SCIENCE

Vol. 76

FRIDAY, JULY 8, 1932

No. 1958

Dedication of the Hall of Science of the Century of Progress Exposition: Introductory Addresses: Rufus C. Dawes, Dr. Henry Crew	21	Scientific Books: Ambronn's Eler Explorations for D. LAMBERT
The Social Effect of Modern Science: Dr. F. B. JEWETT	23	Scientific Apparat Corrugated Rul FESSOR RAYMON
Obituary: Leonard Thompson Troland: DR. A. A. ROBACK.		A Method for a of Sound in Sol ARDS
Recent Deaths	26	26 Special Articles: Sexual Variati WELL and DR.
The International Geological Congress; The Twelfth Biennial Conclave of Alpha Chi Sigma; The Fifth Greenland Expedition of the Univer-		Science News
sity of Michigan; Awards of the Royal Geograph- ical Society; Appointments and Promotions at the Rockefeller Institute for Medical Research	28	SCIENCE: A W ment of Science, e lished every Frida
Scientific Notes and News	30	THE
Discussion:		New York
The Ouachita Project: ROBERT STERLING YARD.		Lancaster, Pa.
A New Meteorite from the Black Hills: DR.		Annual Subscription
CLEOPHAS C. O'HARRA. Infection of the Cloaca with the Virus of Infectious Bronchitis: C. B. HUDSON and F. R. BEAUDETTE. Zoological No-		SCIENCE is the tion for the Advan ing membership in
menclature : Dr. C. W. STILES	33	the office of the p Institution Buildin

Scientific Books: Ambronn's Elements of Geophysics as Applied to Explorations for Minerals, Oils and Gas: WALTER D. LAMBERT	35
Scientific Apparatus and Laboratory Methods: Corrugated Rubber Tambour Diaphragms: PRO- FESSOR RAYMOND DODGE and F. H. J. NEWTON. A Method for the Determination of the Velocity of Sound in Solids: PROFESSOR WILLIAM T. RICH- ARDS	36
Special Articles: Sexual Variations in the Pelvis: Dr. W. E. CALD- WELL and Dr. H. C. MOLOY	37
Science News	8

SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. MCKEEN CATTELL and published every Friday by

THE SCIENCE PRESS

New York City: Grand Central Terminal Lancaster, Pa. Garrison, N. Y.

ription, \$6.00 Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

DEDICATION OF THE HALL OF SCIENCE OF THE CENTURY OF PROGRESS EXPOSITION¹ INTRODUCTORY ADDRESSES

By RUFUS C. DAWES

PRESIDENT OF THE EXPOSITION

IT was in August, 1928, nearly four years ago, that A Century of Progress, having completed its organization and outlined the general theme for its exposition, addressed a letter to Dr. George K. Burgess, then chairman of the National Research Council, containing the following sentences:

This association is desirous of providing a celebration of such character and magnitude as to be a worthy expression of the people's pride, a fitting acknowledgment of the services of our predecessors, and a source of education and inspiration, as well as entertainment, for our visitors. In all these things we are trying to proceed with a national and not a local vision.

We desire to present as a central theme of our exposition, the progress of civilization during the one hundred years of Chicago's existence. This seems to us

¹ Chicago, June 1, 1932

especially appropriate because this period represents also the great period of development of the physical sciences and their application to the services of man. We feel that a new value can be given to the enterprise by making its central idea an exposition of the service of science to society, and of the benefit to humanity brought about by this scientific and industrial development.

In broad lines we vision a great Hall of Science within which in a systematic manner the history of science, the logical development of the special sciences and their applications may be disclosed.

To-day we realize this vision and are met to dedicate the Hall of Science which in imposing proportions is the realization of our dream. We have adhered rigidly to the plan announced and the genius of the architect, Paul Cret, has afforded us a fitting setting for the dramatization of our basic theme. The hall of Science encloses nine acres of ground and offers on its two floors nine acres of exhibition space. The public must judge as to its beauty, its availability to the purposes for which it was built and its adjustment to modern conditions. We offer it for their judgment with confidence and pride.

