

The program of papers presented at the general sessions was given on page 421 of *SCIENCE* of March 24, 1916. The paper by Admiral Pillsbury was read by title only, as he was ill and not able to appear. Each of the papers presented some particular phase of the survey's activities and in a number of cases there was shown how its work was related to that of some of the other organizations of the government.

The address by President Wilson at the banquet, the paper of Dr. George Otis Smith and abstracts of the other papers and addresses follow this brief account of the celebration.

A very interesting feature of the celebration was an elaborate exhibit of the instruments, charts and publications of the survey, some of them dating back to the earliest years of its history. A series of enlarged photographs showed in a very clear and impressive way the modern field operations of the survey.

The proceedings at the celebration, including the addresses delivered, will be published in one volume by the survey.

WILLIAM BOWIE

#### ADDRESS OF THE PRESIDENT OF THE UNITED STATES

*Mr. Minister, Mr. Superintendent, Ladies and Gentlemen:* I had another reason for asking to come last. I remember reading with appreciation in the preface of a volume of essays written by a very witty English writer a passage to this effect: The pleasure with which a man reads his own books is largely dependent upon how much of them has been written by somebody else; and I have found that my enjoyment of making speeches after dinner is almost directly in proportion to the amount of inspiration that I can derive from others.

It was manifestly impossible for me to make such preparation for addressing you

to-night as I should have wished to make in order to show my very great respect and admiration for this service of the government. I can only say that I have come here for the purpose of expressing that admiration. I have been very much interested in the speeches that I have heard to-night, not only because of what they contained, but also because of many of the implications which were to be drawn from them. I was very much interested indeed in the excellent address of the representative of the free and admirable republic of Switzerland. He reminded us of what we must constantly remember, our very great intellectual debt to Switzerland, as well as to the many other countries from which we draw so much of our vitality and so much of the scientific work which has been accomplished in America.

As he was speaking, I was reminded (if there are Pennsylvanians present, I hope they will forgive this story) of a toast mischievously offered at a banquet in Philadelphia by a gentleman who was not himself a Pennsylvanian. He said he proposed the memory of the three most distinguished Pennsylvanians, Benjamin Franklin, of Massachusetts; James Wilson, of Scotland, and Albert Gallatin, of Switzerland. I dare say that in many American communities similar toasts could very truly and with historical truth be offered. And I myself had the privilege of sitting under one of the distinguished Swiss scholars to whom reference was made, Dr. Arnold Guyot, under whom I pretended to study geology. Doctor Guyot was not responsible for its not being carried beyond the stage of pretence.

I feel myself in a certain sense in familiar company to-night, because a very great part of my life has been spent in association with men of science. I have often wished, particularly since I entered public life, that

there was some moral process parallel to the process of triangulation, so that the whereabouts, intellectually and spiritually, of some persons could be discovered with more particularity. Yet as I listened to the Secretary of Commerce, I suspected that he was priding himself upon the discovery of a process by which he had discovered the whereabouts of a great many committees of Congress and a great many other persons connected with the process of appropriating public moneys. I have a certain sympathy with those committees of Congress which in investigating the Coast and Geodetic Survey have found that the superintendent had the great advantage of knowing all about the service and they the great disadvantage of knowing nothing about it, because, as I have said, I have spent a great part of my life in association with men of science and, never having been a man of science, I have at least learned the discretion of keeping my opinions on scientific subjects to myself.

I have had association particularly with the very exact and singularly well informed brother of a distinguished gentleman present. General Scott has a brother who is a member of the faculty of Princeton University, and Professor William B. Scott is one of the most provoking men I have ever known. He not only asserts opinions and delivers himself of information upon almost every subject, but the provoking thing about him is he generally knows what he is talking about. A good talker who volunteers opinions on all subjects ought to be expected in fairness to his fellow men to make a certain large and generous portion of mistakes, because you can at least catch him napping, but Professor Scott is one of those men who successfully—I have sometimes told him I suspected adroitly—avoided the pitfalls of eminent conversationalists like himself; but association with such men has taught me a very great degree

of discretion and, therefore, I am not going to express any opinion whatever about the work of the Coast and Geodetic Survey. But I am going to give myself the privilege, for it is a real privilege, of saying this:

