have lost individual and collective power in their attempts at the solution of the problems of society. This has, at the same time, been to their economic disadvantage.

Medicine is founded on the highest ideals which inspire human action. Its traditions are of the noblest. The relation of the patient to his physician is sacred. Nearly every individual looks upon some member of the profession as almost divine. Yet the public, which is composed of just such individuals, has been suspicious of the profession which has in it many hundreds of just such physicians. We realize that in order to cure, as well as to prevent disease, it is necessary to deal with humanity one at a time. Yet to-day we are facing, as never before, the problem of harmonizing the individual's obligations and rights with collective needs and mass efficiency.

The greatest asset of the individual, as of the mass, is physical efficiency. Yet we can not solve our present problems in terms of the medicine of the past. The physician's problem, as it involves himself and others, is not medical alone, or economic alone, but social. We physicians have to return to the ideal of our fathers in medicine, which is that of service. We must go on in our search for new means of preventing and curing disease. We must employ these means for the benefit of humanity. In our interest in the details of this work, we must not lose sight of the increased complexities of those whom we seek to serve. We must either adapt ourselves and our profession to the ever-increasing needs of humanity, or expect that they will be adapted for us by others, who are less sympathetic with our traditions and aims. We must not stand aloof. We must develop leadership within the profession, which is only possible to those who understand the spiritual, intellectual, social and economic needs and problems of those whom they may seek to serve as well as they do their physical ills.

The day for American leadership has dawned. If she realizes it she may go further than any other country has yet been able to go, and one of her greatest opportunities is in the orientation of medicine with other social forces.

To her is proffered the honor of gaining universal recognition of medicine as the highest calling whose motto is "I serve." Will she accept it? Has her medical profession the needed vision and strength? Will her people receive such leadership kindly?

The agony which the world is enduring will have been suffered in vain if we can not learn how to develop the best that is in each of us for the advantage of all. Is not the world at war to determine whether the greatest right of every man is that of serving others, or of being served? We are now adjusting our perspective of obligation on the background of individual right.

F. F. Wesbrook
University of British Columbia

DEDICATION OF THE NEW MUSEUM BUILDING OF THE CALIFORNIA ACADEMY OF SCIENCES

The dedication of the new museum building of the California Academy of Sciences and the formal opening of the museum to the public occurred on Friday afternoon, September 22. The dedicatory exercises were held in the California Mammal room, a hall 180 feet long by 60 feet wide.

Mr. C. E. Grunsky, the president of the academy, presided. The invocation was by the Right Reverend William Ford Nichols, bishop of California. Brief addresses were made by the following: Mr. William H. Crocker, president of the board of trustees; Mr. C. E. Grunsky, president of the academy; Mr. Edward Rainey, for the mayor; Mr. George Haviland Barron, curator of the Memorial

Museum, San Francisco, for the board of park commissioners; Dr. David Starr Jordan, chancellor emeritus, Stanford University; Dr. Barton Warren Evermann, director of the museum.

Mr. Crocker spoke feelingly of his long connection with the academy, as president of the board of trustees continuously since 1898, or 18 years. Before him his brother, Charles F. Crocker, had occupied the same position for a number of years and his father, Charles Crocker, was deeply interested in the academy.

As president of the board of trustees, Mr. Crocker formally dedicated the new museum building to the advancement of the biological and physical sciences and the educational interests of the city of San Francisco and the state of California. He then turned the building over to the academy.

Speaking of the history and the aims and ambitions of the academy, President Grunsky said, in part:

Organized in 1853, the California Academy of Sciences has now for 63 years been conducted along broad lines for public service. Membership in the academy at a nominal annual fee is open to all who are interested in the study or advancement of science. Its activities are directed mainly along educational lines in providing the material and opportunity for securing information on matters pertaining to the natural sciences; and second, along lines of research and study in the various subdivisions of the natural sciences.

There are those present to-day who will recall, and some who were active in, the activities of the academy while it was quartered in a building at the southwest corner of California and Dupont streets, and there are many here who have enjoyed and who have profited by the natural history museum and its accessories maintained for many years prior to the great disaster of 1906 on Market between Fourth and Fifth streets.

