be well grounded. In his anxiety to avoid premature publication he possibly erred at times in withholding papers too long, but the young physiologist, who hastens to send off the paper written by him last night describing the results of a few experiments performed last week, will do well to consider the solidity of Einthoven's work and the confidence with which his successors have been able to build upon it.

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SCIENTIFIC EVENTS

ACTIVITIES OF THE ROCKEFELLER FOUNDATION

A review of the activities of the Rockefeller Foundation in 1927, written by its president, George E. Vincent, will be issued in a few days.

The first instalment of the review summarizes the year's work in brief and discusses the ways in which the foundation seeks to promote the training of doctors and public health personnel for a new era in medicine, in which the emphasis is changing from cure to prevention.

During 1927 the Rockefeller Foundation, in disbursing from income and capital $11,223,124 (1) aided local health organization in eighty-five counties of six states in the Mississippi flood area; (2) operated an emergency field training station for health workers in this region besides contributing toward the support of nine other training centers elsewhere; (3) assisted nine schools or institutes of public health and three departments of hygiene in university medical schools; (4) gave aid to seventeen nurse training schools in nine countries; (5) furnished funds for land, buildings, operation or endowment to nineteen medical schools in fourteen countries; (6) supported the Peking Union Medical College; (7) paid two million dollars toward a new site for the University of London; (8) helped Brazil to maintain precautionary measures against yellow fever; (9) continued studies of that disease in West Africa on the Gold Coast and in Nigeria; (10) had a part in malaria control demonstrations or surveys in eight states of the Southern United States and in eleven foreign countries; (11) aided nineteen governments to bring hookworm disease under control; (12) contributed to the health budgets of 268 counties in twenty-three states of the American Commonwealth and of thirty-one similar governmental divisions in fourteen foreign countries; (13) helped to set up or maintain public health laboratory services or divisions of vital statistics, sanitary engineering, or epidemiology in the national health services of nineteen countries abroad and in the state health departments of sixteen American states; (14) made grants for mental hygiene work in the United States and Canada; (15) provided funds for biological research at the Johns Hopkins University and aided investigations in this field at Yale University, the State University of Iowa, the University of Hawaii, the Bernice P. Bishop Museum in Honolulu, and certain universities of Australia; (16) helped the League of Nations to conduct study tours or interchanges for 125 health officers from forty-four countries, to supply world-wide information about communicable diseases, to train government officials in vital statistics, and to establish a library of health documents; (17) provided, directly or indirectly, fellowships for 864 men and women from fifty-two different countries, and paid the traveling expenses of 115 officials or professors making study visits either individually or in commissions; (18) made minor appropriations for improving the teaching of the premedical sciences in China and Siam, for the operating expenses of hospitals in China, and for laboratory supplies, equipment and literature for European medical centers which have not yet recovered from the after-effects of the war; (19) lent staff members as consultants and gave small sums for various purposes to many governments and institutions; (20) made surveys of health conditions and of medical and nursing education in fourteen countries.

THE INTERNATIONAL CONGRESS OF PHOTOGRAPHY

In connection with the seventh International Congress of Photography to be held in London during the second week in July, 1928, it has been decided to hold exhibitions of an international character for each of the sections of the congress. These exhibitions will include pictorial exhibits and scientific apparatus, as well as matter illustrating new photographic processes and apparatus. There will also be a trade exhibition showing the recent trade developments in photographic goods.

The pictorial prints will be especially invited by the section of the congress dealing with pictorial photography, but all other material which American workers may desire to submit to the congress should be referred to Dr. C. E. K. Mees, Kodak Park Works, Rochester, N. Y., who is acting as secretary for the American division. As far as is known at present there will be no charge for space at the exhibition, although a small charge may be made later for inserting notices in the exhibition catalogues in order to cover the cost of printing the catalogues.

THE SELECTION OF CHIEF OF THE U. S. BUREAU OF AMERICAN ETHNOLOGY

The United States Civil Service Commission states that the position of chief of the Bureau of American Ethnology, Smithsonian Institution, is vacant, through the recent retirement of Dr. J. W. Fewkes, and that, in view of the importance of the position, and to insure the appointment of a thoroughly qualified man