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DEPARTMENT OF THE INTERIOR
FRANKLIN K. LANE, Secretary
THE NATIONAL PARK SERVICE
STEPHEN T. MATHER, Director

PROCEEDINGS OF THE NATIONAL PARKS CONFERENCE

HELD IN THE AUDITORIUM OF THE
NEW NATIONAL MUSEUM

Washington, D. C., January 2, 3, 4, 5, and 6, 1917

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PROCEEDINGS OF THE FOURTH NATIONAL PARKS CONFERENCE.

INTRODUCTION.

The Fourth National Parks Conference was held in the auditorium of the National Museum, Washington, D. C., on January 2, 3, 4, 5, and 6, 1917. In connection with it the First Exhibition of National Parks Paintings was opened in the national gallery on the second floor of the building, and various exhibits were on view in rooms on both sides of the entrance lobby.

Because of the extensive advance in the movement to develop our national parks since the third conference at Berkeley, Cal., in March, 1915, the present conference was greatly broadened in scope and purpose. The creation by Congress in August, 1916, of the National Parks Service to administer the national parks as a coordinated system made it desirable to consider the whole subject afresh from the broadest possible viewpoint and to summon in consultation the best thinking and experience in the country. It was hoped that the conference would result in a body of expert discussion and advice which would prove helpful in the formulation of the broader policies necessary to realize the greater future of our national parks which Congress had in view in the creation of the service.

To this end Members of Congress who have specialized on national parks, representatives of cooperating clubs and associations, educators of national outlook, specialists in forestry, natural science, and wild-life conservation, and men and women in professional and business life interested in the recreational, artistic, inspirational, economic, and other phases of the question were invited to join in conference with officials of the department and the new service, the supervisors of the parks, and the concessioners.

The program was designed to cover as many outlooks as possible, with specialist speakers. A reception for the promotion of acquaintance was held in the national gallery Tuesday evening on the occasion of the opening of the exhibition of paintings. The evenings were

devoted to popular lectures illustrated with lantern slides and motion pictures of national parks subjects.

The conference was successful in all respects. It became increasingly enthusiastic and developed a spirit of cooperation which promises well for the future. An important element in its success was the hearty cooperation and invaluable assistance of the secretary and officials of the Smithsonian Institution.

This report of proceedings contains a wealth of creative suggestion.

PROGRAM.

TUESDAY, JANUARY 2.

Stephen T. Mather, Assistant to the Secretary of the Interior, presiding.

MORNING SESSION, 9:30.

OUR NATIONAL PARKS.

Franklin K. Lane, Secretary of the Interior.
Senator Reed Smoot of Utah.
Representative Scott Ferris of Oklahoma.
Representative Irvine L. Lenroot of Wisconsin.
Representative William Kent of California.
Carl Vrooman, Assistant Secretary of Agriculture.

AFTERNOON SESSION, 2.15.

DEVELOPMENT OF THE NATIONAL PARKS.

Enos Mills: "The national parks for all the people."

Mrs. John Dickinson Sherman, conservation chairman, General Federation of Women's Clubs: "Women's part in national parks development."

Huston Thompson, jr., Assistant Attorney General: "The public and the national parks."

Prof. Lowell Jackson Thomas, Princeton University: "Typical development at Mount Rainier."

EVENING SESSION, 8.15.

Opening of the first annual exhibition of National Parks paintings in the galleries of the National Museum.

WEDNESDAY, JANUARY 3.

Robert Sterling Yard, presiding:

EDUCATIONAL DAY.

MORNING SESSION, 9.30.

George D. Pratt, conservation commissioner of the State of New York: "Organized out of doors."

Prof. E. M. Lehnerts, of the University of Minnesota: "University classes in the national parks."

Philander P. Claxton, United States Commissioner of Education: "Public schools and the national parks."

J. Horace McFarland, president American Civic Association: "Economic destiny of the national parks."

Afternoon Session, 2.15.

Dr. Charles D. Walcott, secretary Smithsonian Institution: "National parks as a scientific asset."

Arthur E. Bestor, president Chautauqua Institution: "Organized popular education."

Herbert Quick, member of Federal Farm Loan Board: "The author and the national parks."

Gilbert H. Grosvenor, editor National Georgraphic Magazine: "Teaching by picture."

William H. Holmes, head curator, National Gallery of Art: "The painter and the national parks."

Rev. Charles W. Gilkey, of Chicago: "Spiritual uplift of scenery in national parks and the Grand Canyon."

Evening Session, 8.15.

Illustrated lecture by Herbert W. Gleason.

THURSDAY, JANUARY 4.

Morning Session, 9.30.

Enos Mills, presiding:

RECREATIONAL USE OF THE NATIONAL PARKS.

W. A. Welch, chief engineer Palisades Inter-state Park: "The making of a recreational park."

J. W. Barber: "Winter sports in the national parks."

Mrs. Ada F. Chalmers: "Family hiking in the national parks."

Dr. Hugh M. Smith, Commissioner of Fisheries: "Fish and fishing in the national parks."

Marion Randall Parsons, Sierra Club: "Living in the national parks."

Afternoon Session, 2.15..

John B. Burnham, president American Game Protective and Propagation Society, presiding:

WILD ANIMAL LIFE IN THE NATIONAL PARKS.

Henry S. Graves, forester and chief, Forest Service: "National forests and national parks in wild life conservation."

Charles Sheldon, chairman game preservation committee, Boone and Crockett Club: "Mount McKinley."

E. W. Nelson, Chief of Bureau of Biological Survey: "The Yellowstone and the game supply."

E. Lester Jones, Superintendent Coast and Geodetic Survey: "Future of the antelope."

T. S. Palmer, assistant in charge of game preservation, Bureau of Biological Survey: "National monuments as wild animal sanctuaries."

Belmore Brown, Camp Fire Club: "Climbing Mount McKinley."

Evening Session, 8.15.

Illustrated Lecture on Mount McKinley by Stephen R. Capps, Geologist, United States Geological Survey.

FRIDAY, JANUARY 5.

Morning Session, 9.30.

Stephen T. Mather, Assistant to the Secretary of the Interior, Presiding.

THE QUESTION BOX.

J. B. Harkin, commissioner of Dominion parks, Department of the Interior, Canada: "Canadian national parks."

Afternoon Session, 2.15.

Dr. H. M. Rowe, president American Automobile Association, presiding:

MOTOR TRAVEL TO THE PARKS.

George C. Diehl, chairman A. A. A. Good Roads Board: "Touring, a by-product of roads building; or roads building, a by-product of touring."

Cortlandt Field Bishop: "American versus European scenic assets."

Orville Wright: "Air routes to the national parks."

A. W. Seaman, Long Island Automobile Club: "Transcontinental touring equipment."

Frank A. Davis, secretary-treasurer National Old Road Trails: "Sign posting the highways and byways."

David G. Joyce, chairman A. A. A. Touring Board.: "Multiplication of American road travel."

Evening Session, 8.15.

Illustrated lectures by H. H. Hays and Judge Will G. Steel.

SATURDAY, JANUARY 6.

Stephen T. Mather, Assistant to the Secretary of the Interior, presiding.

Morning Session, 9.30.

THE GRAND CANYON.

Representative Simeon D. Fess, of Ohio: "Colossus of canyons."

Dr. George Otis Smith, Director U. S. Geological Survey: "The Survey's contribution to the national park movement."

Ford Harvey: "The public and the Grand Canyon."

Charles Sheldon, chairman game preservation committee Boone and Crockett Club: "Glories of the Cataract Canyon."

L. Claude Way: "Practical problems."

Afternoon Session, 2.15.

THE GREATER SEQUOIA.

Representative Frederick H. Gillett of Massachusetts: "The problem of the Greater Sequoia."

E. O. McCormick, vice president Southern Pacific Co.: "National parks and the railroads."

Enos Mills: "Perhaps our greatest national park."

Emerson Hough: "The top of America—Mount Whitney."

Robert Sterling Yard: "The Tehipite Valley and Kings Canyon."

Evening Session, 8.15.

Bear stories by Enos Mills.

Illustrated lecture by Dr. Harry O. Reik.

FIRST EXHIBITION
OF
NATIONAL PARKS PAINTINGS

CATALOGUE OF A LOAN COLLECTION OF 45 PAINTINGS ILLUSTRATING SCENES MAINLY IN THE NATIONAL PARKS AND MONUMENTS OF THE UNITED STATES, ASSEMBLED BY THE DEPARTMENT OF THE INTERIOR IN THE NATIONAL GALLERY OF ART IN CONNECTION WITH THE MEETING OF THE NATIONAL PARKS CONFERENCE HELD IN THE NATIONAL MUSEUM, JANUARY 2–6, 1917.

This exhibition was opened with a special view on the evening of January 2. On January 16 one painting was withdrawn, and on January 30 fourteen paintings were returned to the owners. The remaining thirty will continue on exhibition in the main room of the gallery, new building of the National Museum, until after March 4. Those withdrawn are indicated by an asterisk.

DEAN BABCOCK:

*The Twin Sisters.
*A Glimpse of the Range.
The Explorers.
*The Crags.
Scenes in the Rocky Mountain National Park. (Lent by the artist.)

ALBERT BIERSTADT:

Mount Whitney.
The Sequoia National Park. (Lent by the Minneapolis Institute of Arts.)
Whyte's Lake, Estes Park, Colo.
The Rocky Mountain National Park. (Lent by the Art Association of Indianapolis, John Herron Art Institute.)

HOWARD RUSSELL BUTLER:

*Sunrise near Mesa Verde.
The Mesa Verde National Park.
Sunshine and Shadow in The Grand Canyon, Ariz.
Grand Canyon National Monument. (Lent by the artist.)

ELLIOTT DAINGERFIELD:

Trees on the Rim of the Grand Canyon, Arizona.
From Rim to Rim of the Grand Canyon, Arizona.
(Lent by the artist.)

W. HERBERT DUNTON:

*Late into Camp.
*The Hunter's Supper.
The Start for the Hills.
(Lent by the artist.)

J. R. FOUNTAIN:

Crater Lake, Oregon.
The Crater Lake National Park. (Lent by the Southern Pacific Co.)

ALBERT L. GROLL:
Laguna Pueblo.
New Mexico. (Lent by the National Gallery of Art.)

JAMES HENRY HARPER:
Sunset on the Oregon Trail.
(Lent by the artist.)

W. VICTOR HIGGINS:
*Chile Venders, Taos.
Pueblo of Taos, New Mexico. (Lent by the artist.)

THOMAS HILL:
Yosemite Valley.
The Yosemite National Park. (Lent by the Southern Pacific Co.)

SYDNEY M. LAURENCE:
The Trapper.
Alaska.
Mount McKinley.
Alaska.
(Lent by the National Gallery of Art.)

WILLIAM R. LEIGH:
Grand Canyon.
Arizona. (Lent by Snedecor & Co.)

THOMAS MORAN:
A Rocky Mountain Solitude.
The Rocky Mountain National Park. (Lent by the artist.)
In the Grand Canyon of the Colorado.
Arizona. (Lent by the National Gallery of Art.)
Grand Canyon of the Yellowstone.
The Yellowstone National Park. (Lent by the artist.)
Grand Canyon of Arizona on the Santa Fe.
(Lent by the Atchison, Topeka & Santa Fe Railway.)

DE WITT PARSHALL:
The Hermit Creek Canyon, The Grand Canyon.
Arizona. (Lent by the Worcester Art Museum.)
Isis Peak, The Grand Canyon.
Arizona. (Lent by the Syracuse Museum of Fine Arts.)
Granite Gorge, The Grand Canyon.
Arizona. (Lent by the Toledo Museum of Art.)

SHELDON PARSONS:
*Morning in the Canyon.
The Grand Canyon, Ariz. (Lent by the artist.)

F. C. PEYRAUD:
Afternoon in The Grand Canyon.
Arizona. (Lent by the artist.)

EDWARD H. POTTHAST:
The Chasm.
The Grand Canyon, Ariz. (Lent by the artist.)
*Bright Angel Canyon of Arizona on the Santa Fe.
The Grand Canyon, Ariz. (Lent by the Atchison, Topeka & Santa Fe Railway.)

ARTHUR J. E. POWELL:
St. Marys Lake.
Grinnell Lake and Glacier.
Scenes in the Glacier National Park. (Lent by the artist.)

LUCIEN W. POWELL:
Grand Canyon of the Yellowstone.
The Yellowstone National Park. (Lent by the National Gallery of Art.)

WILLIAM RITSCHEL:
Awakening of The Grand Canyon of Arizona.
(Lent by the artist.)

CARL RUNGIUS:
Near Timberline, Bridges Forest Reserve, Wyoming.
The Yellowstone National Park. (Lent by the artist.)

BIRGER SANDZEN:
*Sunset in the Mountains, Colorado.
The Rocky Mountain National Park.
*The Arapahoes.
The Rocky Mountain National Park.
*Sunset in The Grand Canyon.
Arizona.
(Lent by the artist.)

E. SERBAROLI:
*Mount Tamalpais.
California. (Lent by Hon. William Kent.)

J. H. TWACHTMAN:
*Waterfall, Yellowstone Park.
The Yellowstone National Park. (Lent by the City Art Museum of St. Louis.)

WALTER UFER:
Indian Gardens.
The Grand Canyon, Arizona. (Lent by the artist.)

PETER VAN VEEN:
*Mount Rockwell, Glacier National Park.
(Lent by the artist.)

F. BALLARD WILLIAMS:
Grand View, The Grand Canyon of Arizona on the Santa Fe.
(Lent by the Atchison, Topeka & Santa Fe Railway.)

NATIONAL PARKS CONFERENCE.

TUESDAY, JANUARY 2, MORNING SESSION.

SUBJECT, "OUR NATIONAL PARKS."

The opening session of the conference was convened at 10 o'clock on the morning of January 2, 1917, with Hon. Stephen T. Mather, assistant to the Secretary of the Interior, presiding.

THE PRESIDING OFFICER, STEPHEN T. MATHER.

The conference which it is my great pleasure to open this morning should be one of deep significance both in the economic and spiritual life of the American people. Our national parks are still unknown and undeveloped in the broader sense, because this Nation has remained unconscious of the mighty development within itself. Like the bursting of the chrysalis, suddenly our childhood falls away. Suddenly we realize our national self, our power, and our responsibilities. Suddenly we put aside childish things and step forward into the vigorous stride of manhood.

Among the many evidences of this tremendous change is the awakening of the Nation to the enormous and neglected opportunities offered by its incomparable national parks, areas of accessible scenic sublimity which in extent and variety are unmatched in all the rest of the world together. Hence the recent activities in this part of work of the Department of the Interior. Hence this conference to consider the ways and means to realize the fullest destinies of the national parks.

Momentous changes have been executed in national parks organization to meet the certain and swift demands of the future. The reorganization of the internal economies of the Yosemite, the Mount Rainier, and the Yellowstone National Parks have been accomplished, as models for all the rest, on a basis of Government partnership with concessioners which guarantees self-support in the not distant future. For our national parks will ill fulfill their natural destiny if they are to remain a charge upon the Nation's treasury. Their inevitable destiny is to become an asset economically, as well as an incomparable source of pleasure and education and spiritual uplift.

Congress has promptly responded to the movement in the public interest. Last August it passed a bill creating a bureau in Washington for the proper and businesslike administration of the new public charge. We now celebrate the birth of the National Park Service.

The department's efforts to meet the future's demand must not, however, exhaust themselves in financial and economic efficiency. In a hundred ways the national parks will touch vitally the intellectual and spiritual life of this people. It is my hope that this conference will shed a white light upon the way.

I have the honor to present the Hon. Franklin K. Lane, Secretary of the Interior.

Hon Franklin K. Lane, Secretary of the Interior.

Mr. Chairman, ladies, and gentlemen of the conference, it gives me great pleasure to greet you this morning at the opening of the first National Parks Conference, and out of your deliberations I expect will come not only a new enthusiasm for the development of these great public playgrounds but suggestions that will insure their greater popularity; for parks without people are a burden, not a benefit.

Some of you are park superintendents. It is your business to make the best use possible of the money Congress gives for the building of roads and trails; it is your business also to see that the hotel manager and the camp manager and the transportation manager furnish the kind of service which the parks require to make them popular places for all classes. It is your business to suppress the ugliness which men of a mere commercial turn are always fostering and to bring into relief the beauties and grandeurs of nature for which these parks have been saved. You represent Uncle Sam as host toward the people of all nations who wish to see how grand and wonderful a land this is.

Uncle Sam, we are proud to boast, is generous, hospitable, considerate, competent, courteous, and democratic. He is neither a snob nor a sycophant nor a coward, but an upstanding gentleman who respects others because he respects himself; and as he respects himself he respects the man who knows his job. So the call on you as Uncle Sam personified as host is somewhat large, and if you and your rangers can not realize it to the full at all times I know that a kindly public will not expect the impossible.