It would be needless to present at this time a review of the history of the academy and of the work done by it. Those who desire will find much of interest and of value in the published records of the academy's proceedings.

It would be futile to give a due mead of credit to those heretofore connected with the work of the academy whose contributions have borne fruit, and whose achievement is expressed in some measure in the museum plant now to be brought closer to the general public. It must suffice to say that at all times in the history of the academy there was a group of enthusiastic scientific workers—with changing personnel—who stood ever ready to make, and did make, the sacrifices and put forth the personal effort which made the work of the academy worth while.

In the matter of publications, as in the case of its other activities, the academy has had to accept the limitation upon its output made necessary by the lack of adequate funds. Much has been left undone which ought to be done. Time will not, however, permit me to take up this matter for full presentation. Let me call attention merely to one fact which will be patent to all who look carefully into the affairs of the academy. The field in which the academy is active is but imperfectly covered; nor can it be covered as it should be without adequate support from those of means who, in furthering the aims of the academy, will not alone be benefiting our city and commonwealth, but will be contributing to the sum of human knowledge.

The building which has here been erected and is to-day being dedicated is located upon public ground. The academy has invested in it $183,000. Yet this building, while it is an earnest of what the academy is willing to do for the public, represents, in area occupied, only about one third of that of the museum building, which we hope some day in the near future will be completed on this site.

To accomplish the incomplete work with which we desire you to become better acquainted, the academy has taxed its resources as far as seemed wise and has made it possible to open to the public, housed in the first unit of its museum building, certain exhibits which will forecast what it is hoped may ultimately be adequately accomplished. There should be here assembled material from the Pacific Ocean and its shores representative of all the natural sciences, more complete than can be found elsewhere. It can be done and will be done, but not without outside aid. The resources of the academy, chiefly the result of bequests and endowments that will be referred to later, are limited and our installations and facilities for housing material always obtainable in abundance must progress slowly unless the academy can count on the generous assistance of those who have the means.

We can not at this time announce when our building will be extended. More material for re-

search and exhibition has already been collected than we can properly display. Some of the most striking habitat groups that should be at once installed must wait until more funds are provided and in some cases until the time has come when we can add to the building.

It has been suggested that the academy should extend its activities by assuming the management of an aquarium. I think I speak for every member when I say that the academy is ready to do this. But even though there are those of our citizens who may be willing to erect and equip the necessary buildings the academy is not so circumstanced that it can provide the funds for maintenance and operation. But its staff and its organization including the services of its director of the museum, Dr. Evermann, an expert in matters relating to fishes and the fisheries, are ready to help and will help. San Francisco should have an aquarium filled with the life of the Pacific Ocean and of the streams discharging into the ocean, second to no other aquarium in the world.

The academy has asked you to be present to-day at this dedication of the first unit of its museum building in order that you may become better acquainted with the academy's aims and purposes and as a reminder to the public that the academy is here to benefit and serve the whole community.

It is appropriate that at this time attention be called to the generous aid which the academy has received in the past and to that which it is now receiving in its plans for an enlarged field of usefulness.

It should be remembered that the academy is in Golden Gate Park with the consent of the people of San Francisco, who have seen fit to increase the academy's opportunity for service by permitting the erection here of the necessary museum buildings. This consent was given in 1910 and ever since that time the plans have been under consideration and in execution which are to-day beginning to see fulfillment.

By bequest of James Lick forty-one years ago, the academy became the owner of the Market Street property between Fourth and Fifth Streets on which for many years a museum of natural history was maintained. This property now in use for business purposes is the academy's present main source of income. The Lick bequest is now carried on the books as an asset of $802,000.

In 1881 the academy received from Mr. Chas. Crocker an endowment of $20,000, the income from which is to be used in aid of scientific research.

Mr. John W. Hendrie in 1899 bequeathed to the academy the sum of $10,000, the income from which has been set apart for the publication of scientific papers.