Our letter, written four years ago, continues:

To carry out successfully an exposition which contains the possibilities of such dramatic interest and permanent influence requires the attention of the best minds of the nation. We feel greatly the need of assistance in formulating and announcing and developing this theme and under these circumstances we appeal to the National Research Council for advice and assistance.

We turn to the National Research Council because it has been organized under a Federal Charter for the very purpose of mobilizing the scientific intelligence of the nation; because of its intimate contact with the personnel and the institutions of science and technology; and because its past accomplishments command alike the respect and confidence of all, and give to it a unique position of trust and favor in the scientific and technical world not only in the United States but everywhere.

We desire help not only to make an adequate statement of the philosophy of our exposition but to have that statement endorsed by competent authorities. We need help in the development of this theme into a series of classifications and in the presentation of the benefits and advantages to be derived from it by the various associations of industry and other associations, and we need help in selecting the men who will be recognized as particularly competent to outline this theme in detail. We trust that the National Research Council will find it possible to help us in this matter, and that it may appoint a committee with which the officers of A Century of Progress may confer and to which the direction of this phase of our celebration can be delegated.

To-day it is our obligation to make acknowledgment to the great leaders of science whose assistance we invoked and have received. We offer our warmest appreciation for the enthusiasm expressed and the support extended by Michael Pupin and George Ellery Hale, by whose joint work the National Research Council was established and through whose influence, to a large degree, its support was extended to A Century of Progress; and to George K. Burgess, chairman of the National Research Council; and with particular gratitude to all the members of the Science Advisory Committee appointed by the National Research Council, to provide for cooperation with A Century of Progress.

Four hundred eminent scientists as members of this committee have found time in their busy lives to serve us. Not often in the history of such undertakings, I believe, have men given so much in so fine a spirit of cooperation.

The chairman of this committee was Dr. Frank B. Jewett, who honors us by his continued confidence

and who joins us as our principal speaker in the ceremonies of the dedication of this building. He will be presented to you by Dr. Henry Crew, professor of physics of the Northwestern University and chief of scientific exhibits for A Century of Progress, a man to whom we are indebted for the gift of his great reputation and abilities in organizing the exhibits to be made in this building.

By DR. HENRY CREW

PROFESSOR OF PHYSICS, NORTHWESTERN UNIVERSITY, DIRECTOR OF THE SCIENTIFIC EXHIBITS

In the execution of any important undertaking, there are always stages at which difficulties and doubts appear; stages at which plans and policies come up for discussion and debate; but in the present enterprise, there are two features which have never, in my hearing, or to my knowledge, received adverse criticism.

One of these is the inspiring theme of the exposition; the other is the method by which this abstract theme was transformed into a concrete plan of execution. Both of these have been admirably set forth in the extracts from the letter which Dr. Dawes has just read.

Never for a moment during this brief quadrennium of our history has any one proposed to change the goal first set by that small group of clear minds in the summer of 1928; never has there been a thought of retreat from their high aim which is to demonstrate to all our visitors the ministrations of pure science to engineering and industry.

Nor has there ever been the faintest hint that a wiser and more unselfish group of men might have been found to serve in the capacity of an advisory committee.

It required no small courage for our president to ask Dr. Burgess to go before the National Research Council, which is, in a certain sense, the scientific heart of the nation, and ask it to advise and support what was then a midwest enterprise; but it took equal courage for Dr. Burgess to approach one of the guiding spirits of what is perhaps the most important and beneficent corporation in America, one of its active and responsible officers, indeed, and to invite him to give time and energy to direct a large committee in charting a course for the Century of Progress Exposition.