Many of you have come long distances and at much expense to tell us what can be done to make our parks realize their mission or to give us a truer appreciation of them. We thank you for coming. Uncle Sam needs volunteers in his park service as well as in his Army and Navy service.

These are days when we are taking stock of all our resources, not for days of war only but for the larger days of peace. And the Rocky Mountains and the Sierra are just as real resources as the Mesaba Range or the oil fields of Oklahoma. They can be turned into money, if you please—millions of money every year for railroads and farmers, grocers and butchers and bakers.

Better still, they can be turned into men; men who love the open and know how to live in it; men who have its spirit in their souls; men who are bound to their country by ties which those who live in cities do not know; men who have been taught by great red granite cliffs, by blue mountain lakes, by stretches of purple desert and by the close study of the long processes of nature—the grinding of the glacier and the cutting of the tiny stream—that a grand thing, a beautiful thing, a noble thing comes slowly, whether it is a noble canyon, a noble character, or a noble nation.

The Presiding Officer, Stephen T. Mather.

One of the strongest and best friends that the national park system has among the national legislators has honored us with his presence here to-day. This distinguished Representative of a Western State in the United States Senate has been for years interested in the promotion of the national park system, and has been a consistent advocate of scientific business management in the operation of this park system as national playgrounds for the American people.

It early became evident to our honored guest that an absolutely indispensable necessity for the success of the system was a bureau or service to manage the national parks. Not only did he believe in this principle, but he put his theories into action, and since the year 1912 he has introduced in every Congress a bill looking toward the enactment of legislation that would provide for such a bureau or service. And he has urged on every possible occasion the enactment of a measure to provide for this proposed bureau, which should be under the direction of the Department of the Interior, and which should have for its sole function the handling of the national parks.

Among the first bills introduced in the Senate in the Sixty-fourth Congress was the national park service bill, framed and presented by this friend of the national parks. It so happened, however, that a measure, drawn and introduced in the House by the Public Lands Committee as a result of bills introduced by Congressman Raker and Congressman Kent, secured favorable passage by the House before the Senate bill had been acted upon; and our guest urged the early passage of this bill by the Senate, and helped to secure its passage by that body.

He is interested in national parks, and he is interested in the setting aside of national monuments. Several of the largest and best of these national monuments are located in the State which he represents, among them the wonderful Mukuntuweap, which contains Little Zion Canyon, or what is coming to be popularly known as "The Desert Yosemite." Through an appropriation recently obtained, this monument is now being made accessible to visitors.

I now have the honor to present to you the Hon. Reed Smoot, United States Senator from Utah.

HON. REED SMOOT, SENATOR FROM UTAH.

Mr. Chairman, ladies and gentlemen, if my memory serves me right the first bill I introduced in the Senate creating a National Park Service was on December 17, 1911, and every session of Congress since that time I have reintroduced a bill for that purpose. I became convinced early in my life that there was nothing that would make man realize his littleness more than by seeing and recognizing the power of God's marvelous creations of nature, and nowhere can that be better demonstrated than by a visit to our national parks, for in them are to be seen many of the most marvelous creations of our Maker.

In 1911 we had 12 national parks. I think we now have 16. We had at that time 28 national monuments, and, by the way, some of them should be national parks instead of national monuments. I have particular reference to the Grand Canyon of the Colorado, in which are to be found some of the most marvelous sights in all the world. I think there must be something wrong with a person who does not love nature or who does not become enthused in seeing the scenic wonders of our country. I do not know of anything that brings me more joy, more pleasure, more information than studying the forests, the life and death of them, and I can not conceive of a greater pleasure to a person than to visit our national parks in which are found nature's greatest wonders. Our dream of five or six years ago has become a reality, and to-day we have a National Park Service. The mere creation of that service will do the people very little good unless funds are provided by the Government to enable the officials of the service to first prepare the parks so that people visiting them can receive comfortable accommodations; second, to educate the people, tell them where the parks are, how to reach them, and what are the chief sights to be seen. We must advertise them by the moving pictures, as has been done in the past by the American Civic Association. I do not believe that there was ever a conference held by that association that converts were not made to the wisdom of the use of our national parks. A convert is generally an enthusiastic park man. We can depend upon this: that whenever a person visits our parks and spends but a few weeks within them he becomes an advocate of them; he speaks for them, and wherever he goes his influence is exerted with other people to enjoy what he has enjoyed.

I was very glad to hear the Secretary give instructions to the officers having in charge the national parks that they should be polite to all visitors. In my opinion, they should have impressed upon them that they are not representing themselves—they are represent-

Was it worth to me the few paltry dollars and cents and time that I took to go to the Grand Canyon of the Colorado? Why, my good people, it can not be counted in sordid dollars. My visit to the canyon made me a better man; it made me a better citizen, and I acknowledge with greater freedom the power of the Supreme Being, a thing that in everyday life we so often forget.

Now, I do not want to see our national parks robbed of any of their beauty on the ground that it must be done in order to secure money sufficient to pay the expenses of maintaining them. I do not want to see the trees of the parks destroyed. I do not want to see any of the natural resources taken from them that would in any way mar their beauty. I think that it would be the best money that Congress could spend, to place the parks in a condition that they can be enjoyed by the people of the United States. The people will go when educated, and it will not be long that the Government will have to expend money on them, for already there are five on a paying basis and it won't be long until all of them will be; and instead of a few hundred thousand people visiting these parks there will be millions visit them. The parks must be made attractive and accessible in order to accomplish this, and it is the duty of the Government to make them so.

We must have good roads in the parks. We should keep them well repaired and sprinkled. That's a business proposition, and just as soon as the parks are attractive and accessible and as soon as the American people understand it and their wonders are advertised the question of the maintenance of the parks on a business basis will have been settled. So, I do not worry about the future of the parks. What I want is to have the people understand what it means to them to visit our national parks. Our revenues from the parks will increase year by year and will pay the expenses of their maintenance in a few years to come. The concessions in the parks will assist in that regard, and I want the concessions in all of the parks not to be based upon how much money can be made out of them, but the idea should be to have the Government hold control over them. There are certain receipts in many of the parks that will come from the grazing privileges, although I do not want them overgrazed, and I think grazing should not be allowed in some of the parks. There are other revenues that will come from the telephone service and the light service and utilities that must be established by our Government in the parks in order to make them accessible and attractive to the people who visit them.

I hope that all unsightly advertisements will forever be kept out of the parks. I want some place somewhere in the world that I can go and won't have to read the advertisements of "57 varieties" of pickles, etc., and I will add patent medicines of all kinds. I hope

that the Secretary of the Interior will see, whenever a concession is given for the erection of a hotel in a national park, that the hotel will be built in conformity with its surroundings. We do not want any seven and ten story hotels in our national parks. We want them never more than two stories, rustic in their appearance, and something different from that which you see in every city that you visit.

I realize that our national parks have been neglected and scarcely heard of in the past, but I am positive their beautiful scenic value, awe-inspiring grandeur, and life-giving virtue will be appreciated by millions in the near future instead of but thousands as at present.

The greater number and almost the entire acreage of our national parks are in the West. The God of Nature in the distribution of scenic wonders of the world lavished them upon the western portion of this continent, placed them high above sea level, and surrounded them with a summer climate fit for the gods, making them the natural recreation grounds for the overworked and nature-loving people. The people of our country do not realize the value of these gifts of nature, but that will come in time and come naturally. I think I can see in the future a great portion of the three hundred and fifty million American dollars now spent annually abroad for recreation, rest, and sightseeing diverted to American railroads, American hotel keepers, American guides, American merchants, and American farmers.

I look for the time when our national parks will be the means of people from different sections of the country being brought together and becoming acquainted with each other; learning each other's aspirations, hopes, and beliefs; learning of their honesty of purpose, ideals of life, loyalty to home, State, and Nation. Results of this character can not be estimated in mere dollars and cents.

I have upon a number of occasions visited Europe, climbed the mountains of Switzerland, gazed upon Mount Blanc with all of its surrounding grandeur; but when I stood upon Bright Angel Point and gazed upon that marvelous gash in the breast of mother earth, saw within it the temple-capped hills, its varied-hued earth and stone, its awe-inspiring greatness, with the river thousands of feet below me, I could not help but exclaim, "Europe has many scenic wonders, but none like the Grand Canyon of the Colorado." To see it convinces man of God's greatness and man's littleness.

I think the time will come when it will be popular for an American to have seen and know the wonders and advantages of his own country. I do not believe that an American's education is complete, nor is it possible for him to know the wonders of his own country, until he has seen the marvelous geysers, boiling springs, and volcanoes, brilliant hued canyons, great lakes 8,000 feet above sea level, in the

Yellowstone National Park; or the magnificent waterfalls in the Hetch Hetchy Valley, the ice sculptured canyons and forests in the Yosemite; or the big trees, growing in many instances to a height of 300 feet with a diameter of 30 feet and bark 2 feet thick found in the Sequoia; or the glaciers and the rugged mountain scenery of Mount Rainier; or the beautiful lake within the crater of an extinct volcano in the Crater Lake National Park; or the prehistoric ruins of an ancient people in the Mesa Verde National Park; or the wonderful natural bridges, the largest in all the world, found in the southeastern part of Utah.

When better hotel accommodations, better public transportation, including the construction of roads, trails, and bridges, are secured, instead of having 224,000 visitors annually, they will be numbered by the millions. And I do not know, my friends, but that this answers the situation to-day. Only we have advanced somewhat from that time. Every year there are more visitors to our parks, and I hope to see the time that there will be few Americans who will have to say that they have not visited some of the national parks of America, and when you have visited one you want to visit another and when you have visited that other one you want to visit them all; and I see in the future success for the accomplishment of all that Congress had in view in creating the National Parks Service. And the people who visit and live for a while in them, enjoy their grandeur and beauty, will have better health, will be better citizens, will know their country better, and will love it more. And all I have to say is, let us work together to bring this about and hasten the day that all these benefits may be enjoyed.

I thank you.

THE PRESIDING OFFICER, MR. MATHER.

Thank you, Senator, for the interest that is shown by your talk here to-day. It only stimulates and proves to us the interest that you have always taken in the entire national parks matter. With more of such interest there, gradually increasing as it is bound to in Congress, we will have the results that we have been long looking for in the way of larger appropriations, and of course as an outcome of that a larger attendance in the parks.

SENATOR SMOOT.

Mr. Chairman, just before you proceed, I want to beg to be excused. The subcommittee of the Appropriations Committee of the Senate meet this morning, and I had to beg off in order to come here. We have hearings on before that subcommittee, and I hope you will not think that I am trying to run away, if I withdraw at this time.

THE PRESIDING OFFICER, MR. MATHER.

Certainly not, Senator.

SENATOR SMOOT.

I would have been delighted to stay here.

THE PRESIDING OFFICER, MR. MATHER.

We appreciate your having given to us a part of your busy time when your work is so pressing.

SENATOR SMOOT.

You will excuse me.

THE PRESIDING OFFICER, MR. MATHER.

We also have the privilege of having with us to-day the Hon. Scott Ferris, chairman of the Public Lands Committee of the House. His work at this particular time, with all the important bills to which he has to give consideration day and night, is exceedingly pressing; and I can not thank him too much for having come around this morning to give us of his time. Congressman Ferris has always lent a sympathetic ear to all measures designed to improve and promote the national parks. He has held extensive hearings on the National Park Service bill, and his public hearings afford important information on the parks and monuments. He has done everything in his power to insure the creation of the National Park Service.

Our distinguished guest has several important measures pending at present in Congress relating to the parks system throughout the country which he is studying with his characteristic keenness and enthusiasm; and we may depend upon him to have the interests of the parks continually at heart.

In my work in connection with national parks it has been my privilege to come to know something at first hand of the lovable personal qualities of this distinguished gentleman, qualities which have made it both a pleasure and a privilege to consult and advise with him concerning the management and the furtherance of an ideal national parks system in this country.

I take great pleasure in presenting to you Hon. Scott Ferris, Representative in Congress from Oklahoma, and chairman of the important Committee on Public Lands, who will now address you.

HON. SCOTT FERRIS, REPRESENTATIVE FROM OKLAHOMA.

Mr. Chairman and members of the conference, the total area comprising the United States is 3,026,789 square miles. The total area

of the 16 national parks and 31 national monuments is 7,500 square miles. This is but one-fifth of 1 per cent of the aggregate. In the minds of thoughtful men can this be too much?

It was a fair day for the Republic when in March, 1872, the Yellowstone National Park was created. That was but 45 years ago, within the lives of most of us here to-day. Is there a man here to-day, or can there be a man anywhere, who regrets the start then made? In the 45 years that have elapsed since that time we have created 15 more national parks and 31 monuments. Five of the 14 parks have been created during my short service in Congress. The total acreage of the 16 national parks is roughly 5,000,000 acres, the national monuments, roughly, 86,000 acres. I am happy that legislation is now pending for four more in the Committee on the Public Lands, and as fast as they can be examined I am greatly in hopes they may be created.

The amount of money that goes abroad each year by tourists is no less than alarming. The best estimate available is that more than $500,000,000 is expended by our American people every year abroad vainly hunting for wonders and beauties only half as grand as nature has generously provided for them at home. Nothing but common prudence will demand that we of the Congress and you members of the conference be found trying to keep at least a part of that money at home where it belongs.

In countries of the Old World, where profligacy has long since taught them the lesson of prudence and thrift, they are collecting vast sums from the tourists each year who scramble to see things less beautiful and less grand than are available on their own fair shores. For example, the yearly incomes from Switzerland from their park revenues is $150,000,000; France, $500,000,000; Italy, $100,000. So for those who are sordid and would have their parks built up for commercialism our park system can well be defended on that ground alone. Fearful, however, that I may be misunderstood, I am not in favor of trying to make them pay. I want them to be one free spot for every citizen of the Republic, and want him to feel it is his and he has the right to occupy it and feel that he is both patron and master of all that he surveys.

Our appropriations from the Federal Treasury for the parks have been light. During the last year but $283,590 was appropriated from the Treasury for this great and growing system of parks. This is less than one-sixth of 1 cent per capita. The city of Philadelphia, with its one and one-half million population, expends $1.25 per capita for parks; Baltimore, with its half million population, expends $1 per capita; Harrisburg, Pa., 42 cents per capita. It will, therefore, be observed that the cities and municipalities are expending lavishly from direct taxes for parks for the few, while the Government has

been expending quite cautiously, if not parsimoniously, from the general revenues of the many for the benefit of the teeming millions of the Republic.

Our population is growing like the weed in fallow soil, but our parks and nature's beauty spots will not grow in number or area, but unless constantly on guard will diminish at the hands of greed and human selfishness. The jeweled and attractive hand of greed, the plausible and ever present hand of selfishness stands ever at attention ready to help himself to the things that belong to all of us. Let us be vigilant. Let us be persistent in the preservation of these wonders, not alone for the hour or the day in which we live, but for the generations that will follow us.

The new Park Service law is now in full operation. It will bring development and progress. It is the thing that will make the parks what we hope them to be. It will bring order out of chaos. It is the law you park people long have sought and mourned because you found it not.

The Appropriations Committee always asks why we do not get more revenue from the parks. For me and mine I hope they will be able to run these parks with less revenues from the parks rather than more. I want these parks to be the one green spot in this busy Republic where every busy life will feel free at home to lie down in the shelter of the tree. I want the spreading branches of the trees of our national parks to be the property of the humblest man in all the land. For me and mine, I never want them operated with an eye single to commercialism. To so conduct them would be to rob them of their many charms. It would strip them of their grandeur and their beauty. Let them be free to all and every one, to-day, to-morrow, and forever.

Let the mission of the parks be to stimulate and promote the higher and better instincts of men. Let them be a breeding station for patriotism. Let them teach sordidism and sordid things to vanish from the face of the earth. Let them be fountains of youth, health, virility, and rest. As the Nation grows older, as the strong will naturally trample more and more upon the weak, these treasures and virtues just enumerated will be equally essential with the sordid considerations both to the individual and the Nation.

From Muir to Mather, in dealing with parks, the watchword has ever been forward. At no time has the hands of the dial of progress been turned backward. Their faces have ever been forward. Let this conference this day firmly and forever resolve to keep them moving forward. Let our faces ever be eastward in park development. Let us keep Mather as long as we can, and when he must let go let us hastily try and find one fashioned in his image.

Our park sytem is so far-reaching in its scope, so permanent and lasting, hence the more necessary that it be built strong and enduring.

We should make no error in the building. The structure should be strong from turret to foundation stone. Vigilance must be the watchword to free it from error and from harm. Let it be the one green spot in all the Republic where the citizen will delight to point with pride. Let it be the spot where extortion is untolerated and unknown. Let the citizen feel it is his park, where his weary feet may ever find a spot of rest, a spot conducted by his Government, which disdains to do any citizen wrong. This will make the parks all that we hope them to be. This will make every citizen their defender. This will make them as enduring as the flag of the Nation, a niche in the heart and the affections of every citizen.