The late Wm. Alvord bequeathed to the academy the sum of $5,000, to be used in improving and adding to its herbarium.

During the last decade, while husbanding its resources, and collecting the material which is now assembled in the building being dedicated to-day, the academy affairs have necessarily received but little publicity and there has been but little opportunity for the public to become acquainted with its activities; nevertheless, the academy has been selected by many who have collected material of scientific value as the proper institution to preserve the same and make it available for the public. Attention will be called to only a few recent donations the announcement of which is appropriate on this occasion.

Our generous public-spirited fellow citizen, Wm. M. Fitzhugh, has, by purchase and additions thereto, preserved in its entirety the collection of Indian baskets, ornaments, implements and related material made in their lifetime by the late Professor and Mrs. T. S. C. Lowe, of Pasadena. This collection of exceptional interest and magnitude, which would otherwise have been scattered and would have lost value by piecemeal sale, is on display in the academy museum as a loan and merits your careful attention.

The most important gift which the academy has recently received is that of the Henry Hemphill collection of marine, freshwater and land shells. This magnificent collection, the making of which engaged the attention of Mr. Hemphill during practically all the years of his long and useful life, and which contains between 60,000 and 70,000 specimens representing more than 12,000 species, has been donated to the academy by Mrs. Charlotte Hosmer, daughter of Mr. Hemphill. The academy feels grateful to Mrs. Hosmer for this most generous gift.

The installation of the bird-habitat groups which are to-day being opened to your inspection and which will contribute much to the education and enjoyment of the public has been made possible by the liberality of three other San Franciscans as follows:

Mr. Wm. H. Crocker has presented to the academy the Farallon Islands bird group.

Mr. J. D. Grant has presented to the academy the San Joaquin Valley bird group.

Mr. W. B. Bourn has presented to the academy the Desert bird group.

It is their wish, as it is the wish of every one in any way connected with academy activities, that these exhibits, and the others, now to be opened to public view, may prove instructive and inspiring and a source of lasting enjoyment to all of those who care to avail themselves of the privilege, open to all, of visiting the museum.

To these donors and to all who have contributed to the service value of the academy, the academy, through its president, expresses its sincere appreciation and gratitude.

The academy welcomes such aid in the accomplishment of its aims and will ever be ready to accept and manage any trust having in view the advancement of science.

Mr. Rainey, representing the mayor, and Mr. Barron on behalf of the board of park commissioners, spoke of the great benefit which the museum of the California Academy of Sciences will be to the people of San Francisco. The location of the museum in Golden Gate Park, the most beautiful "people's playground" in the world, is a guarantee that it will be visited not only by our own people, but by all who come to San Francisco.

Dr. Jordan spoke of the value to general education and to science of natural-history museums. He called attention to the eminent position already attained in the field of scientific research by the California Academy of Sciences, and the prominent place the academy is destined to fill as a scientific educational institution.

In a reminiscent way, he told of his many years' connection with the academy, as president in 1896 and 1897, and again in 1900 to 1902, of his first visit to the academy in 1879, and his pleasant meeting at that time with W. G. W. Harford and Dr. Albert Kellogg the botanist and one of the founders of the academy.

Dr. Evermann spoke in part as follows:

In the few minutes allotted to me I shall be able to speak briefly of only one or two of the museum's activities and aims.

The California Academy of Sciences is a scientific, educational institution. As a scientific, educational institution, the academy, through its museum, has two important functions. The first of these is that of *scientific research*. The museum must furnish men and materials and facilities for scientific investigation. Through its research collections and its field investigations, it must study and solve its share of the multitude of scientific and economic problems which the physical and biological sciences, particularly those presented by the zoology, botany and geology of western America and the broad Pacific. We must do our share in studying and investigating and making known the natural resources of our country. The academy must contribute its share to the world's contributions to human knowledge.

The second important function of the academy is *educational*. The academy must do what it can within its means to be of real service in an educational way, not only to the general public, but also to the public and private schools.

