elastic tissue, designated arteriosclerosis, and having learned of the subsequent introduction of fat and calcium in the ground substance, designated atherosclerosis, investigation has proceeded further. It has now been learned which vessels in the coronary system suffer earlier from these processes, which vessels represent major importance from the point of view of site, and what the consequences are to given areas of muscle to which the vessels large or small are distributed when these same vessels become impassable. Whether passage is interrupted gradually or suddenly has, of course, clinical bearing. It is not too much to say that knowledge of the processes to which the coronary vessels are subject and the ultimate damage to which they give rise can not be too minute. The fate of the very smallest and seemingly insignificant capillary constitutes an important part in the mechanism of damage. But occlusion of a vessel, even of a capillary vessel, does not tell the whole story. That is only the end of the drama. Larval processes must have been going on continuously in the walls of capillaries and of arteries, perhaps in the vasa vasorum, which constitute changes of such a nature as to alter their structure and so to interfere with the passage of metabolites. These processes injure the walls further, and so impair the nutrition of the muscle beyond. The ground substance, where Aschoff thought the basic metabolic disturbances take place, deserves furthermore the most thoroughgoing research. It is necessary to think only of the capillaries in a glomerulus of the kidneys or in an island of Langerhans or in the convolution of Broca to appreciate the extent to which health depends upon the integrity and consequently upon the successful performance of these very small structures. So far, exact studies of the larger arteries, but less of the smaller vessels in the coronary system, have had rewarding results. There is a difference, it is now known (Ehrich, de la Chapelle and Cohn) in the vulnerability, or perhaps it would be better to say in the viability of various coronary arteries. The branch which supplies the back of the heart (the posterior descending ramus) survives intact, without lesions, for a decade longer than the one which courses down the front. Besides, there are sites along both these vessels and along the trunks from which they originate, which seem especially exposed to deformity. Why these sites? And when in a man's life are they affected? Is there a difference between men and women in the development of particular kinds of lesions? Blumgart, Schlesinger and Davis have carried on the search further and have shown that it is not only vessels at different locations but societies of vessels in several, perhaps special regions which under certain circumstances fall victims simultaneously to an underlying, far-reaching process.

These studies must go further. It is necessary to know what compromises the expectation of long duration in the competent life of vessels of different orders of size and in different locations and of whether a recognizable element exists, in metabolism perhaps, which accounts for what we observe. Is there a difference among the races of men, yellow, black and white, or in the conditions under which they live and nourish themselves, that brings about differences not only in the length of life they may reasonably anticipate but, to pass from the very important to the very minute, in the evolution, in the growth of their smallest blood vessels. These may be the differences, the growth and nutrition of their blood vessels, on which the health of their surviving years depends. We begin to appreciate the fact that on the mechanics of the infinitely small depends the mechanics of the great machine—electrons, valence, the very granules in cells, and genes in chromosomes, upon these depend the morals and intelligence of individual citizens in the highest and in the humblest places. To learn about such matters is not to go too far afield if we are to gain badly needed insights. What takes place in our later decades and what hope we may entertain in developing ability to manage the course of our lives may depend, not improbably, on our managing to live so that pain and disability is reduced and that we approach our appointed ends with a maximum of joy in living and with a minimum of dependence and decrepitude.

(To be concluded)

OBITUARY

A. D. E. ELMER

FROM a friend recently released from the Santo Tomas prison camp in Manila word has been received of the death in July, 1942, of A. D. E. Elmer, the distinguished Philippine botanist. Working under great handicaps, Mr. Elmer published ten volumes of Leaflets of Philippine Botany, and distributed sets of Philippine and Bornean plants to all the principal herbaria of Europe and America. Mr. Elmer was a plant collector of extraordinary ability. He graduated from the State College at Pullman, Washington, in 1899, and received a master's degree from Stanford University in 1904, leaving shortly after for Manila, where he made his home until his death. It was my privilege to know Mr. Elmer for over forty years. To hear him tell in his quiet way of fantastic but

perfectly true adventures and experiences during his early years in the Philippines, among wild people in remote localities, was a thrilling revelation.