The national parks of the Republic will soon be known as the last refuge for the wild game of the country. This is no small factor and will be no small mission for them to perform as the Republic grows and becomes more and more crowded and congested.

This conference should and doubtless will enjoy a just pride in the thought that they build not alone for the day in which they live. How selfish and unenduring would it be if you built only for the fleeting day. On the contrary, how enduring and alluring to build unselfishly for those that will follow you when you are gone. The former is so short-lived and fanciful, the latter thrice everlasting and real.

So proud you must be that the parks for which you toil are not dependent for their only charm upon iron dogs, spouting gargoyles, stone fountains, and ill-shapen crudities that too often infest parks fashioned by the hands of man. Yours are charged and surcharged with the beauties and grandeurs of nature more sublime than any wrought by the hand of man. Yours are waterfalls and cataracts whose charms are never ending, that entrance and beguile the soul of man as they glisten in the sunlight of God. Yours are the wild flowers whose perfume lingers within the nostrils of the tourist when all else have faded and been forgotten. Yours are the mountains and the crags that the God of the Universe erected as a monument of respect and a solemn sentry of love and devotion to those who are to come and be welcome, enjoy, and observe. These, and ah! a thousand times more, are but few of the joys and charms held in the folds of these wonderful spots concerning which you have met in conference this day. These parks are the spots that the God of the Universe would preserve for all of us as distinguished from the few of us; to keep inviolate for the multitude as long as the tide of them shall stand.

A municipality to-day without a park is a crudity and a curiosity. A nation without parks is a calamity. Let us shun the calamities of the hour as our ancestors have shunned them for the 6,000 years of recorded history behind us.

Reared in the open air and the sunlight, I was only taught their charms and virtues as the onrushing tide of a busy life divested me of them. How strange we never prize the music till the sweet-voiced bird has flown; and so it is with the beauties of nature. A busy Republic, but for the activities of the thoughtful, patriotic men like yourselves, ever vigilant, ever self-sacrificing, would neglect its richest heritage, these parks. In the years that are to follow these, how enduring and comforting it must be to you of this conference to know you were the pathfinders in this great undertaking of nurturing, rearing, and bequeathing to this thriving, busy Republic a park system that is to be the property of the Nation for all time.

How comforting it will be in years to come for those who bear your names on down through the corridors of time to know that they are of the flesh and bone that left behind them footprints on the sands of time, descendants of those who erected public blessings not alone for themselves but for those that were to follow; blessings that neither moth nor rust can invade; blessings that neither time nor adversity can corrupt, efface, or erase.

Such will be the princely heritage you leave behind. Of such a legacy both savage and civilized will hold a just and enduring gratitude.

Mr. Chairman, I thank you.

THE PRESIDING OFFICER, STEPHEN T. MATHER.

We all have our discouragements in this work that we are undertaking, but we have inspiration in the words that Congressman Ferris has given us to hearten us on our way; that, in spite of the mistakes that we have made, perhaps we are accomplishing something; perhaps there is some development being made from day to day which will count for the future.

I want to call on another member of the Public Lands Committee of the House who has always had a sympathetic ear for the work, and who attended the hearings regularly and gave a great deal of personal attention to the National Park Service bill. He devoted much time to this measure, being most anxious that a thoroughly workable bill should be passed. The Congressman, I may say also, was a tower of strength in its enactment.

But more than this, Representative Lenroot has been and is a consistent friend of the West, and we may depend upon him to remain a loyal, earnest supporter of the national parks system in this country.

I have the honor to introduce to you Irvine L. Lenroot, Representative in Congress from Wisconsin, ranking minority member of the Committee on Public Lands.

HON. IRVINE L. LENROOT, REPRESENTATIVE FROM WISCONSIN.

Mr. Chairman, ladies and gentlemen, it would be impossible for me or anyone to discuss in 10 minutes, except in a most general way, any phase of the national park question in detail. We who are Members of Congress are interested in this question as every citizen ought to be interested in it, but we are especially interested in the question of a proper legislative policy to be pursued in the creation and development of our national parks, and I hope that before this Congress shall have adjourned some consideration will be given to that great question, and while, as I said a moment ago, I could not in 10 minutes hope to discuss this question in detail, I do want very briefly to outline the views of one Member of Congress as to the policy that he thinks ought to be pursued at this time, and because I wish to get it as succinctly as possible I have committed what I propose to say to writing.

In the creation of national parks by Congress there are two objects in view well stated in the act establishing a National Park Service. One purpose is to conserve the scenery and the natural historic objects and the wild life therein for the enjoyment of future generations, and another to provide for the enjoyment of the same in such manner as will leave them unimpaired for the future. I think it is unfortunate that in the minds of many people the creation of a national park by Congress also involves its immediate improvement. This should not necessarily follow. National parks should be created freely now in order to conserve the scenery, etc., for future generations. They should be created while the land is still in Government ownership, for once passed into private ownership, the opportunity for securing it will be gone. I, perhaps, am responsible more than any other Member of Congress for the provision in the latest acts creating national parks, limiting the appropriation that could be made for maintenance and improvement to $10,000 annually, without previous authorization of law. In proposing this limitation I had two purposes in view: First, to make the securing of new national parks less difficult, removing the objection of immediate, large expenditures upon them, if created; secondly, I do not believe that all of these national parks should be developed simultaneously. There is a limitation upon the aggregate amount of money that Congress will appropriate for this purpose. I am glad that Congress is becoming more liberal each year, but there will always be a limit to expenditures that Congress will make for this purpose. Our national park system should be considered as a whole. The use of national parks should be made by the largest number of people possible and by the present generation. To scatter $500,000 annually for improvements over a dozen national parks will not bring as

many tourists and visitors to the parks as the expenditure of the same amount of money upon three or four of them.

We have now 15 national parks within the continental United States. From these 15 we should eliminate from this discussion the Hot Springs Reservation, which is self-sustaining, the Platt, Wind Cave and Sullys Hill Parks, which are small in area and from a national standpoint comparatively unimportant, leaving 11 to come within the scope of our discussion. I believe that large appropriations for the present should be confined to three or four of these 11 Of these three or four, the Yellowstone and the Yosemite, would, of course, stand as first in importance, and one of the others should, in my opinion, be the Glacier National Park. The Yellowstone is well developed and does not require large expenditures, but the Yosemite and the Glacier National Parks still require large expenditures. Large appropriations for other parks should await the development of these three or four. In support of this I wish to call attention to the tourist travel in the Yellowstone and Yosemite Parks. In 1914 the Yellowstone had 20,250 visitors, in 1916 it had 35,849. The Yosemite Park had 15,145 in 1914 and 33,390 in 1916. Of equal interest is the comparison of appropriations made and revenue received from these two parks. In 1906, 10 years ago, the appropriation by Congress was $7,500 for the Yellowstone and the revenue received was $2,125; in 1916 the appropriation by Congress was $8,500 and the revenue received $46,628. In the Yosemite Park in 1906 the appropriation was $5,400 and the revenue received was $1,000; in 1916 the appropriation was $75,000 and the revenue received was $49,878. The total expenditures for improvement and maintenance of the Yosemite Park during the past 10 years has been $625,150, and I understand there has been expended upon the Yellowstone Park since its creation, for improvement and maintenance, more than $2,000,000.

If the appropriations for these two parks during this period had been scattered over a dozen or more parks, I think it is safe to say that the tourist travel to all of the parks and the revenue received from them would have been less than that of these two parks alone, conclusively proving, it seems to me, that we should develop a few of our parks at this time and concentrate our expenditures upon them. We will thus make them of the largest benefit to the Nation at large, and also more rapidly bring them to a point where the revenue received from tourists will substantially aid in their improvement and maintenance. These national parks are not local propositions or State propositions, and their improvement and development should be considered not from the standpoint of the interest or wishes of the people of any State but from the standpoint of the benefit to the people of the Nation.

There are several bills now pending in Congress for the creation of additional national parks. If the policy that I have outlined could be adopted, there would be no reason why many of those bills should not be enacted. With the knowledge that a large expense would not fall upon the Government for their immediate development, their enactment would not sacrifice the improvement of existing parks, which should be developed as rapidly as the finances of the Government will permit.

Upon this general question a great step forward has been made in the creation of the National Park Service act, and we have every reason to believe that not only will the administration of our national parks be more efficient than it has ever been in the past, but that Members of Congress will receive valuable advice and suggestions from the Park Service as to the future policy of Congress with reference to this great question.

Now, I realize that it is perfectly natural for enthusiasts of any propaganda to feel that their particular proposition is the one important thing. We could never make any success upon any proposition unless we had such enthusiasm, and I realize that friends of the national parks who are not Members of Congress find it difficult to realize why Congress is niggardly, as it is sometimes termed, in its appropriations.

However, in the consideration of this question it is a condition and not a theory that confronts us. Congress ought to make larger appropriations each year. It is going to increase its appropriations; but nevertheless Congress will never make as large appropriations for any object as the enthusiasts in favor of that object desire; and we may as well squarely face this proposition with reference to the development of our national parks: Congress this year, next year, and for years to come will limit the appropriations that are going to be made for the development of our national parks, and it is an extremely important question as to what legislative policy shall be pursued in the development, whether or not such appropriations as are to be made shall be scattered over the very large number of parks, or whether they shall be confined to a few of them, developing them with roads, and advertising them so that the people of the United States, for whose benefit they are created, will know what they have, and that they may have access to them.

And I want to say, too, in passing, that it is very seldom, indeed, that my good friend Mr. Ferris and I disagree upon any of thes great public questions, but I can not altogether follow him in the thought that he presented that our national parks should in the very near future become entirely free to the users of them. In the very nature of things a comparatively small percentage of the hundred million people of this country will be able to take advantage of our national

parks in this day and generation, and yet when we appropriate money for their development that money is paid by all of the people of the United States.

Now, it seems to me that when those who do utilize the parks are able to receive that benefit, it is entirely proper that they should pay something for the improvement and maintenance of those parks; not a prohibitive figure, not a figure so large as would deter anyone who can afford, for instance, to travel from the city of Washington or any eastern State to the West; not such an amount as would prevent him from taking advantage of that park; but, at the same time, to pay something for that benefit that he is receiving over and above that average citizen of the United States who, perhaps, will never have the good fortune to see them at all, and with that revenue—a reasonable revenue—it will mean a great deal in the development and maintenance of these parks.

In concluding, I feel that I ought, as a Member of Congress, to express not only my appreciation but the appreciation of every Member of Congress who is at all familiar with this national park subject for the splendid work done by the American Civic Association and other organizations in securing the creation of a National Park Service and the creation of the Rocky Mountain and other national parks, and I am sure that you all most cordially indorse what has been said by the preceding speaker concerning Mr. Mather, who presides to-day. He is giving the best years of his life to this great subject. He is giving generously of his own private means to this great object; and because of his enthusiasm, his practical mind, and the confidence that all Members of Congress have in him, Congress, as you will note, is becoming more liberal in its appropriations; and I feel certain that, when the time shall come, which I hope will be in the not distant future, when a deficit no longer stares us in the face, the development of our national parks may go forward by leaps and bounds.

I thank you.

THE PRESIDING OFFICER, STEPHEN T. MATHER.

Representative Lenroot has given us much of interest in his address. I want to point out to him that we are getting revenues from the parks. As he has, of course, himself stated, we are getting revenues from the people who are entering them. The Yellowstone, for example, brought in $60,000 during this last season. A large part of that came from fees paid by motorists; another part came from the concessioners in the shape of a usage tax based upon the number of tourists accommodated. We feel that, in a park like the Yellowstone, the concessioners should pay a percentage of their profit

into the fund which goes to make up the revenues of the park. The visitor who enters the park to-day finds this no burden upon him. Those parks that are developed on a more or less broad scale, like Yellowstone, Yosemite, Mount Rainier, and others, are yielding revenues in quite substantial figures which will help very materially toward the upkeep of those parks.

A month ago I had the privilege of being in the Yosemite Park and was up in the upper country some 8,000 feet in altitude, which is very high for that time of year, as the snows begin early in the High Sierra. I had the privilege of having an old friend of mine there. He is put down on the program as Representative William Kent, of California; but I can not help thinking of him as William Kent, of Chicago, my old city, where he helped so faithfully in municipal affairs before he transferred his allegiance to California and to national affairs.

We all know, not only in Chicago, but in the country at large, the interest he has taken in national affairs. But the work that he has done toward helping along the national park movement is one that at the present time appeals directly to all of you here; and I am going to call on Representative Kent for just a word or two. The interest that he took in the creation of the recent act meant a lot of personal attention on his part at a time when he had a great many other things that were piling in on him, but I never failed to find a cordial sympathy and attention whenever I had to go up on the Hill to talk over some of the many problems and difficulties which were confronting us in the work. Congressman Kent.

HON. WILLIAM KENT, REPRESENTATIVE FROM CALIFORNIA.

Mr. Chairman, ladies and gentlemen, some years ago in Chicago we had an association of Californians that had a nominal existence, but all of a sudden there was great activity generated. I wondered what caused it all and on attending a meeting I found it was Mather who was at the bottom of the trouble. And as in Chicago, so in other places, whenever we found this man we found excessive, nay, almost undue, activity. In this national park work, as I have seen it, I have come to recognize the fact that if, as the Christian Scientists say, there is such a thing as malicious animal magnetism, that there must also be opposed to it something that we may call beneficent animal magnetism; and Mather is it. I have seen him make a man without a spark of patriotism suddenly wake up and realize that he was full of the most altruistic motives. I have seen him do the impossible over and over again. I have seen him get appropriations from Congress that could not be gotten. He used to make a lot of noise in his work. I suppose that was because he was an old-fashioned steam

engine. He seems now to have reformed himself into a Diesel internal-combustion motor. He does not make as much noise, but he accomplishes more than ever.

Well, I am interested in this parks business because I am an outdoors crank and always have been. I am still more interested in it, because the parks to me—the national parks and the small parks and the city parks—all represent a growing Commonwealth; and those things that we own in common are the things that we most appreciate and the things that are the best for us; and the more we hold in common the closer knit will be the nation and the community, however large or small. For this reason, as a matter of philosophy, entirely outside of my natural instinct to enthuse over the out-of-doors and to get other people to do the same, I have struggled through many years of my life to urge and to foster the growth of communal property through the parks system, a phase of social growth that has not yet terrorized our individualists and conservatives. I hope the work will go on.

When I hear about these myriads of acres out West that are still in Government hands I am inclined to believe that if I had my way and absolute responsibility over the whole business I would withdraw every acre until I found out how much could be best handled in the Commonwealth and how much could best be allotted to individuals.

I know perfectly well that there has been a fearful havoc wrought in the individual handling of our forests. Never should an acre have gone in fee to any individual. The stumpage only should have been sold by the Government when and where needed. This is but an example and an aside.

Our Commonwealth should be much larger than it is and through the park system we have a possibility of, in a measure, enlarging it. My most direct interest concerns a small patch of redwood timber on the Pacific Ocean. The most beautiful forest in all the world is the redwood forest. This is a small inferior patch, and it is all that Uncle Sam owns out of the whole area of redwood timber, 295 acres of small trees, comparatively. In the northern part of California, in my district, there is a request for a river and harbor improvement which I consider a most worthy one, one of national importance, and I have been beset by some big timber owners up there among others to aid them in securing this development. The development should be made; but I took the opportunity to tell the lumbermen that if I were going to break my neck to get an appropriation they would have to come through with some redwood, and I have been promised a hundred acres of the best redwood in California, if the river and harbor bill goes through. Your derisive amusement may be due to your misunderstanding. This timber does not come to me, you understand.

It is time I quit. I did not come here to make any formal remarks. I came here to testify to my appreciation of what this Mather person, this reformed steam engine, as it were, is doing, and to express my intension in the brief months left of my public life, and I hope many more of private life, to work toward increasing the Commonwealth. I thank you.

THE PRESIDING OFFICER, STEPHEN T. MATHER.

Representative Kent's gift of the redwoods to which he has referred has meant a great deal to the country at large. It has been an example which I think will have a far-reaching effect. As I came East with him from California about a month ago, he was working out a plan to add a considerable acreage to the Muir woods, which he felt should be done in order to properly develop it.

There are many misunderstandings in connection with gifts like Congressman Kent's. I think we do not really catch a vision of what a gift of that kind really means, particularly the absolutely altruistic motives that are behind it. I feel sure that, by this very gift of his, the stimulus was developed which resulted in our securing the Sieur de Monts National Monument, some 5,000 acres on Mount Desert Island on the coast of Maine. A group there headed by George B. Dorr has been working for several years to get together a large acreage and present it to the Government. They met with very little encouragement at first. They were told to go back and make sure their titles were all right. But they were persistent; they wanted to give the land to the Government; and, even though here and there a great deal of red tape had to be cut, they kept at it until finally the gift was accepted.

So that now we have on the Pacific coast the Muir woods, and on the Atlantic coast the Sieur de Monts, both gifts to the Government; and I think we are going to have more.