One of the ways in which it is endeavoring to render educational service is by installing in this museum habitat groups of Californian mammals and birds and other exhibits that possess real educational value and which show the natural resources of the state.

Scientific research requires money and men. Habitat groups such as we are able to show you to-day also cost money.

The income of the academy is limited; it is not sufficient to enable the museum to carry on the scientific work which it should do and also build up popular educational exhibits.

We have been able to prepare the splendid exhibits which we have to show you to-day because of the generosity of a number of public-spirited citizens of San Francisco and by curtailing somewhat for the time being the scientific activities of the academy. Without the help of these friends of the academy the valuable and attractive exhibits we have now installed would have been fewer in number. Nor would there have been so many if we had not drawn upon the academy's funds for scientific research.

We have planned for several additional large habitat groups. We even have the animals on hand for a number of them. I may mention the very interesting elephant seal, a remarkable species of large marine mammal now nearly extinct. We have the animals for the group, but need funds for installing them. We have also the animals for two or three deer groups, a gigantic tortoise group, and a large iguana group. We have planned also for 22 groups of small California mammals, a dozen small bird groups similar to the very beautiful California quail group which you will see in the bird hall, and an indefinite

number of small portable habitat groups such as that of the western meadowlark, which may be seen in the office upstairs. These we propose to loan to the public schools should they desire them.

It is hoped that the necessary funds for these exhibits may be supplied by private donations, so that the net regular income of the academy may be reserved chiefly for scientific research. The large groups cost from $3,000 to $4,000; the small groups about $500 each; and the portable educational groups about $100 to $250 each.

It is hoped that this opportunity to do something worth while may appeal to those who are interested in education and who have the means to help along in such excellent work. What a splendid thing it would be for San Francisco and the state if, among those present here to-day, there might be some so impressed with the opportunity to help in this good work that they would provide the means to enable the academy to add a dozen or more groups to the excellent series so well begun. We have the expert taxidermists and preparators to do the work; we need only the funds to meet the expense.

In conclusion, may I be permitted to mention one other need of the museum, to which I have called attention on another occasion.

It is my ambition that there shall be in this museum a *Children's Room*—a room in which will be displayed natural history objects such as are particularly attractive to little children. There would be in this room brightly and curiously colored birds and butterflies, moths and beetles and other insects; curious animals of other groups; attractive minerals, growing plants, and aquariums with interesting and instructive animal and plant life; colored transparencies of beautiful native flowers, all selected and arranged with reference to the telling of an interesting story, of teaching a definite lesson.

And there will be in this children's room a children's reading room in which will be found a library of all the interesting and reliable nature books and helps to nature study.

And there will be in charge of this children's room a well-educated, kindly, sympathetic man or woman who knows animals and plants; who knows the specimens in the museum and the live things in the park about it; and who, above all, knows and loves children; a man or woman who can wisely direct the observation and the reading of the children so that they may correlate their reading with what they have seen in the museum or in the open, and thus increase rather than stifle their interest in, and love for, animate things, as our public schools almost invariably do. It will be arranged so that children of the different grades will come to this room at different hours, and receive the instruction and help and encouragement adapted to their respective needs.

And all this will be done and done soon, I confidently believe. It will be done because it so evidently appeals to us all as being the *right thing to do*, the right sort of education and training to give our children. It will be done, because the beauty and worth of it all, for the little children's sake, will appeal to some one who has prospered in this world; some one with a kindly heart, who loves children, and who wants to help them to become the men and women they should become; and some day that man or woman will come forward—I wish it might be to-day—and, out of his abundance, endow a *Children's Room* in this museum, and thus make it possible for the California Academy of Sciences to do this splendid work for the children of California, not only of to-day but for those of the years to come.

At the close of the formal dedicatory exercises a private view of the exhibits thus far installed was afforded the museum's guests, of whom nearly one thousand were present in response to the special invitation.