These courageous petitions were met by generous responses. The chief engineer of the American Telephone and Telegraph Company called to his aid, directly and indirectly, a group of several hundred of the leading American men of science. Inspired by the generous example and fine perspective of their leader The chairman of this advisory committee whose reports have been to us, guide, philosopher and friend, has been good enough to be with us this afternoon. To men such as he, men who conduct large affairs, men who make decisions fraught with great consequences, it is needless for me to point out that it is sometimes impossible to carry out all the details of even a well designed plan. I want to assure him and his committee, however, that the department of exhibits in this exposition has but one object in view, and that is to follow the spirit of these reports. We are here, indeed, this afternoon not only to dedicate this beautiful creation of the mind and imagination of Mr. Cret, but also to dedicate ourselves to the spirit of this report and to the original theme of the fair.

The distinguished physicist, engineer and lovable man who will address you is no stranger to Chicago. Born and educated on the Pacific Coast in what since has become an outstanding intellectual center, he came at once to Chicago, where he added lustre to the already famous Ryerson Laboratory, presided over by the scintillating genius of Michelson. His years of service have been spent mostly on the Atlantic Coast, where fine judgment, executive ability, and a kindly attitude of mind have won him friends without number.

Ladies and gentlemen, I have the joy of introducing to you this good friend of ours, Dr. Frank B. Jewett, who will deliver the dedicatory address.

THE SOCIAL EFFECTS OF MODERN SCIENCE By Dr. F. B. JEWETT

BELL TELEPHONE LABORATORIES, AMERICAN TELEPHONE AND TELEGRAPH COMPANY

Mr. Dawes and Distinguished Guests:

In these strenuous and troublesome times most of us who are asked to speak on formal public occasions are frequently not much concerned with the subjectmatter of what our speeches might be. What most concerns us is the problem of presenting reasons for declining which will be effective but which will not at the same time be likely to give undue offense. With such a condition so generally prevalent the opening remark by a speaker that he is "pleased" or "gratified" or "honored" to be present is likely to cause one's tongue to slip slyly into one's cheek.

Having thus fully apprized you that I am cognizant of the facts viewed both from the standpoint of the speaker's rostrum and from the point of view of the audience, I am now going to use all three of the words just mentioned. When I have finished with the remarks which Mr. Dawes has asked me to make I hope you will agree that this time at least I am sincere. I trust you will agree also that there is merit in the case I shall attempt to make.

I am "pleased" to be here and to take part in the ceremony of dedication of this building which a year hence is to be the Hall of Science, and so the home of the central theme exhibits of the Century of Progress. I am "gratified" that opportunity is offered a year in advance of the official opening of the exposition to set another monument still further to fix and mark the aim and object of the exposition. Finally, I feel "honored" to be asked to state again in your presence, and in the shadow of this tangible evidence of adherence to an ideal, just what it is hoped most the Century of Progress will accomplish. The underlying plan and aim of the exposition have been stated many times by Mr. Dawes and others of the trustees and officers far more familiar than I with the details of this gigantic undertaking. None, however, have until to-day had so completely the background of a fact accomplished against which to set their words. None have been able to say that here in this completed structure are to be shown those fundamental things of science on which so much of progress during the past one hundred years is based and on whose properly continued employment so much of human happiness and well-being depend.

If I looked upon the Century of Progress as merely a grandiose exposition of the material marvels which have evolved from scientific research and its practical applications, I should not only not be here to-day, but I can assure you that I would have lost little time in thinking up plausible excuses for declining. I am very little interested in those expositions of science which have for their object mere stimulation of interest in the weird and bizarre. Further, I have very little interest in expositions or fairs or shows designed simply to provide a host of varied amusements on a lavish scale. What I am interested in particularly, at this time, is any sincere effort that can be made better to acquaint people with the possibilities and limitations of science as they enter into our common daily life.

Any intelligent thoughtful person can hardly help being impressed with the facts, first, that during this past century, which marks the corporate life of the city of Chicago, science more than any other single factor has influenced human affairs; second, that