We held an interesting hearing about two months ago in Chicago, in regard to the proposed sand dunes national park. I think it would be a difficult matter to persuade Congress to actually appropriate the money to secure the sand dunes, but it will not be difficult to get the acceptance of the land if it should once be given through the medium of private subscriptions. If that beautiful tract of land is to be obtained for recreational and public use, I think that is the way it will come. It may mean a million or a million and a half in actual gifts, but with the proper inspiration the men will be found, I am sure, to come forward and make the gift.

I was much impressed to hear of the work that was being done in the State of New York on just those lines in the Interstate Palisades Park, where the total amount spent on that development, which is

nearly 30,000 acres, represents a total expenditure of some $13,000,000. Practically half of that was obtained by private subscription.

So I think, Billy Kent—I believe I have a right to call you by that name—that the start you made with that gift of redwood forest is going to have farther reaching effects than any of us can dream of at the present time. The misunderstandings that will arise need not cause us anxiety. That little remark of yours amused me—your denial that those hundred acres of redwood forest were not going to you personally. The very thought that anyone could ever dream of it merely shows the peculiarly suspicious attitude of the American people. But we know that misunderstandings just like that do arise, and there are a great many people in this country who can not believe that a man has no ulterior motive when he does a fine piece of work like that. But that is being changed very rapidly, and you can be assured that you have the real hearts of the great American people with you in doing just the work you have been doing.

REPRESENTATIVE KENT.

Mr. Chairman, will you excuse the congressional delegation. Under the House rules we convene at 12, and I am sure that, under the circumstances, you will excuse us.

THE PRESIDING OFFICER, STEPHEN T. MATHER.

Certainly. We are very glad to have had you with us.

I want to state that there has been close and hearty cooperation between the Interior Department and the Agricultural Department in various matters involved in our administration of the national parks. We have had the please of cooperating closely in insect control and many other activities special to the Agricultural Department. We have learned to look at these things from the farmers' point of view, and I believe that the Department of Agriclture and the officials who preside over that department have come to look at the national parks from the point of view of our department. Cordial relations between the two departments are maintained with most satisfactory results.

We have the Assistant Secretary of Agriculture with us to-day, Mr. Carl Vrooman, a man whom I have the privilege of calling a personal friend. Secretary Vrooman, if you look at the national parks from the standpoint of the farmer, we are very glad to have a chance to hear you; or if you look upon them as a citizen of the great Republic, we will hear you also from that standpoint.

HON. CARL VROOMAN, ASSISTANT SECRETARY OF AGRICULTURE.

Mr. Chairman, ladies, and gentlemen, this is not the occasion nor am I the proper official to speak about policies with regard to the public parks, but in behalf of the Federal Department of Agriculture which occupies the position of a larger brother to the public parks

system, it is a pleasure to me to be here this morning and to say a few words of appreciation of the wonderful work that is being carried on with regard to our national parks. There is only one criticism that I could think of in this connection, and that is that Mr. Mather is making the public parks so alluring, he is making the playgrounds of the nation so attractive that I sometimes fear all the boys and girls from the farms will go trooping after him to the playgrounds of the nation instead of working on their farms, as we would like to see them. This is the only menace that the Department of Agriculture sees in the activities of our distinguished chairman.

The advent of the national parks in our Government recalls to my mind a little historic incident which happened so far back in history that no historian has been able to give us an accurate statement as to the date of its occurrence. I refer to the episode which took place in the Garden of Eden—man's first national, or, shall we say, international park or playground? You will remember that there was a time there when the people, the inhabitants of that park, were chased out of it, and told to go and toil in the fields and earn their livings in the sweat of their brows, as farmers. Since that occurred the human race has been a little deficient, has been a little lacking in park and playground facilities. But lately, under the inspiration of the men who have spoken here to-day, and under the wise guidance of our chairman, this great lack of the world, at least so far as our country is concerned, is being filled. We are having new Gardens of Eden established or rather preserved, set aside, developed, beautified. And pardon me if I say that right here is where the Department of Agriculture comes in, for the Department of Agriculture, certainly, as much as any other department of the Government, is going to make it possible for the toiling masses of this country to reap such a golden harvest from their toil that during all the years and centuries to come they will have the wherewithal to take them to these little oases, to these little Gardens of Eden, these public parks and playgrounds, for a breath of God's fresh air and a view of some of God's most wonderful creations. And it is a great thing for this country that we have in charge of these parks men like the Secretary of the Interior and our chairman, who combine the qualities of the executive and the poet, men whose handling of the official details of the management of these parks has been masterly, and yet who have breathed into their work the poetic fancy, the creative imagination, the love of beauty which inspires creative minds, whether they paint or write, whether they chisel marble or work out the destinies of a great institution like our national parks system.

It has been my privilege to travel abroad a great deal in former years—to travel through the Alps and to climb some of them, and to see the scenic beauties of the Old World, and I used to wonder,

then, as I would meet thousands and tens of thousands of my compatriots, who were over there on the same quest—the quest of beauty—why it was that we did not remain at home and see the wonders of our own land. It has since been my privilege to see some of these American scenic wonders not only in our national parks but elsewhere, and I can tell you that one of the reasons why more people have not seen them in the past is simply because they could not find in this country the same facilities as to transportation and hotel accommodation that they found abroad. We had some of the wonders of the world in this country, but until very recently we have not made those wonders as available as were the wonders of the Old World.

We talk a good deal in the Department of Agriculture about the fertility of the soil not always being available. Well, the beauties of nature in this country in the past have not always been available. But now this great movement for the popularization of our national parks is well under way and is in excellent hands. The scenic beauties of this country are being every day made more and more available, being exploited, in the sense of having their beauties brought to the attention of the entire country, and yet the element of profit is almost entirely eliminated. These parks are being placed at our disposal for our benefit. They are not being exploited for the benefit of a few concessioners or contractors.

Through the agency of our Forest Service, we also in the national forests have some wonders of nature under our care, but our primary effort is economic—to conserve the economic resources of these regions and to protect the watersheds in order to equalize flood and drought. It is true that hand in hand with this economic development we have opened up vast areas where men, women, and children can find playgrounds. I think this probably will always continue to be the case. I think that our vast natural forests, which come under the Department of Agriculture, probably for generations to come will also be collateral playgrounds for the people of this country, but we can never hope to develop them in the same way that the national park system is developed.

I expect our forest work, as a recreational feature, always to be subsidiary to the work of the national park system, but we are keenly interested in this phase of activity. We want to cooperate in it to the full extent of our ability. We are going to help the Department of the Interior to work out for this country a park and playground system that will be the marvel of the world.

THE PRESIDING OFFICER, STEPHEN T. MATHER.

We are sure, Mr. Secretary, that it is just such cooperation that will be the most appreciated, and that we can travel along in the

future as we have in the past, working together for the benefit of these great recreational areas.

I have found that we can get very practical assistance from the Department of Agriculture. This matter that I touched on of insect control is of great importance to us. The training which our park rangers have had from the men of the Bureau of Entomology in the Department of Agriculture has been most important. The same is true of food inspection and the work that is being done through the Biological Survey. Several times we have called in the representatives of the Biological Survey, Dr. Nelson, Dr. Palmer, and others, and have got a great deal of assistance from them. Their particular training in those specialties, with which we of course are not familiar, is invaluable. It is a great advantage to have some sympathetic assistance waiting for us at any time that we want to call for it.

I want to say, in concluding this conference session, that I think a little too much stress has been laid on the personal note by some of my good friends who have spoken before. The work that has been accomplished has not been any one man's work at all. If I have accomplished anything here it has been through those who have worked so faithfully and loyally with me. When I look around here and see the supervisors of the parks, and remember the way that they are doing their work, for a—well, for salaries which are so relatively small that they are hardly to be considered at all—I realize that it is the love of the work that is carrying them on. We have many men with us who are doing the whole work of the management of parks who have commanded, and can command, much larger sums outside the Government than they are receiving from us; their work is a contribution to America which can not be minimized. They have a love of the work, a love of the service, and that is what counts.

And the same way with the men who work with me here in Washington. They are the men who have borne the burden and the heat of the day. I see here Robert B. Marshall, who in his work in the Geological Survey has given us such splendid assistance during the past two years. I speak of two years, because that is the time that I have been in touch with him in this work in the Department of the Interior, although his work preceded mine and I hope will go on for many years to come. We would not have had the development that we have had in Yellowstone motorization if it had not been for the plans that he had laid when I first began the work here; and the able men that we have in charge of several of the national parks have been of his selection.

But I want to say, too, that loyalty of interest comes also from the concessioners in the parks just as much as from the men who are the employees of Uncle Sam. I have seen an interest shown in the

Yellowstone Park in the last few weeks that has been simply an inspiration to me; and I know it is going on and that as time passes it will increase. It is with them as with our splendid men who have been working here in the department. It is the idea of service to the American people that counts first.

I just want to call your attention before adjourning for the morning to the exhibits which will be held in the galleries of the National Museum. The First Exhibition of National Parks Paintings opens to-night at 8.15, and I want to give a cordial invitation to all of you to attend. We have there paintings which have been brought together from all points in the United States that picture scenes in the national parks; and, while the exhibit will be there for some time, for a month I believe, it will be well to see them to-night, when we shall also have the opportunity to meet Dr. Walcott, Director of the Smithsonian Institution, and Mrs. Walcott, and Secretary and Mrs. Lane. I want to thank personally Dr. Walcott for what he has done for us in giving us the use of this beautiful auditorium and the building itself for the uses of this conference.

I have an announcement which he wishes made in regard to a free and full use of this National Museum.

(The announcement conveyed the invitation of the Regents and the Secretary of the Smithsonian Institution to the Exhibition of National Parks Paintings and the other exhibits of the National Museum.)

So you will have the chance to see many great paintings here besides this interesting little group which we have brought together.

I now adjourn the conference until 2.15 this afternoon. We shall have some very interesting speakers this afternoon. Mr. Enos Mills is to speak on "The national parks for all the people." Mrs. John D. Sherman, Mr. Huston Thompson, Mr. McFarland, and a number of others also will address the convention.

(Whereupon the opening session of the National Parks Conference was adjourned.)

TUESDAY, JANUARY 2, AFTERNOON SESSION.

SUBJECT, "DEVELOPMENT OF THE NATIONAL PARKS."

The afternoon session was convened at 2.45 o'clock, with Stephen T. Mather, Assistant to the Secretary of the Interior, presiding.

THE PRESIDING OFFICER, MR. MATHER.

Our topic for discussion this afternoon is "The development of the national parks." I have something to say, or will have something to say a little later, on the profit-sharing plans that we are

endeavoring to work out in the parks. But first I think it will be better to call on the speakers who are scheduled to talk to us.

There has been no more consistent advocate of the national parks idea, the getting of the people out to their great playgrounds, than that apostle of parks, Mr. Enos Mills. Mr. Mills needs no introduction, but I must say a word concerning the help that he has been to our work in the Department of the Interior during the last two years and the personally sympathetic interest that he has taken in bringing the parks to the larger knowledge of the people.

One of the most interesting lines of his work, one perhaps not appreciated as a whole, is his stirring up the leading papers of the country to a realization and to a proper enthusiasm for the parks. He has gone about this in an absolutely unselfish way. He has seen the editors, and, after stirring their interest so that perhaps they would turn to him and say, "Well, let's have a series of articles from you," he would explain that he was not there to sell articles. He had no such ulterior purpose in view; it was simply to awaken the editorial mind to the editorial duty; with the result that perhaps by suggestion he was able to start these editors on the work of securing other writers to exploit the parks. One series in the Saturday Evening Post that possibly did as much as any other publication to bring to the readers of that paper the wonderful possibilities of the parks and to develop a keen interest in them was started in this way. I introduce Mr. Mills to you.

Mr. Enos Mills, of Estes Park, Colo.

THE NATIONAL PARKS FOR ALL THE PEOPLE.

Mr. Chairman, ladies and gentlemen, the Yellowstone was the first national park in the world. There is an inspiring story in connection with the making of this park. Possibly you have heard it. At any rate, in September, 1870, a number of prominent citizens from Helena, Mont., were camping in the Yellowstone wonderland. They had just spent about two weeks in looking over the scenes within. They had gone there for the purpose of doing so, simply because they believed that such a region as they had heard the Yellowstone to be did not exist.

As a matter of fact, it might be well to say right here that the Yellowstone wonderland contained so many peculiar wonders that it was actually discovered and forgotten five times. The original discoverer of the Yellowstone, John Coulter, one of the greatest names in the outdoor world, when he told of the story of the discovery of Yellowstone Park, he was laughed at and ridiculed so much that he vanished and died, as he felt, in disgrace. Yet the Yellowstone wonderland existed. These prominent Montana men had gone, and

they had found the Yellowstone, had found it greater than the wildest, strangest stories that had ever been told concerning it. But they were just ready to leave this wonderland. They had seen the marvelous canyon and the white waterfall that went plunging over into it. They had seen the petrified forests, the greatest geological wonder of the world. They had seen those strange, poetic geysers. They had seen all of those things. But this night they were camping near the geysers, and a number of the men were discussing as to how they might obtain control of the Yellowstone wonderland that they might exploit it and make a fortune out of it—a perfectly natural thing for the American business man to think of. But there was one man, a statesman, who sat by the camp fire for a time and said nothing. Finally—and I hope you will tell your children of this man—Cornelius Hodges rose to his feet.

"Boys," he said, "you are on the wrong track. The Government owns this wonderland, and it ought forever to own it. This region ought to become a national park for the benefit and welfare of all mankind."

His idea prevailed. He was so enthusiastic that a number of men in the party caught his enthusiasm. A campaign was waged, and as a result, on the 1st day of March, 1872, the first national park in the world came into existence. Heretofore the beautiful places, the scenic lands, had been set aside for the favored few, but this is one of the great things concerning a national park or for any park, it is made and it is developed for the general welfare.

In considering any welfare work, a park must ever be considered. But a park, especially a national park, is something utterly separate from welfare work, because the national park belongs to the people themselves. In other words, it is a park of the people, for the people, and by the people. It won't be the same as erecting great libraries and that sort of thing for the benefit of the people. These parks are something that people are caring for for themselves. Why do we want them? I believe you will agree with me that it has become a public function to look after the recreation facilities of the public. There is no other way in which they are likely to be looked after in a correct manner.

Everyone needs to play, and to play out of doors. And outdoor play never fails to help all that is good. If you want to further people's health or their inefficiency, or expand their ideals, give them a chance to meet their fellow people out under the open sky in some magnificent scene.

If park life will promote health and prevent sickness, isn't it far better to urge parks than it is to build so many hospitals? Isn't it better to prevent disease than to cure it?

It is a known fact, as is shown by pioneer people and the children of pioneers, that nature is a marvelous educational stimulus. If this be true, and it certainly is emphatically true, why not give the children of the country the opportunity to enjoy park life, and especially the national parks? In the national parks you will find some of the greatest wonders of the world, wonders not elsewhere to be found. Hence, these parks might be used educationally, and thus we might cut down the list of those things that are hurtful to humanity, and we might thereby reach the conclusion that after all one of the greatest things which the public needs is outdoor recreation. This being true, we certainly need parks, and then more parks.

As the Secretary of the Interior said to you this morning, "The Nation is calling for volunteers to the Army and to the Navy and to do other things." Yet he stated emphatically before you that volunteers to help further the work of creating and developing national parks is one of the greatest needs of this Nation or any nation. It is something, as I have just said, and I repeat, that reaches all people and helps the interests. It is not a question of what they are going to cost. We can not afford to do without parks.

This afternoon is devoted, as I understand, chiefly to the idea of developing parks. A number of Congressmen addressed the audience here this morning, and a majority really appreciate the great possibilities of parks. We ought not to think what they cost, but we must think that we could not afford to do without them. It would not do to try to make the public school pay; it would not do to try to make the public playgrounds pay; well, now, neither would it do to make the national parks or any other park pay. I think we would blunder if we worked along that line.

I would like to say that civilization appears to have reached its highest point at the present moment in the Interstate Park, near New York City. There nearly $13,000,000 have been spent on parks, and that park has been developed with the idea that people want it and need it, and that it is theirs—and there, ladies and gentlemen, there is not a single concession in the Palisades Interstate Park. No individual or company can make a profit out of exploiting the necessary pastimes of their fellowship in the Palisades Interstate Park.

And, Mr. Chairman, I believe you will realize that within a few years the American people will insist that the people must not only own their parks, but they must run them absolutely themselves. Just at present that might be impossible, but we are moving undoubtedly in the right direction.

Well now, I would like, and I believe everyone who is interested in parks would like, to see them developed for all the people; that is to say, the rich, the near rich, and the poor. In the Interstate Park

they make special efforts to find the way to have people transported to the park who can not afford to go there themselves. Now, that is doing real service. If you give people an opportunity to rest in a park, they will save doctor's bills, and they will avoid, perhaps, sickness and that sort of thing. Hence, this preventive measure which you find, you might say, in all parks if they are used is one of the best things that can happen to any people. Hence, let us develop the parks.