Large habitat groups have been completed of the following: San Joaquin Valley elk, black-tail deer (summer scene), mule deer (winter scene), antelope, desert mountain-sheep, leopard seal, California sea-lion, Steller's sea-lion, mountain-lion, black bear, raccoon and striped skunk, coyote, Farallon Islands bird rookeries, San Joaquin Valley water-bird group, and a desert-bird group. A California condor group is nearly completed, and small groups of the California Valley quail and western meadowlark have been finished.

A number of additional groups will be installed in the near future, as materials and funds become available.

That the museum of the California Academy of Sciences has at once taken a prominent and secure place in popular favor is evidenced by the phenomenally large attendance following its formal opening to the general public on Sunday, September 24, when 9,812 visitors were recorded. On each of the week

days following, the attendance has exceeded one thousand. The museum will be open to the public from 10 A.M. to 4 P.M. on week days and from 10 A.M. to 5 P.M. on holidays, including Sundays.

BARTON WARREN EVERMANN

SCIENTIFIC NOTES AND NEWS

THE National Academy of Sciences will hold its autumn meeting in Boston and Cambridge on November 13, 14 and 15. The William Ellery Hale lectures will be given on Monday evening and Tuesday afternoon, by Professor Edwin Grant Conklin, of Princeton University.

THE first lecture of the Harvey Society for the present season was given on October 14, at the New York Academy of Medicine, by Dr. J. S. Haldane, F.R.S., of Oxford on "The New Physiology." This lecture will be printed in SCIENCE.

THE degree of doctor of laws was conferred upon Thomas A. Edison over the telephone by Dr. John H. Finley, president of the University of the State of New York, at the closing session of the institution's fifty-second convocation on October 20. Mr. Edison was in his laboratory at Orange, N. J., while Dr. Finley was in the auditorium of the New York Education Building.

DR. GEORGE W. FIELD, of Sharon, Mass., chairman of the Massachusetts Commission on Fisheries and Game, was elected president of the American Fisheries Society at the concluding session of its forty-ninth annual convention, held in New Orleans on October 18.

DR. PERCIVAL LOWELL, of Boston, director of the Lowell Observatory at Flagstaff, Arizona, has been elected an honorary fellow of the Royal Astronomical Society of Canada.

MR. LOUIS R. SULLIVAN and Mr. Leslie Spier have been added to the scientific staff of the department of anthropology of the American Museum of Natural History. Mr. Sullivan will care for the skeletal and other somatological material in the department and will develop exhibitions showing racial differences and man's relations to the primates. Mr. Spier for the present will care for the archeological and ethnological collections exhibited from the eastern states.

WITH the cooperation of Harvard University and the Massachusetts Institute of Technology, the Barber Asphalt Paving Company has established at these institutions a fellowship for research in asphaltic materials and their uses. The fellowship is to be known as "The Clifford Richardson Fellowship." Mr. Richardson is an alumnus of Harvard, known for his contributions to asphaltic highway construction and the chemistry of bitumens.

PRACTICAL forestry management has developed to such proportions in Massachusetts, under the administration of State Forester Rane, that it has been decided to establish a state forestry office in the western part of the state for the convenience of land owners in that section. C. R. Atwood, who is a graduate of the University of Maine, and for some time has been an assistant to Paul D. Kneeland in the Boston office of the state forester, has been selected for the position. He will have headquarters in Springfield.

S. B. Fox, Ph.D. (Cornell), has been appointed assistant in farm management on the experiment station staff of the Montana State College.

THE American Museum of Natural History had three expeditions for fossil vertebrates in the western United States during the past summer. All report a fair degree of success, especially in the discovery of new and interesting fossil faunas. Mr. Barnum Brown, in charge of the expedition for Cretaceous dinosaurs in Montana, reports the discovery of Cretaceous dinosaurs distinct from those of the localities hitherto explored by the museum, and perhaps representing an older stage in their evolution. Mr. Walter Granger reports the discovery in a new locality in New Mexico of numerous remains of small mammals of an age intermediate between the Torrejon and Wasatch horizons. Mr. Albert Thomson has continued work in the Agate quarry, securing additional material needed for the group planned to represent this quarry fauna and has also secured interesting material from the Pliocene beds