This is one of the few branches of the public service in which the motives of those who are engaged can not be questioned. There is something very intensely appealing to the imagination in the intellectual ardor which men bestow upon scientific inquiry. No social advantage can be gained by it. No pecuniary advantage can be gained by it. In most cases no personal distinction can be gained by it. It is one of the few pursuits in life which gets all its momentum from pure intellectual ardor, from a love of finding out what the truth is, regardless of all human circumstances—as if the mind wished to put itself into intimate communication with the mind of the Almighty itself. There is something in scientific inquiry which is eminently spiritual in its nature. It is the spirit of man wishing to square himself accurately with his environment, not only, but also wishing to get at the intimate interpretations of his relationship to his environment; and when you think of what the Geodetic Survey has been attempting to do—to make a sort of profile picture, a sort of profile sketch, of the life of a nation, so far as that life is physically sustained—you can see that what we have been doing has been, so to say, to test and outline the whole underpinning of a great civilization, and just as the finding of all the outlines of the earth's surface that underly the sea is a process of making the pathways for the great intercourse which has bound nations together, so the work that we do upon the continent itself is the work of interpreting and outlining the conditions which surround the life of a great nation.

I can illustrate it in this way, the way in

which it appeals to my imagination: I have always maintained that it was a great mistake to begin a history of the United States intended for beginners by putting at the front of the book a topographical map of this continent, or at any rate of that portion of it which is occupied by the United States, because if you begin with that, you seem to begin to deal with children when you deal with the first settlers. They know nothing about it. They expected to find the Pacific over the slope of the Alleghanies. They expected to find some Eldorado at the sources of the first great river whose mouth they entered upon the coast. They went groping for the outlines of the continent like blind men feeling their way through a jungle. They were as big men as we, as intelligent; they had as full a grasp upon the knowledge of their time as we have upon the knowledge of ours; but set the youngster in the school to watch these men groping, and he will get the impression that they were children and pygmies. That is not the way to begin the history of the United States. You will understand it only if you comprehend how little of what the work of this department of the government, for example, has since disclosed, was known to those then engaged in this great romantic enterprise of peopling a new continent and building up a new civilization in a new world.

So that you have the picture of a service like this lifting the curtain that before that time rested upon all the great spaces of nature. You remember how in the early history of Virginia a little company of gentlemen moved by a sort of scientific curiosity, and yet moved by a spirit of adventure still more, penetrated no further than to some of the unknown fastnesses of the Alleghany Mountains and were thereafter known as the Knights of the Golden

Horseshoe—given a sort of knighthood of adventure because they went a little way upon the same quest upon which you gentlemen have gone a great way.

So when I stand in the presence of scientific men I seem to stand in the presence of those who are given the privilege, the singular privilege, the almost contradictory privilege, of following a vision of the mind with open, physical eyes; making real the things that have been conjectural; making substantial the things that have been intangible.

And as the Secretary of Commerce has said, there is a great human side to the things that you are doing. You are making it safe to bind the world together with those great shuttles that we call ships that move in and out and weave the fabric of international intercourse. You are providing the machinery by which the web of humanity is woven. It is only by these imaginative conceptions, it is only by visions of the mind, that we are inspired. If we thought about each other too much, our little jealousies, our rivalries, our smallnesses, our weaknesses, there would be no courage left in our hearts.

Sometimes when the day is done and the consciousness of the sordid struggle is upon you, you go to bed wondering if the sun will seem bright in the morning, the day worth while, but you have only to sweep these temporary things away and to look back and see mankind working its way, though never so slowly, up the slow steps which it has climbed to know itself and to know nature and nature's God, and to know the destiny of mankind, to have all these little things seem like the mere mists that creep along the ground, and have all the courage come back to you by lifting your eyes to those blue heavens where rests the serenity of thought.