Last winter in a brief address Mr. Robert B. Marshall, in speaking of the development of parks, said he thought they should be developed for all the people; that is to say, a hotel in there where a poor man could spend a day without paying any more than it actually costs—a low-priced and a popular-priced hotel; and if anyone wanted to go to a national park to spend $100 a day, by all means let us be ready for him. If we do not give him a chance to spend his money in this country, he will spend it in another country; if we do not give him a chance to spend his money in a park, he will spend his money in the saloon. Let us remember that the park is a competitor against all places of evil, and the majority of people will go to good places if they are provided for them.

And Mr. Marshall also said that the buildings should be attractive, and fit harmoniously into the surroundings; or, as he expressed it, they should not scare the scenery!

Before going further I would like briefly to name some of the parks that I find in wandering over the country. Not one individual in a thousand can name more than four national parks. At present there are really at least 16. I wish there were 16 more. At the head of this list I would like to see the Grand Canyon.

But before naming these parks, just a little outdoor experience which I once had: Once in my rambles in the mountains on a rainy day, I took a refuge in a prospector's tent. The storm was breaking, and the prospector and I stood outside of the tent looking down into the canyon, watching the clouds separate and drift away. Lightning had occasionally struck around us. It was a day of thunder showers. And as we stood there, lightning struck a fir tree close to our tent, and with a terrific report smashed the tree to pieces. I was frightened, but to let my companion think that I was not alarmed, I said to him, "Jerry, why doesn't lightning ever strike twice in the same place?" And Jerry replied, "Gosh, it don't need to!"

Ladies and gentlemen, many nations have fallen, but never for having too many parks or too much scenery—not a single one. So let us have at least ample park room, so if nations must pass away, it will not be because they have failed to have outdoor life.

A well-known author, some years ago, wrote a story about an experience in London. He said he was the twenty-second one that had bathed in the same water in the family trough of a poor rural family, but that was not half as bad as breathing the same air every day. Therefore, we need outdoor breathing places. These parks afford outdoor breathing places.

As to parks, I briefly touched on the Yellowstone. Then there is the Glacier National Park, one of the largest ones. Perhaps, the greatest area of mountain lakes in the country, about 250 of them, are in this park, and above them rise precipitous high mountains. I will not dwell on its wonders.

Out near Seattle is Mount Rainier National Park, often called the noblest mountain in the West, should be mentioned in this connection. Mount Rainier is a sleeping volcano. It has a heart of fire, but on the outside of it 50 square miles of glacial ice on the top, and on the lower slope a splendid forest, and between these what happens? The most luxurious and grandest wild flower garden in the world.

In Oregon they have the Crater Lake National Park, the crater of an old volcano, about 6 miles in diameter, partly filled with water, which, when seen from the top, appears marvelously strangely blue.

California leads in the number of national parks and it ought to have others. Surely the greater Sequoia National Park ought to be created. In California you have the Lassen Volcanic National Park, the Gen. Grant, the Yosemite, and the Sequoia. And the Sequoia has the grandest and greatest forest in the world. In that forest are trees that are 2,000 years old, many of them more than 20 feet in diameter, trees old in story, many times the age of the oldest nation on earth. The smaller parks I shall not trouble to name. In Colorado there are a couple of parks well worth seeing. In the southwestern part of the State on which rises about 2,000 feet above the surrounding country are the ruins of a prehistoric Indian civilization. There were houses and temples upon the mesa and there were wonderful cliff houses of more than 200 rooms, built of polished stone. No one knows where those people came from, why they lived there, or what had become of them. But there they evidently lived through many centuries and surely they must have been civilized people. The ruins they left behind, at any rate, are suggestive and interesting and even inspiring. And in the Rocky Mountain National Park, in Colorado, you will find the rocks at their best, dotted here and there with lakes and draped with verdant forests.

There are other parks which I have already suggested which I shall not even name to-day; but one of the newer ones, off in the Hawaiian Islands, is another wonderland. So in our national parks

we have a great variety of wonderland. In some of them there are scenes of the highest type which you can not find elsewhere in the world.

I believe that the development of national parks is about the only advertising that they need. So I think the keynote of the present time should be to get our national parks ready to be seen. People are going to them just as rapidly as people find that they can get accommodations. At the Interstate Park in New York, in speaking of the machinery for handling the crowds, the gentleman who has charge of it the other day said: "The people are coming to that park more rapidly than we can get ready for them." So back of and accompanying all national-park legislation we should bear in mind that people will go to these places if we get them ready for the travelers.

Mr. Charles Sheldon, who has had years of experience in the outdoors, is urging forward the making of a national park in Alaska of Mount McKinley and part of the surrounding region. This is a most worthy project, for the simple reason that one of the great things that it will now accomplish will be the protection of the game. Alaska is being settled; a railroad is close to this park; and in two or three short years the greatest mountain sheep range in the world is likely to be depleted of its sheep unless this is made a park. So I would like to commit that proposition.

The Secretary this morning referred to the fact that volunteers are needed in the national park work. I am not going to commend the work of anyone who has labored in the last few years, but I do want to refer to the work of three men who have rendered national parks splendid service. Mr. Will G. Steel, who now has the dignified title of judge, spent seventeen years, ladies and gentlemen, in working to procure for you and me and future generations the Crater Lake National Park. Seventeen years; think of the man so devoted to a cause that he will give the best years of his life and all the money that he could earn and borrow to create a national park. But he did. And then there still lives in southern California Mr. Stuart, and it was chiefly through the efforts of this one man that we have to-day the Sequoia National Park. But in thinking over the names of those who have been helpful to national parks, and honoring as I do Mr. Cornelius Hedges, who really proposed the first national park, a greater work than that done by all was done by that magnificent man, John Muir.

I really feel that John Muir did more for the human race during the century that just passed in good that will be reaped in the century in which we are now living than any other individual. He wrote the poem of the outdoors; he pointed out its beauties; and the name of John Muir will be forever associated with our national

parks, with the great glaciers, with the big trees, with sunlight and shadow, with the canyons, with the wildflower gardens, and with every song that nature sings in the wild gardens of the world. To-day I am most thankful, among all the heroes in American history, or of the world, to John Muir. I hope and believe that after the names of all the other heroes of nature are forgotten that John Muir's name will live. He was a man who did not use or carry a cane.

But now, ladies and gentlemen, there are still other places which I feel should be parks, and for fear some people misunderstood me, let me say right here that I am not a Government official, I am not speaking for Government officials, I am not speaking for any organization. I simply represent my own ideas, and in saying what is about to follow, let me say that I simply believe that they represent the general ideas of the people of the United States who have thought concerning national parks, and are—yes, as one of the Congressmen stated this morning, I believe it would be a wise thing for the people of the United States at once to make all of the national parks—to have scenery fit to go into a national park. All this would include places that have already passed into private hands. These scenic places will never get any cheaper or more beautiful than they are to-day. Hence, if they are to be parks, let us urge their creation now. That would be a noble kind of preparedness.

The Government among its 700,000,000 acres of land has a number of scenic areas that might well be made national parks. You know, as well as I do, that much of the attractive quality of national parks or of any scenery is perishable—birds, flowers, etc. Hence, such regions should be at once created, not to-morrow, not next year, but why not do it now? The Government has to maintain its own scenic areas whether they are parks or not; so why not make the subject larger so it will appeal to all the people of the country? Show them what an unrivaled inheritance they have by at once designating the territory that is to become national parks.

There is an interesting Indian legend which substantially is this, that in the closing acts of creation the woman was called into existence and told to do her part. She at once covered the earth with the beautiful, with the flowers, the birds, and the trees. Now, that's the kind of a woman to have at the creation of a world, and that's the kind of women and men we need to-day, who will perpetuate some of its primal beauty. It is being done in national parks; and so the Indians, in their realistic poetic way, saw years ago what Victor Hugo so well stated; that is, that the beautiful is as useful as the useful. If you will stop for a moment and recall this fact that sometime ago the Declaration of Independence was written—now, did you ever stop to think it was written by people who were inti-

mately in contact with nature; that the Declaration of Independence, after all, was but the spell of the wilderness; and that hundreds upon hundreds of years ago we met on the mountains of Switzerland at the founding of Switzerland, and said amid magnificent scenes: "We will stand each for all and all for each," and then still further some time ago Australia was colonized by convicts who were relegated there by people who were worse than convicts. But Mother Nature took charge of them all; they were among primal scenes, and in a short time those people have become real human beings, and to-day the Australian men and women are second to none in the world. Nature did her part there.

South America is still mostly a primeval wilderness. I look at the great women she is beginning to produce, and she is only just beginning. It all but emphasizes what I said in the beginning of the address that we need parks for their mental stimulus, for their inspiration. We need them for education; we need them that we may have greater men and women.

Scenery is the most profitable resource that we have. Switzerland has grown rich by exploiting its scenery. The year before the breaking out of the war in Europe 500,000 Americans were abroad. They spent on an average of $1,000 a piece, which means they took out of the country $50,000,000. They spent most of this for scenery, and they spent it chiefly because the American scenery was not ready for the traveler. So, if we want Americans to see America, we simply have to think of the development of our parks and get ready for the travelers.

So, for practical business reasons, we may say develop the parks because they will pay, and we can not get along without them. Parks pay dividends in humanity. Within the magic scenes of national and other parks lies the hope of the world.

The Presiding Officer, Mr. Mather.

There was much of interest in the address of Mr. Mills. That thought of his that our parks should be run by the people is particularly interesting. It is something that I have often thought of since beginning the work down here, and I was impressed, as he was, with the development in that wonderful New York State park. I want to tell you now that Mr. Welsh, the chief engineer of that park, who has been at the forefront in all its development, will be down here on Thursday and will be our first speaker that morning; he will tell you how the plans have worked out in that particular park.

I hope the time will come when the Government will conduct all the facilities for the people in the national parks; but that time is probably some years ahead. Congress has not yet been willing to

give us appropriations for more than the development of the parks themselves; so that, in order to get the parks, to bring the parks into their own by developing their facilities fully, we have had to take the tools at hand or develop tools by stimulating the concessioners already in the parks; we have also had to persuade other concessioners to go in where parks have not yet had a development of that kind.

I think the most interesting development along that line is working out to-day in the Yosemite National Park. A group of public-spirited men of broad vision are working out a most comprehensive set of plans. Already a beautiful hotel has been completed at Glacier Point, the view from which spot is one of the grandest in the world. Several well-appointed camps have been scattered through the back country which has hitherto been inaccessible. The foundation is in for a new hotel on the floor of the valley which possibly will not be finished for another year, but which, when completed, will give comfortable accommodations for all persons. Then, too, most attractive features have been worked out in the valley by this new company, and, as I have said, the people who are behind it in California are taking an interest in it just as largely from a public spirited standpoint, if not more so, than from a business standpoint.

This, we hope, will prove to be the best instance of what can be done on a profit-sharing basis between the Government and the concessioner. The compensation clause of the contract has been worked out on a basis of setting aside from receipts an interest on the investment, and an allowance for depreciation; after that a division of net profits for the first five years on a basis of 25 per cent to the Government and 75 per cent to the concessioner. Thereafter for the balance of the term 50 per cent to the Government and 50 per cent to the concessioner. That means that the profits that accrue to the Government will be spent in further development of the parks.

The plan will give us flexibility; it will give us an opportunity to utilize revenues that develop in the park for the benefit of that park; and possibly, later, if Congress so decrees, for expenditures in other parks, if the receipts are more than are needed for that particular park.

Of course, this profit-sharing plan is an experiment to a certain extent, and the Government has the privilege of falling back on a percentage of the gross receipts in case the profit-sharing plan does not work out effectively; but, with the spirit of cooperation that is being shown by the concessioners in the Yosemite, I have no doubt that it will work out satisfactorily.

Our next speaker will be one concerning whom the words of Mr. Mills might be particularly appropriate, because she is chairman of the conservation department of the General Federation of Women's Clubs, a woman who has taken a very deep interest in the development

of the national parks and who is bringing a knowledge of them home to fully 2,500,000 women of this country. Her consistent splendid work, carried on through her department of the General Federation of Women's Clubs over a period of years, has been very telling indeed. She has never neglected an opportunity to advance the national park movement, and, being in touch with thousands of women's clubs throughout the country, Mrs. Sherman has been afforded an opportunity to know at first hand the real sentiment of the members of the women's organizations toward the permanent development of the national parks system in the United States. Mrs. Sherman will bring to us this afternoon an interesting portrayal of "Women's part in national parks development." I take pleasure in presenting Mrs. John Dickinson Sherman.

Mrs. John Dickinson Sherman, Conservation Chairman, General Federation of Women's Clubs.

WOMEN'S PART IN NATIONAL PARKS DEVELOPMENT.

Mr. Chairman and national park friends, the club women in every State in the Union are working for the development of national parks, and the General Federation, with all the united strength of its 2,500,000 women, is working for better conditions for the men, women, and children all over the United States; and in the national parks we see a great opportunity. Through the conservation department of the General Federation these 2,500,000 women urge that more places of natural scenic beauty be set aside for national park purposes, and we also urge that Congress make an adequate national parks appropriation so that the national park service may do its work and get the national parks, the nation's playgrounds, ready for the full use and enjoyment of the people.

Natural scenery is one of the richest of nature's gifts, and it becomes one of the greatest assets of a nation when we use it in giving rest and hope to the toil-worn men and women of this generation and in the developing of our boys and girls into the good citizens of to-morrow.

In my efforts to spread the gospel of natural scenery for park purposes, I endeavored to arouse each of my 49 State chairmen to an active interest in the scenery of her own State. One of these chairmen had plenty of interest, but she showed a painful lack of appreciation when she said to me: "It is not necessary to do anything for the natural scenery in our State, for the scenery here is altogether too magnificent for the hand of man to change." I never did find out what that chairman thought I wanted to do with the magnificent mountain peaks of one of the splendid Western States. But it is necessary to do something if we are going to save and guard the nat-

ural scenic beauty of the land for ourselves, for our children, and for those who are to come after us.

When I was 8 years old I lived on a farm, and early that summer I remember there was to be a festive occasion of some sort in the village church, where I went to Sunday school, and the children of the community were to have a part in the entertainment. I remember that I felt tremendously important because I had the opportunity to march around the Sunday-school room carrying a little American flag. But the great event of the day to the children was the ice cream that had been promised them. Now, I wish that every one of you, for the moment, would think back to the time when you were 8 years old. You did not have ice cream every day, not if you lived in the country, and don't you remember how eagerly you looked forward to the first dish of the season? Why, you even planned how you would eat it. And how you did hope it would stay hard until the very last mouthful. That is exactly what we children were doing as we sat in the Sunday-school room waiting for the second table. And do you remember, when you were 8, how you felt about waiting for the second table? We were really a very patient little group, but I remember to this day my longing for just one taste of that ice cream as it was carried past me to the grown-up folks. But finally it came our turn. We children all marched up to the table, eager and expectant. And then we were told an awful thing. The ice cream had all been eaten up!

Now, when I see people pulling up wild flowers by the roots, carrying them off by the armful, and killing wild birds for sport and destroying the beauties that nature has given us, just for their own selfish or thoughtless enjoyment, I remember that ice cream, and I am thankful for the national parks.

The General Federation of Women's Clubs is supporting at the present time nine national park projects. I won't take your time to tell about all of these, but in Idaho the club women are particularly energetic. Some years ago they decided that a part of the section of the Sawtooth Mountains ought to be a national park. The men of Idaho did not think much about it one way or the other; so the club women took the initiative and persuaded the State legislature to recommend to Congress that there be a Sawtooth National Park. The State Federation of California has indorsed the project to make the Sequoia National Park sufficiently large to include more of the big trees, and the highest peak in America—Mount Whitney. The club women of Arizona are very eager and very efficient and very earnest, and they have one of the biggest national park projects of them all—the Grand Canyon—and if Congressman Hayden is in the room I would like to have him know, if he does not know it already, that the club women of Arizona have such confidence in him

that they firmly believe there that he is going to get the Grand Canyon National Park at this session of Congress.

In a number of States where the scenery is not on a national park scale, the club women are working for State parks. In Florida the club women actually own a State park. They own the park and have the deed to a thousand acres of royal palms about 40 miles south of Miami. This is a delightful and interesting tract of land, of scientific interest as well as beautiful, and the club women have recently dedicated it for park purposes to the people of Florida, but it is owned by the State Federation of Women's Clubs.

I see my friend, Mrs. Matthew T. Scott, in the audience. Now, of course, you all know Mrs. Matthew T. Scott, but perhaps you do not know that it was through her untiring efforts that Fort Massey was made a State park in Illinois.