ALBERT W. C. T. HERRE

RECENT DEATHS

DR. CARLTON C. CURTIS, who retired in 1934 as professor of botany at Columbia University, died on April 12. He was eighty years old.

PROFESSOR RAY KEESLAR IMMEL, dean of the school of speech at the University of Southern California, died on April 14 at the age of sixty years.

DR. FRANK R. ELDRED, consulting chemical engineer, died on April 15 at the age of seventy years.

DR. MARTIN HENRY DAWSON, associate professor of clinical medicine at Columbia University, died on April 27 at the age of forty-eight years.

SCIENTIFIC EVENTS

THE IMPERIAL COLLEGE OF SCIENCE AND TECHNOLOGY

PLANS are being made for the celebration of the Centenary of the Imperial College of Science and Technology, Kensington. These, however, must be dependent on the progress of the war. An article on the history and plans of the college appears in *The Times,* London. It calls attention to the fact that the college, like many English institutions, came to being not by an act of new creation but by a fusion and development of earlier foundations. It is a federation of three constituent colleges—the Royal College of Science, the Royal School of Mines and the City and Guilds College (formerly the Central Technical College of the City and Guilds of London Institute); and these in turn were related to earlier institutions. The earliest of all was the Royal College of Chemistry, the foundation-stone of which was laid by the Prince Consort in June, 1846.

The Times writes:

> By a Royal Charter of Incorporation dated July 8, all three were federated in oue great college, unique in our educational system. (In the case of the City and Guilds College revised conditions of incorporation were approved by his Majesty in Council on July 19, 1910.) The Imperial College is an institution expressly charged with the provision of "the highest specialized instruction . . . and the most advanced training and research in various branches of science, especially in its application to industry." Equally with pure science, technology is its primary concern; yet, alone at present among colleges concerned with technology, it devotes all its energies to work at university level. It is a "peak institution" comparable with the Massachusetts Institute of Technology, and the "alliance" concluded with that institution in 1944 was a recognition of community of aims and interests. Its Charter established it "as a School of the University of London." Its visitor is his Majesty the King.

The need is urgent for new laboratories, new equipment and additional staff and income with which to extend the provision of "the most advanced training and research." But for these, it is pointed out, the college must look, as formerly, to public funds, and the people's need for houses must delay its building program. Meanwhile in the college as it exists there is much that can be done, though under difficulties, to improve its amenities and to extend its corporate life.

CONFERENCE ON RESEARCH AND REGIONAL WELFARE

A "Conference on Research and Regional Welfare" was held at the University of North Carolina on May 9, 11 and 12. President Wilson Compton, of Washington State College, gave the opening address with the title, "The Power of Ideas."

The Thursday morning session was devoted to the general topic "Research in the South." President Raymond R. Paty, of the University of Alabama, spoke on "The Development of Southern Research," and Dr. Wilbur A. Lazier, director of the Southern Research Institute, on "Research for Prosperity in the Industrial South." In the afternoon papers were read by Dr. Russell M. Wilder, head of the Department of Medicine of the Mayo Foundation, on "Research in Nutrition: Importance to the Public Health"; and by Brigadier General James S. Simmons, chief of the Preventive Medicine Service, Office of the Surgeon General, U. S. A., on "The Foundation for Future Progress in Health and Public Service in the South." The evening session was devoted to research in the humanities and social sciences. Professor Avery Craven, of the University of Chicago, spoke on "History and Social Reconstruction"; and Professor D. C. Allen, of the Department of English of the Johns Hopkins University, on "Research in the Humanities."

In the morning session, May 11, Milton H. Fies, consulting engineer of Birmingham, Ala., planned to make an address on "Research and Industry as a Factor in Southern Development" and Reuben B. Robertson, executive vice-president of the Champion Paper and Fibre Company, on "Needs and Opportunities for Research in Industry." The afternoon was devoted to fisheries and agriculture, with Dr. Harden F. Taylor, recently president of the Atlantic Coast Fisheries Company, speaking on "Fisheries Research in South-