The club women in every State in the Union are getting acquainted with the natural scenic beauties of their own local communities. They are arranging national park programs for their club meetings because the women are fully awake to the human need for more places for play and recreation. With over a hundred million people in the United States at the present time, and the number steadily increasing, the stress and strain of life grows more exacting every year. We are crowded into close living quarters more than ever before, which makes the needs for outdoor recreation all the greater. In the city of New York children are arrested every day for playing in the streets.

But not only do the people in crowded city districts need parks, but people everywhere need the health and the strength and the inspiration that outdoor nature holds in store for them. Nature is the very best friend a man ever had. Frederick Harrison so well tells us that "We live for the most part in a very iron mask of form. Our daily tasks are so joyless, so compulsory, that we must be free and simple sometimes or we break." Our present world is a world of remarkable civilization, and of very superior virtues, but it is not very natural and not very happy. We need yet some snatches of youth, to be for a season simply healthy, simply happy. We need to draw sometimes great drafts of simplicity and beauty. We need sometimes that poetry should not be drummed into our ears, but flashed into our senses. And man, with all his knowledge and all his pride, needs sometimes to know nothing and to feel nothing but that he is a marvelous atom in a marvelous world.

One of the most successful men of affairs in this country once said that he could do 12 months' work in 10 months, but he could not do that amount of work if he worked steadily for 10 months. This is an excellent statement of the value of an annual vacation. Vacations are now, of course, considered essential in the business world

to sustain efficiency, but the full benefit to a vacation depends upon the manner of occupation during that time. It is estimated that the people of the United States now have over three billions leisure hours every week. Now, these are the hours when habits are formed and when character is in the making. So you see how tremendously important is our leisure time. The problem of leisure time is likely to become as important as the problem of earning a living.

I believe that when people are given the opportunity they will eagerly plan to spend their leisure time in outdoor recreation, where nature is at its best, and when the entire vacation custom of the people is changed from a stultifying period of mere temporary diversion to a time of the great outdoors of nature, where we may gain unnumbered and lasting benefits, then we shall have greater men and greater women.

In the fuller development of national parks we may expect that in the future vacations will be planned with a definite educational purpose in view; that the school year inside of school buildings will be made shorter, and that more time will be spent in an educational way in vacations in the national parks, and that a trip to a national park will be offered as a reward for certain degrees in excellence in the schools instead of the usual school prizes, and that teaching advantages will be provided in the national parks for children and young people, so that they may gain first-hand knowledge under competent guidance of the trees, birds, and wild-animal life and flowers, and of the physiography and geology of the lands. Here in the national parks the children and young people may develop accurate observation, definite thinking and reasoning, mental processes, and here they can also gain that thing which is so essential to human happiness, a wholesome imagination.

The march of settlement was from the East to the West, but it was the West that gave to the people of the United States one of the greatest of all civilizing influences—the national parks; and there is no more important part in our national preparedness than these national parks, where the vision of the people will grow calm and sane and clear.

A country is measured not by population alone, not by wealth, not by power, but by the mental attitude of the people. In such places as national parks you are able to preserve your identity, and there comes to you a sense of kinship and love for all created things.

When we better understand Nature's call, we shall hear her say: "Come and visit me and bring your children; I have beautiful things to show you, and stories to tell that you will never forget. I can show you splendid, silent forests that breathe the message of the centuries, and white, leaping waterfalls, many times higher than Niagara, and a river rushing on between canyon walls a mile high;

and I can show you glaciers and moraines that tell the story of the ages. Make parks of the most beautiful of my wild scenic places, so you will always know where to find me at my best. Come and get acquainted with me, and I will give you health and strength and inspiration. Let me train your children to see and hear things as they are. I will make your boys and girls efficient, I will give them high ideals, and fit them to be the fathers and the mothers of future noble men and women."

THE PRESIDING OFFICER, MR. MATHER.

Mrs. Sherman, we can be sure that the real interest in national parks would be quickened if we had a number of just such women as you to go about the country and really inspire people as they should be inspired.

I want to make just a little comment on Mrs. Sherman's remarks in regard to the perishable character of some of our scenery. That story she told about the 8-year-old child and its ice cream, and the way the wild flowers and birds can disappear if we do not take care of them, is very true indeed.

Mr. Steel, to whom Mr. Mills referred, who was so long the supervisor of Crater Lake Park, and, as Mr. Harriman put it, "the inventor of Crater Lake," tells a story of the way the flowers disappeared from the rim of that beautiful body of water. When I was there this summer I commented upon the lack of wild flowers around the lake's edge, remarking how poorly the rim compared in that respect with the wonderfully flowered country at the foot of Mount Rainier. He told me the reason. He said that some 25 or 30 years ago, before the park was created, sheep were allowed to feed there, and, as the soil was almost entirely light volcanic ash, they destroyed all the vegetation.

Previous to that time, he said, the country was carpeted beautifully with wild flowers; it was a perfect picture, just as fine as any one of those Alpine valleys of Rainier. In the 25 years that have passed since, those flowers have never come back, and unless some artificial method is used it may be another 50 years or so before they will again be in evidence. I think just a little instance like this is a very good example of the point that Mrs. Sherman makes about the preservation of our scenic spots while we have the opportunity to save them.

It has been a rather happy coincidence that the last two speakers have been from a State that holds two of our national parks, one of them enshrining the wonderful scenery of the Rocky Mountains. Both Mrs. Sherman and Mr. Mills have their homes within the Rocky Mountain National Park. Our next speaker, who is one of the Assistant Attorneys General here in Washington, makes his home in

Denver when he is not busy with his official duties in Washington or in the country at large. I have pleasure in introducing to you the Hon. Huston Thompson.

Hon. Huston Thompson, Assistant Attorney General.

THE PUBLIC AND THE NATIONAL PARKS.

Mr. Chairman, ladies and gentlemen, I took a trip with Secretary Mather last summer to Yellowstone Park, in company with several others, and had such a marvelous time that I have been thinking about another trip ever since. A few days ago, when he called me up over the telephone and asked if I would not make a few remarks at this gathering, I demurred, not feeling that I was up to the propositions; and then he said on the 'phone in a most significant way, "Well, you know we are going to take another trip next summer." And I said, "Oh, very well; I will make the remarks." So you know the price he is paying and the fee I am getting, and the Lord only knows how hard you are going to suffer.

I think this is a most fascinating question which we have to discuss. That part of the symposium assigned to me, "The public and our national parks," is unusually appealing. The parks suggest a panorama of peaks, canyons, fleckless skies, illimitable spaces, and lofty altitudes so inspirational that the call to say something becomes irresistible. Some of our good friends in their fullness of local pride may ask, But why go to the national parks for your inspiration? That question might be put with some weight to a Burroughs or a Whitman, but, sad to relate, few of us have their vision. In fact, most of us have but three active senses, and while in modern vernacular we are a six-cylindered machine, we are running on three. The old Persian poet described not only the people of his time but our own when he said: "We are no other than a moving row of magic shadow shapes that come and go." We travel in a moving show whose destination is the great cities of our land. They draw us into their maws, just as the mud geyser of the Yellowstone draws any particle near its lips down into its dragon's mouth with a roar, vomits it up and sucks it back again. So we are caught in the throats of the great cities as they inhale and exhale our man-made civilization. Their noises dull our ears to the still small voice of nature, while man's handiwork blinds our eyes till it is only the shock of great altitudes or the vistas of nature in their most colossal and primeval state that can attune our ears and brush the scales from our eyes.

Some may say, Why not go to the shores of the sea for your inspiration? Our answer is that the seas do not inspire. Since the

birth of man and down to the present hour the poets have sung about the sea in the minor key until its unanswered question has become a tragedy or a travesty, according as one may feel. The ancients thought the sea contained a monster called Leviathan, who, after a great contest with the Supreme Being, was plunged beneath the waves and kept there only through the power of God. The Hebrew poet describes the sea as "sprung from the womb of chaos." From his day to that of our own Longfellow the sea has been synonymous with sadness. Longfellow, who knew its moods by personal contact and study, in this "Evangeline," speaks of it as the "mournful and mystic Atlantic," and as giving forth disconsolate replies. There must be a psychological reason for such an effect on men's spirits. This probably lies in the fact that when man looks out to sea he continues to look out and out and finally down, while inspirations from time immemorial have come from looking upward. It is this action of looking upward that seems to fill the human soul with joy so that we shout or sing, and it is for this reason that the mountains or great altitudes inspire rather than depress. The greatest declaration of the human or divine soul was delivered from the top of a mountain. Why did not Jesus utter his Sermon on the Mount down by the Sea of Galilee? The answer is that even He saw more clearly on the mountain top. Goethe led Faust through the valleys of life, where he wandered amidst the din and confusion of humanity, and it was not until he stood on the hillside that he heard the voices in song of those for whom it had been made possible to live in pleasant toil.

Zebulon Pike in his diary says that when he and his small band of followers fighting the Indians and struggling along the banks of the Arkansas on the 15th day of November, 1806, first saw Pikes Peak and Cheyenne Mountains they shouted for joy. It is these very mountains that the people are now asking to be included in a national park. When Maj. Long and his party of scientists traversed the South Platte and first beheld Longs Peak and what is now Rocky Mountain National Park, despite their weariness they shouted for joy. Isaiah described the mountains and hills as singing. Job said they bring forth food. David spoke of the mountains as the "pillars of Heaven" and said: "I will lift up mine eyes unto the hills from whence cometh my help." Finally, the "sweet singer of Israel" declared that the mountains bring peace to the people.

There is a deep significance in this. Has it ever occurred to you how infrequently the races of the mountains have been the aggressors in war and have rarely sought the territory of others; yet how when attacked they fought with invincible heroism? We have but to suggest that wonderful little Republic of Switzerland as an evidence

of this fact. If the mountains have a peaceful effect on the people then at this time in particular it is worth while studying them and finding the reason. I think the answer is, to some extent, embraced in an article in a late number of the Atlantic Monthly entitled, "The still small voice," by John Burroughs. He says in substance that the noise of the falling tree is the thing that attracts our attention, but that the real significant thing is the silent force in nature that has been slowly bringing about the condition that caused the tree to fall; that in our mountains it is not the noises of the moment, such as the thunder of the storm or the roar of the tornado, but the silent forces eroding the peaks or the imperceptible action of the great glaciers that are the really great forces. The writer fears that in our present great world catastrophe and in our political life we may hear and see only the external patent things, the momentary clamor of the passing event or the voice of the political demagogue; whereas we must catch the sound of the still small voice if we would hold our spiritual and political equilibrium.

Just as Burroughs is impelled to borrow his similes on this subject from the mountains, so are those that live in them, in a more unconscious degree, impressed with the clearer judgment of man's relations in life. And if even from the days of the ancient Israelite to "live and let live" in peace be the story they tell to those dwelling or sojourning among them and we can absorb this lesson, then will we store up our national strength, and it will be used only against the invader and will not be dissipated in aggression. Looking at our parks and their mountains in this light we shall see that they mean something more to our nation than mere playgrounds. We shall have a desire to visit them and become saturated with their atmosphere. Then shall they be to us what they ought to be—stabilizers of our national life—and with our national life leavened by this desire for peace rather than for aggression not only in respect to territory, but in our commercial life, we shall as a nation have no fear of what our position may be in the international world.

But what of the effect of the mountains and parks on the individual? They will open the eyes of youth to the truth. Turgeniev in one of his books describes a youth looking out on a great vista, his soul moved with an intense longing. The writer adds that the youth will find his answer when he looks at this scene through the eyes of his mate. This is the wholesome lesson that our mountains will teach our youth. What a restorative they will be to the man of 50 who has been pyramiding success upon success and is suddenly bowled over by his first great failure. This is, undoubtedly, the most momentous period in man's life. We are told that 95 per cent of our kind, instead of rising above the failure of this time lose their grip and

go down. The man in this frame of mind will be lifted above his futile aims for fame or gain and there will come a new vision of the verities of life that will bring peace to his soul. Finally, what a glorious call to old age. To those who fear the crossing of the Great Divide there is here an object lesson in the beauties of the other side, so enchanting as to drive away all its fears.

It is along this line of thought that I have tried to fashion the following lines to our national parks:

I sigh for your peaks, your canyons and trees,
Where the rain, the sun, the mist, and the breeze
Slowly fashion God's dreams with infinite grace,
Forever unconscious of man's fevered pace.

Your vistas are not like those by the sea,
Where questions unanswered roll back from the lee;
No sphinx's riddle you leave in the soul,
But joyously point each heart to its goal.

You unveil to youth in his questioning state
The answer which lies in the soul of his mate;
While trembling fifty, once swollen with fame,
Beholding your verities recovers his aim.

You call old age from life's vale to the peak,
Where, standing above the mists of the weak
And immersed in the beauty of yonder side,
He welcomes the crossing of life's great divide.

O lift up your heads, ye everlasting hills,
And sing of the hope that restores broken wills;
Let our people pause and in receptive moods
Catch this spirit of God that over you broods.

THE PRESIDING OFFICER, MR. MATHER.

You can see it is a privilege to have a man like Mr. Thompson along with you on a trip through that western country; if you can not see with your own eyes, he will help to open them for you. That was my experience with him, and I am very glad to invite him to go on another trip of the same kind with me—but quite selfishly, because I know it will do me more good than it will do him.

I am sorry that we have not with us to-day the next speaker on the program, Mr. J. Horace McFarland, the president of the American Civic Association, who has been at all times a devoted friend of the parks, and who, through his organization, has done so much for the parks movement; a bereavement in his family compelled him to leave for the West, or he certainly would have been here.

We are going to have as the last speaker to-day Prof. Lowell Jackson Thomas, of Princeton University, who, besides giving us some idea about the development of Mount Rainier, will show us some very interesting pictures and slides which he has brought along for the purpose. But before he speaks I want to say a word to you again, as I did this morning, about the exhibit which will be made, beginning this evening, of the noble painting of scenes in the national parks. The entire upper floor will be open to-night. The Secretary and Regents of the Smithsonian Institution have extended an invitation to the members of our conference to visit the art gallery and exhibits this evening in connection with the exhibition of our national parks paintings. Dr. and Mrs. Walcott, Secretary and Mrs. Lane, and others will be present to receive you, and you will be all welcome. I hope as many of you will come this evening as possible.

To-morrow is to be educational day, and it promises to be very interesting. There are some splendid speakers, and I hope as many of you will attend to-morrow as possible.

The public-spirited men of the Northwest who are interested in Mount Rainier National Park have not been able to attend the conference. They have just completed some very fine new work at Mount Rainier and are justly proud of their accomplishment. I might add a word concerning that Rainier development.

A little over a year ago we completed a contract with citizens of Tacoma and Seattle, who formed a company for the purpose of developing in the public interest the traveling and living facilities of Mount Rainier National Park. Among other things, they have just completed a beautiful hotel in Paradise Valley which will be available for travelers early next summer.

They had to complete this under great handicaps. Until the 1st of August there was nearly 20 feet of snow in this particular part of the park, an unheard-of condition; usually the park is open easily by the 1st of July. But, in spite of these handicaps, with the spirit of their communities behind them, they went ahead with the work and now have this beautiful place ready for you for next year. There they will be able to extend you their hospitality; they are working along broad lines with the idea of making it really comfortable, of giving you excellent accommodations while you are there, and of making the scenery for that reason just that much more enjoyable.

Now, Prof. Lowell Jackson Thomas, of Princeton University, has been asked by the Tacoma and Seattle gentlemen who are behind the development there to tell us something about their enterprise. He is going to speak to us this afternoon. His address and pictures will close the afternoon program.

Prof. Lowell J. Thomas, of Princeton University.

A TYPICAL DEVELOPMENT AT MOUNT RAINIER.

Mr. Chairman, ladies, and gentlemen, it is indeed a terrific effort for me to try to hold the attention of this audience directly after the famous and inspiring speakers who have addressed you to-day. In listening to the program to-day it has seemed to me that this gathering has been improperly named; instead of the "National Parks Conference," it ought to be called the "National Conference for the Further Preservation of the Widespread Usage of the Superlative Adjectives." I notice that several days hence Mr. Enos Mills is going to speak on the subject, "Perhaps our greatest national park." This afternoon I am going to talk on the topic "Our greatest national park."

On one occasion when I was in Salt Lake City, Utah, Senator Reed Smoot's home town, I was in one of these sight-seeing wagons with a crowd of other innocent tourists, and the loud-voiced, silver-tongued orator in the front of the wagon shouted back to us, "Ladies and gentlemen, on your right we have the third greatest State capitol in the country. The first is the capitol of New York, the second," addressing the 20 or more of us who were there from 10 different States, "is your own State capitol; the third is this one!"

Owing to the fact that our national parks are so grand and so much more sublime than any of the scenic wonders in Europe, it is an absolute impossibility for any of us really to say which one of these is the finest, which is the greatest of all, but if there is any one man who is entitled to pick the one that is the greatest, it certainly is Mr. Enos Mills.

In listening to the speakers this morning, there was one idea I caught that seemed to be particularly important. Secretary Lane stated that, now that we have these great national parks and they are so ably taken care of by the supervisors, the most important work, of course, is to tell the American people about these great parks and to show them the reason why they should be proud of them and why they should all see every one. Out in the lobby, between the door of this auditorium and the outside door, there is a small model of Old Faithful Geyser in the Yellowstone Park; this morning I was standing looking at it and there were two gentlemen near me. This was the conversation that I overheard. The first man said:

"I reckon that 'ere's a model of them geysers out in Yosemite Park in Arizona, ain't it?"

The second man replied, "Naw; them geysers is in Yellowstone Park, Minnesota!"

Of all the parks in America, Rainier is unique because of the fact that this park really is just one great mountain. A few years ago

it was considered an impossibility to mount to the summit of Mount Rainier.

(Whereupon Prof. Thomas illustrated his remarks by pictures of Mount Rainier, and the report was suspended.)

After showing and explaining many beautiful lantern slides of Mount Rainier, Prof. Thomas spoke of

ALASKA, UNCLE SAM'S FRONTIER WILDERNESS.

Let your imagination carry you 4,000 miles west of New York and 2,000 miles north, to the top of Mount McKinley, where from your observation station 4 miles above the sea you can look out over that great, practically unknown empire in the shadow of the pole—Alaska. This is the land of gold and adventure; the home of the Eskimo, the polar bear, the totem pole, and the walrus; the roof of the world where the pale, spectral rays of the ghost-gleam auroral lights flicker across the sky in their wild, weird, anemic way.

Alaska is where human beings first set foot on the soil of the Western Hemisphere. It was the first home this side of Asia, so ethnologists tell us, of the prehistoric ancestors of the American Indian. This land was of the first to be inhabited by man and is one of the last to be subdued by man.

Wild and wide are my borders, stern as death is my sway,
From my ruthless throne I have ruled alone, for a million years and a day.

Alaska is the home of the grizzly, the moose, the big horn, and the caribou; the land of the malamute and huskie dog; of colossal ice-crowned mountains; of the mightiest glaciers on the planet; where vast ice fields hundreds of feet high and untold miles in length grind and carve their relentless way eternally to the sea, wearing down mountains and mowing through gigantic primeval forests as a cyclone blows down a field of grain; but moving on and on with an irresistible, titanic force, finally to disappear into the North Pacific with a booming roar louder than the cannonading of 72-centimeter guns.

This is the land of Jack London, Rex Beach, and Robert Service; of ever-shifting El Doradoes; the scene of countless wild stampedes to Nome and along the nameless rivers that wind their dreary way through the frozen zone to the Arctic Sea. It is a land of strong men, where weaklings perish on the trail and end their whimperings and misery by crooking a toe in a trigger. Alaska is a land that measures a man, not by the usual artificial standards of society, but by those qualities that distinguish real men—honesty, generosity, patience, and indomitable courage.

Since Alaska was discovered by the Russians, 35 years before the American Revolution, it has been kept "in cold storage." Russia

greedily looted it of its furs and then, thinking it was time to unload, sold it to Uncle Sam for $7,200,000, half what it cost to build the Brooklyn Bridge or the Woolworth Building.

And during the 50 years the United States has owned the Territory, Alaska has been criminally neglected. Americans have regarded it as a land of mystery and it has taken nearly all of this half century to open the eyes of one-tenth of 1 per cent of the American people to the marvelous wealth of Alaska. The other 99.9 per cent still regard it as next door to the North Pole and a second Greenland—only more so. Governmental red tape had been responsible for the slow development of the Territory. But, in spite of every conceivable handicap, over $600,000,000 in wealth has poured out of Alaska since it came into our possession, enough to build 40 Woolworth Buildings. It could be sold to-day for many billions more in payment for its visible assets. The resources of the region remain practically untouched.

"Until now we have only protected these riches against monopoly and waste, and the most cumbersome departmental machinery has suffered," says Secretary of the Interior Lane. "We have done little more in Alaska than keep a few policemen stationed at closed doors to prevent breaking and entering."

I could give scores of examples illustrative of how governmental red tape has retarded Alaska's growth, but will cite one typical case. A man tried to lease an island in the Gulf of Alaska for a fox farm. For a number of months he corresponded with three departments in Washington in an attempt to get the lease. All three, after keeping up a continuous correspondence, decided that none of them had jurisdiction.

But this red-tape is being eliminated gradually and attention is being focused on Alaska, as a result of the attempt from Washington to unlock the Territory and take it out of cold storage. Next year, the fiftieth anniversary of its purchase, the inhabitants of our northern empire will celebrate the end of Alaska's dark age and the dawn of a new era.

Alaska has had a dramatic and spectacular history. It was discovered by accident in 1741. Russian Cossacks, who had crossed Siberia to the peninsula of Kamchatka several years before, sailed out into the North Pacific in search of the islands that the natives of the Siberian coast said abounded with fur-bearing animals. Vitus Bering, a bold Danish navigator in the service of Peter the Great, and his lieutenant, Chirikof Alexander, were in command of the expedition. Shortly after they set sail a storm came up which separated their two vessels and carried them to different points on the Alaskan coast. Lieut. Chirikof sighted land July 15, 1741, and Bering sighted the St. Elias Range on the southern coast three days

later. The former put out a long boat with 10 men who went ashore but never returned. A second boat was sent after them and its occupants also disappeared mysteriously. They are supposed to have been clubbed to death by the natives. Chirikof's vessel returned to Asia with the news of the discovery, but Bering was shipwrecked and died of scurvy. The members of his crew who survived the winter got back the following year to the Bay of Avacha where the

Little of a favorable nature can be said for the Russians in connection with an account of the years they occupied Alaska. At first the region was known as Russian-America and was controlled by the Russian-American Fur Co. Central trading posts were established at Sitka, Kodiak, Wrangell, and St. Michael. This company remained in control until 1850, when it collapsed as a result of having looted the Territory until the fur industry began to decline.

Practically the only evidence remaining now of the days when Alaska was a part of the Czar's domain are the Russian churches at Sitka, Unalaska, Kodiak, St. Michael, the Russian Mission on the Lower Yukon, and the half Russian half Aleut people who inhabit the Aleutian Islands.

Fifty years ago this coming 18th day of March Secretary of State Seward signed a treaty whereby Uncle Sam became the owner of Alaska. Since that time it has produced nearly 100 times what it cost and could be sold to-day for billions. But, in spite of the fact, its population is but a trifle larger than it was when we bought the Territory, and its resources remain practically untouched; this as a result of the governmental red tape which has had almost the same effect as quarantining the region and ordering all men to stay away would have had.

During a period of 17 years only one act was passed by our Federal legislative body dealing with Alaska, and that one was of no importance. In 1884 the region was provided with a semi-Territorial form of government. Sitka was made the capital and one court was established to preside over the whole area of 600,000 square miles. To-day there are four judicial districts, Alaska has a full Territorial government, and Alaskans say they see the day in the not far distant future when it will be admitted as either one or more States.

Preliminary to a discussion of Alaska's industries, resources, and future possibilities, let me give you an idea of the size of the Territory, its climate, and present population.

If you were to superimpose Alaska over the United States, Point Barrow, the northernmost tip of the Territory, would be in Canada; the extreme end of the southeastern Alaskan panhandle would be in Florida and the Aleutian Islands would terminate in southern California. Alaska is one-fifth as large as the whole United States.

Its area is greater than that of Norway, Sweden, Finland, Denmark, England, and Scotland combined. If you were to drop New York or Paris behind some nameless Alaskan mountain on a dark night, finding it would be like finding an apartment house in New York with nothing but a description of the appearance of the house to go by. Take 20 of our Atlantic Coast and Middle Western States and put them in Alaska and still there will be a large enough area left over for a fair-sized State. The Yukon River and its largest tributaries are as long as the distance from New York to Petrograd. Alaskans think no more of traveling a thousand miles through the wilderness than you think of going from New York to Philadelphia or from London to Liverpool. Alaska's coast line is greater in length than the distance around the world. Alaska is 100 times as large as Ireland and 500 times as large as the State of Rhode Island.

Alaska's total white population is less than that of the Yale Bowl on the day of a championship football contest, and is about equal to the number of people in attendance at a world's series baseball game. The entire Scandinavian Peninsula is about two-thirds as large as Alaska and hasn't nearly so equable a climate; its resources are small in comparison, yet its population is 400 times as great as the population of Alaska.

These facts are so amazing that most people refuse to believe them. The only way we can account for the ignorance of the American people concerning Alaska is to excuse it on the ground that the United States itself is such an enormous virgin country we haven't had time to think of any region outside its borders.

The most of Alaska lies north of Labrador and part of it is in the same latitude as Greenland. All the ports of these two barren regions are sealed as tight as a drum by the Frost King during the most of the year, while nearly all the ports of Alaska are open all the year round. The towns along the southern and southeastern seacoast of our northern empire are nearly all north of Valadivostok and Port Arthur. The latter are closed in the winter, while the former are always open. Alaska has the Japan Current to thank for its comparatively mild climate.

I have been north of the Arctic Circle in Alaska when the mercury registered 100° above zero. Sitka, Juneau, Wrangell, Petersburg, Cordova, Ketchikan, and many other Alaskan towns have a milder winter climate than Boston, New York, Chicago, Omaha, or Denver. But, in spite of all this, millions of Americans still regard Alaska as a land of ice and snow, where special thermometers have to be used and where the animals travel backwards to keep from being blinded by the snow.

Alaska has its areas of colossal mountains from which radiate the greatest glaciers in the world, but we would never dream of regard-

ing Germany, France, Italy, and other countries of Europe as one solid glacier merely because ice fields are found in the Alps. I have observed that when most people think of Alaska, ghastly pictures pass before their mind's eye of hollow-cheeked men dying of scurvy, of prospectors stumbling blindly through an Arctic blizzard or being torn to pieces by starving wolf dogs; or of homeless men, who went North because they were disappointed in love, their faces black with frost bites, jumping from iceberg to iceberg in the Arctic Ocean with a flock of polar bears in pursuit.

The Department of the Interior estimates that Alaska has 100,000 square miles of arable lands. Like many others, I had preconceived notions of Alaska as a cold-storage vault which I got from the big geography we studied at school. It spoke of "Seward's White Elephant" in such glowing terms as the following: "Our country purchased this cold, barren land from Russia. Besides the gold found there it is of interest for two other reasons, for its many glaciers and ice-covered seas." Naturally it was a terrific jolt to me when I first visited the Land of the Midnight Sun and found the weather hotter than in Mexico where I had been just a few weeks before.

This year I met Prof. C. C. Georgeson, Alaska's agricultural expert, in the North and spent several days questioning him concerning the future of the farming industry in the Territory. Prof. Georgeson is in charge of the four experimental stations at Sitka, Rampart, Fairbanks, and Kodiak. He has devoted many years to the study of agricultural problems in Alaska and other northern countries. He is thoroughly familiar with the subject and does not indulge in exaggerations.

Prof. Georgeson pointed out that, broadly speaking, Alaska has two climatic belts, the coast region and the interior. The former has a comparatively mild winter climate, with cool summers and a heavy precipitation, which conditions are due to the moderating influence of the Pacific Ocean.

The interior, on the other hand, has a light precipitation, cold winters, and comparatively warm but short summers. This heavy precipitation along the coast causes a luxuriant vegetation to develop. All forms of hardy garden vegetables thrive, but grains are not grown with any degree of success. In the interior the growth of grasses and grains more nearly approaches that of similar normal crops in the State.

From the standpoint of health, says Alaska's chief agronomist, the climate throughout the Territory is exceptionally favorable. The air is pure and bracing. Nearly all the agricultural land in Alaska is located in the interior along the Yukon, Tanana, Kuskokwim, Susitna, and Copper Rivers. The agricultural area of the Territory is as large as the combined areas of Pennsylvania, Maryland, Dela-

ware, New Jersey, Connecticut, Massachusetts, Vermont, and New Hampshire, and should be capable of supporting a population nearly equal to that supported by the agricultural products of those States.

Undoubtedly the Matanuska Valley and the region tributary to the projected railway from Seward to Fairbanks will be settled first by reason of the improved transportation facilities. The cost of transportation is one of the great problems for the prospective settler. The fare for an animal taken to the North is about the same as for a person.

"Generally speaking," says Prof. Georgeson, "all the hardy grain crops, most of the cultivated grasses, and all of the cultivated root crops can be grown successively in Alaska. Among the grain crops barley takes first place, oats second, winter rye third, and spring and winter wheat last. Alaska is not a first-class wheat country, and corn can not be grown anywhere in the Territory. The earliest blossoms of buckwheat always have matured at our experimental farms. Red clover has never survived the winters in the interior, but white clover usually gives us a successful crop. We have found a Siberian type of yellow-flowered alfalfa which promises to be of untold value to the Alaskan farmer in the interior. The coast region is preeminently adapted to market gardening and to stock raising and dairying."

The Alaskan farmer gets a large price for his crops. In the interior hay frequently sells for over $100 a ton. One day, after disembarking from a Yukon steamer at Fairbanks, my eye fell on a box of strawberries. I picked up one and ate it. Turning to the proprietor I asked him to give me a dime's worth, to which he replied with a humiliating grin, "Take another one." The smallest coin in circulation, when you get across the coast range, is a 25-cent piece. Even the daily newspapers sell for this price.

The sun shines nearly 24 hours a day during the summer months in the interior of Alaska. This gives crops a splendid opportunity to mature quickly and also has a tendency to cause the populace to cultivate a sort of summer insomnia. For instance, many of the baseball games are played at midnight and "midnight-sun luncheons" are popular events in social circles.

Perhaps the most interesting farms in Alaska to-day are the Government experiment station and Rickett's farm near Fairbanks. Mr. J. W. Neal, the manager of the United States farm, does not travel back and forth from town over ice behind a string of "huskies," but in an automobile, which he runs summer and winter. His farm includes 1,400 acres. The Government set aside this amount in order that all classes of soils and all kinds of exposures could be obtained. The farm is 8 years old. In 1908 when Mr. Neal

went to Fairbanks there were not over a dozen farms in the Tanana Valley. Now there are more than 100.

He first concentrated his attention on potatoes. Success came immediately when it was discovered that sandy, dry south slopes were suitable for raising this vegetable in Alaska. As soon as the other farmers started to raise potatoes the experimental station turned its attention to the grain problem. They discovered barley and oats to be a sure crop in the Tanana region. When wheat sells for $1.50 in Canada and the United States it sells for $5 per bushel at Fairbanks; oats bring $100 a ton.

All hardy vegetables like cabbage, rhubarb, peas, parsnips, turnips, carrots, radishes, celery, and string beans are raised in the interior. Tomatoes, cucumbers, cantaloupes, and eggplant are grown in hothouses. Many strawberries are also raised in different parts of the Territory and they frequently sell for 25 cents per berry.

Eggs have gone down rapidly in price in recent years. To-day they can be bought in Fairbanks as cheap as $1 or $2.50 a dozen, but in 1908 they sold for $1 apiece. Of course, wages are correspondingly high.

One-sixth of all Alaska is suitable for agricultural purposes, but farming always will be a secondary industry. The future of the Territory depends mainly on the development of its vast mineral resources and the fishing industry. I have referred briefly to farming before discussing mining and fishing because it fits in appropriately with the question of climate.

Alaska has an area of 600,000 square miles or 384,000,000 acres. Uncle Sam bought it from Russia at a cost of a 2-cent postage stamp per acre. For what it costs us to buy a Sunday newspaper the Czar gave us $2\frac{1}{2}$ acres, and many of those acres have yielded over $1,000,000 worth of yellow bullion apiece. From one plot of ground in southeastern Alaska near Juneau, less than a quarter of a section in area, nearly 10 times as much gold as the Territory cost has been taken.

The first gold discovered in Alaska was at Sumdum Bay in 1869. But the first big strike was made at Juneau in 1880. A claim was staked on Douglas Island by a Canadian known as "French Pete." After working it unsuccessfully for a short time he sold it to John Treadwell, a San Francisco mining engineer, for $5. Under his management it became the world's greatest producer of yellow metal; over $60,000,000 in gold has been taken out of this famous Treadwell mine. This year 1,400 men are employed by the company and the output is expected to exceed $4,000,000.

The Treadwell has two competitors in the Juneau quartz belt now. The Alaska-Gastineau, promoted by D. C. Jackling, one of the sensations of the mining world, is one of them. While the Treadwell

group of mines handles some 6,000 tons of low-grade ore, valued at $2.50 per ton, each day, this new property intends within another year to be sending 10,000 tons of rock through its mills every 24 hours. The Alaska-Gastineau people expect to blast down and run through their mills a mountain containing approximately 25,000,000 tons of gold-bearing rock assaying $1.50 per ton. Back of this mountain are others, and their engineers say they have enough ore available to keep the plant running at top capacity for centuries with an annual output of $5,000,000.

Another corporation, the Alaska-Juneau, is preparing to handle a mountain of ore rising almost perpendicularly from Gastineau Channel within shouting distance of the town of Juneau. The capital of Alaska is the most important town of the Territory. In addition to being in the heart of one of the most richly mineralized regions on the planet, it is a great fishing center.

The eyes of the world were focused on Alaska more during the days of the gold rush to the Klondike in 1897 and 1898, to Nome in 1899 and 1900, and to the Tanana Valley in 1902, than at any other time in the history of the North until the present. The appropriation for the construction of the Trans-Alaskan Railroad by Uncle Sam from Seward to Fairbanks is largely responsible for the present interest, plus the necessity of the American tourist finding some place other than Europe to visit during vacation season.

The stampede to the gold fields of Yukon Territory and Alaska furnishes one of the most dramatic chapters in American history. When the news reached the "outside" of the discovery of gold on a tributary of the Klondike River by George Carmack, Skookum Jim, and Dawson Charlie, mining men, gamblers, adventurers, and men of every calling congregated at Seattle and San Francisco from the four corners of the globe. Over 100,000 argonauts stampeded to the Land of the Midnight Sun between 1897 and 1904. Many fabulous fortunes were made in a few weeks' time. One miner, known as "the Midget Gold King of Hunker Creek," took over a million out of one pocket on his claim. He fell in love with the belle of a Dawson gambling hall, by the name of Kitty Malone. She fell in love with his fortune. When he proposed to her she agreed to marry him provided he gave her her weight in gold. She weighed 140 pounds, so the price he paid was 1,690 ounces of "dust." That night, after the wedding, while her millionaire husband was out celebrating the marriage, Kitty took her sack of gold, boarded a Yukon steamer for St. Michael, and was never heard of again.

Another miner, called the "Fool Swede," was relieved of his poke containing several thousand dollars' worth of gold dust while intoxicated. In return he demanded and received a deed to what was supposed to be a worthless claim on Eldorado Creek. From this

property he took several millions. To-day he is said to be working in a Pacific coast sawmill for $2.50 per day.

So much for the romance of those wild days when gold was the cheapest article in the interior.

The interesting question now is, how much of the yellow mineral remains in the North. Prospectors have wandered around over various parts of the region from the southeastern panhandle to the islands of the Polar Sea hundreds of miles north of Point Barrow, and large bodies of mineral have been found everywhere. Some of these wanderers find pockets with values so rich that they clean up hundreds of dollars from every pan of gravel. But the ground necessarily must be of fabulous value to enable the individual prospector to make a fortune in the most inaccessible parts of the Territory. I have met prospectors in out-of-the-way regions who were panning, rocking, or sluicing $5,000 or $10,000 worth of gold each year from the sands of the ancient beaches of the auriferous gravels of the gold-bearing creeks of the interior who had spent that amount to pay for their outfits and new expeditions.

Dr. Alfred H. Brooks, Chief of the Geological Survey for Alaska, and other geologists who are familiar with the rock formation and the location of many of the mineral deposits of the Territory, agree that the gold mining which has been done up to the present time is merely a prelude to what remains to be done. It is estimated that a total gold-bearing area of about 10,000 square miles has been partially developed while the gold-bearing zones cover 150,000 to 200,000 square miles, according to various estimates. Not over two-thirds of this great empire of the North has been covered by white men.

The gold output of Alaska this year will total about $16,000,000, nearly the same as last year. The output from placer properties seems to be decreasing while the wealth pouring from quartz mines is increasing rapidly. Nearly 50 dredges are operating in different parts of the Territory. Following the completion of the Trans-Alaskan Railroad I look forward for a revival of placer mining.

Mining men of Alaska have adopted many unique methods, and in every camp of the North you will find the ground worked by a system you never saw before. In the Tanana Valley, near Fairbanks, a great deal of open-cut mining is being done. One day, while engaged in taking a reel of moving pictures on a mining property known as "No. 11 Below on Goldstream," on the edge of Fox City, an important camp 11 miles north of Fairbanks, H. W. Attwood, one of the best known mining men of the interior, gave me his views concerning the future of placer mining in central Alaska. Probably the first gold discovered in the Fairbanks region was panned out of the ground which Mr. Attwood is now working. It was taken out by

Felix Pedro in 1899. But it was not until 1902 that Pedro made his rich strike on Pedro Creek which caused the Fairbanks stampede. This Corsican prospector took over $2,000,000 in gold dust and nuggets from his claims, but lawyers and "friends" took nearly all of it away from him.

Cleary Creek was the richest creek of them all. Among the others where pay dirt was found are Engineer, Gilmore, and Pedro, which are tributaries of Goldstream, and Vault, Treasure, Dome, and Little Eldorado, which drain into the Tolovano, one of the largest tributaries of the Tanana River on a large slough of which Fairbanks is located. Esther and Fairbanks Creeks, which drain into the Chena, another tributary of the Tanana, also have given up millions in placer gold.

It is the belief of Mr. Attwood and other mining authorities that all these creek beds will be worked over again by dredges after the new railroad is completed, just as the Klondike and its tributaries are being dredged by the Boyles and the Guggenheims to-day. Lower transportation rates, more good wagon roads like those Col. Wild P. Richardson and his associates have constructed in different parts of the North, and a lower wage scale will be necessary before much dredging can be done in this region.

This year again, as in the past, I found miners in demand around Fairbanks. "If we advertise in the newspapers for six men for a week, we can't get them," said Mr. Attwood. "I pay the boys I have working here on my property from $5 to $12 a day, and am always looking for more good workmen."

"There is a great future here for young men," continued the Goldstream mine operator. "This country is just now beginning to open up. There are great areas of low-grade ore all through the interior. For instance, you can pan the Tanana River for 300 miles, from the Shusana River to the confluence of the Yukon and the Tanana, and get colors in every pan. Not only that, but you can dig 50 feet below the surface all through this region and get the same colors all the way down."

This means that practically every foot of ground over an area larger than the State of New Jersey carries gold in quantities that will make it worth while to dredge every inch of it. The formation is the same along the Tanana as along its rich tributaries, says Mr. Attwood, and he has panned the valley for a distance of 200 miles. He has been mining in the north for 20 years, at Latua Bay, Circle City, Dawson, Nome, and Fairbanks. He is not a talkative man and his years of flirting with fortune—first in her graces and then out of them—has made him a conservative.

I believe that what I say about the future of the Tanana Valley can be said for nearly every other part of Alaska. This is the banner

year in the history of copper mining in Alaska. The value of the copper output looks as though it will be nearly three times as great as the gold production, something unheard of in past years when it never equaled the gold output.

In a recent letter from J. F. Pugh, collector of customs for Alaska, he informed me that in the first 10 months of this year the value of the copper shipped from our "Frontier Wonderland" was nearly twice the value of all the copper mined in Alaska between the days of Russian occupation and last January. Most of the copper mined in Alaska comes either from properties on islands near Ketchikan, in the extreme southeastern part of the Territory, or from Prince William Sound, or the Copper River Basin. The latter region is by far the most important, for it is here that the famous Bonanza and Jumbo mines, tapped by the Copper River & Northwestern Railroad and controlled by the Guggenheims, are found. These are said to be the richest copper properties in the world, and the ore shipped averages 80 per cent pure metal. I recall one chap I met last year at Circle City, who was returning to civilization after four years of prospecting the northern tip of an island known as Banks Land, 800 miles farther north than the Magnetic Pole and a thousand miles across the Arctic Ocean from Herschel Island. He was on his way out to New York where he hoped to raise capital enough to mine a mountain of copper which he said was as rich as the ore from the famous Bonanza mine at Kennicott, Alaska.

I made an 800-mile trip overland through the uninhabited heart of Alaska's interior wilderness this year, fording innumerable glacier streams, fighting mosquitoes by the millions, and living on moose, caribou, and mountain sheep. En route we crossed the massive mountain range which bars the way from the southern coast to the interior. What impressed the members of our party more than anything else outside of the overwhelming grandeur of the scenery were the gigantic mountains of ore. Some of them were so red they looked like massive piles of rusty iron and others were blue with wide streaks of greenstone, which are usually found in conjunction with copper deposits in the north.

In the words of Col. Richardson, head of the Alaskan Road Commission, "The coast of this great undeveloped empire, from its beginning a few miles north of Prince Rupert all the way out to Isanotski Strait, which cuts off the Aleutian Islands from the Alaskan Peninsula, is practically all one mass of mineral, containing such vast wealth that it is beyond the power of the human mind to estimate its value."

Among the other metals found in Alaska besides gold and copper are silver, iron, mercury, lead, antimony, bismuth, tungsten, and

platinum. Then, of the nonmetallic minerals, are coal, graphite, gypsum, baryte, and marble. The coal fields cover an area of 12,667 square miles, according to the estimate of the United States Geological Survey. The most important deposits are the Bering, Nenana, and Matanuska fields. The former is near Controller Bay and the latter, north of Seward, is being opened up now by Uncle Sam's Alaskan Railroad. The minimum estimate placed on the coal resources of the Territory by experts is 150,000,000,000 tons.

And yet with all this wealth and boundless opportunity the entire population of Alaska is no larger than some of the crowds that attend an automobile sweepstake at New York.

Second in importance comes the fishing industry. Alaska's fisheries have produced nearly $250,000,000 and the capital invested in canneries and fishing boats at present totals over $40,000,000. The shipments of fish from the waters of the Territory during the first nine months of this year amounted to $12,346,844, and the total output for 1916 will be twice as much as it cost us to buy the Territory from the Czar, with several millions to spare. The salmon pack alone this year will approximate 200,000,000 cans. If these were placed end to end they would reach from New York City to Calcutta, India, by way of the Suez Canal.

The Alaskan king, or quinnat salmon, sometimes reaches a weight of 80 pounds. The red, or sockeye, is the most important of the salmon tribe and forms about two-thirds of the canned pack. The caho, or silver, as well as the humpbacked, or pink, and the chum salmon form the cheaper portion of the canned output. A number of the private fishing corporations, as well as the Government, have built large fish hatcheries to offset the great annual drain during the salmon runs.

The codfish banks off the coast of Alaska are the most extensive in the world, and halibut and herring fisheries are increasing in importance. There seems to be no limit to the number of fish in the waters that wash the shores of our northern wonderland. But nevertheless Gov. Strong informed me recently that, in his annual report to Congress this year, he proposes to urge the Government to grant the Alaska Fish Commission a far larger appropriation this year for hatcheries. He has made an extensive study of this great industry and is firmly convinced that there is a danger of the waters off the southeastern coast, from Ketchikan to Juneau, being depleted of their supply of fish. My personal investigations in recent years and the interviews I have had with scores of cannery managers and fishermen confirm Gov. Strong's contention. However, there seems to be no danger of the waters along the coast for 3,000 miles, from Icy Straits to Kotzebue Sound, being fished out for many years. If the Federal Government takes the proper steps to

conserve the finny inhabitants of Alaskan waters by establishing enough hatcheries, they probably will always remain the foremost fishing grounds of the world.

This year, owing to the high price of all foodstuffs, thousands of cans of humpbacked salmon were packed in the Prince William Sound country. These pink fish sold for $0.65 per dozen a year ago and at that figure the canneries as far north as Prince William Sound could not afford to bother with any salmon except the kings, sockeyes, and silvers. But this year "humpies" are bringing the canning companies $1 per dozen and over. If the price keeps up, undoubtedly twice as many canneries will be in operation in southern and southwestern Alaska two years from now as there are to-day.

During the "humpie" run in Prince William Sound this year I spent a number of days out at the fishing grounds in Port Gravina Bay, 40 miles from the town of Cordova, with Capt. "Jack" Murray, head of the Carlisle Packing Co.'s Alaskan mosquito fleet, "Humpbacked Frank," "Black Nels," "Snagpoint John," "Codfish Pete," and "Shiskey Ole," a typical crowd of northern fishermen.

We were on a salmon tender most of the time making the rounds of the different fishermen, who would toss their catch on board our boat. At the end of each day we would return to the cannery with a cargo of from 60,000 to 100,000 salmon which were then pitched on an endless conveyor belt, which poured them in a steady stream out on the cannery floor. From there they were pitchforked, with a single-pronged "pew," into the iron chink which split, beheaded, finned, and partially cleaned the "silver horde." Then the cleaning process was completed by dexterous orientals working with sharp knives, after which the fish passed through the "1-pound-tall" cutter, where they were automatically further mutilated into chunks suitable in size to fit tall cans that hold 1 pound of salmon. From there they passed into the sanitary filling machine where the fish were fed into the cans.

This whole process goes on with lightninglike rapidity. The cans then flash by in an endless row to the automatic seamers, where they are sealed without the aid of solder, thereby eliminating the ultimate consumer of frequently dining on fish flavored with chunks of poisonous lead. The cans go through the seamer at the rate of 75 per minute. Following this part of the procedure the cans are placed on trays, 3 feet square, and pushed on a small flat car into the retort, where, with the aid of steam under a pressure of 15 pounds per cubic inch, they are cooked for 1 hour and 40 minutes at a temperature of 240° F. After being cooked the cans are passed through a lye wash which removes extraneous matter from the outside of the can, then allowed to cool overnight on the warehouse floor, packed into cases containing 48 cans each, trucked out to the dock to an

awaiting ocean liner, and sent to Seattle. Three weeks after these fish are caught you can buy them in the grocery department of a New York department store.

This Carlise Cannery at Cordova put up the largest pack this year of any concern between Juneau in southeastern Alaska, and Kings Cover, over a thousand miles out to the westward on the Alaskan Peninsula. But the Fidelgo Island Cannery, near Ketchikan, is the largest in the north.

It costs from $50,000 to $250,000 to build and completely equip a salmon cannery. I know of one company in Alaska that built an establishment in March of this year at the latter figure, and in August before I left the section of the Territory in which it is located they had put up a pack sufficiently large to pay back the entire quarter of a million original outlay, with a 100 per cent profit to boot. This is a staggering statement, and, coming at any other time except now, when such fabulous profits are being made by American munitions factories, it would not be credited as the truth. On the whole, there is no better paying industry in the world than canning salmon, halibut, cod, and herring in Alaska.

The smallest canneries are known as "one liners." This means that the cannery has one iron chink, one filler, one seamer, and one track over which the cans run to the retort. The maximum capacity of a one-line plant is 75 cans per minute. During the busy part of the season a cannery usually runs at least 12 hours a day, and in that time they can turn out over 50,000 cans of salmon. Four-line canneries, like some of the larger ones, have a maximum capacity of about 200,000 cans per day. The length of time consumed for one fish to pass from the tender which brings the cargo to the dock through all the processes involved and into the retort is less than it takes to tell it.

Watching a salmon run is one of the world's greatest sights. The fish come from the depths of the sea in countless millions and fight their way up the shallow streams along the coast to spawn. I was in Valdez, Alaska, this summer when a run of humpbacked salmon came right up the little creek which runs through the heart of the town. They were so thick that if you waded in the creek hundreds of them would be slashing the water into a seething caldron all around you. I stood within 10 feet of them and ground a hundred feet of film with my moving-picture machine, and these 3-foot salmon paid no more attention to me than if I had been photographing them from the moon. The fish were so thick in Valdez Creek this year that the small boys of the town killed scores by throwing rocks at them and knocking them in the heads with clubs.

Fishermen in the North claimed this was one of the poorest years in history for sockeyes, the salmon they depend upon for the prin-

cipal part of their pack. In the year 1912 Mount Katmai, the Vesuvius of Alaska, suddenly came to life, rattled windows, and knocked pictures off the walls of houses hundreds of miles away from the Alaskan Peninsula where Katmai is located; it sprinkled pulverized lava over land and sea for 400 miles in every direction. This was four years ago. Salmon live just four years. Many Alaskan fish authorities believe the young salmon born in 1912 were killed by the eruption of Katmai and the contamination of the waters. This is how they account for the sockeye failure this year. They say the humpbacks were not affected because they are a hardier fish.

Two of Alaska's most famous pioneers, who are thoroughly familiar with nearly every part of the Territory and every industry in the North, are Col. Richardson, head of the Alaskan Road Commission, and Jack Dalton, who built the far-famed Dalton trail to the interior in the early days. Both of these men are authority for the statement that there are a great many fine fishing sites left along the Alaskan coast and that the price of fish will not decrease.

The fish from the waters of this great wonderland of the North have paid 30 times the original cost of the Territory, and yet Alaska has a total population less than that of Trenton, N. J., and hosts of Americans regard it as a cold, dismal, barren land covered with a layer of ice and with nothing there of any value except a few stray nuggets of gold hidden beneath.

Instead of being the last stronghold of the receding ice cap which covered the entire Northern Hemisphere 100,000 years ago we find it has a better climate than Norway and Sweden, that there is enough tillable soil and grazing land in this last American frontier to support a population of several million people without calling on any other region of the globe, the most of which remains untouched and virgin. Ultimately the mining industry alone undoubtedly will increase Alaska's population by several hundred thousand. And on top of this we discover that its waters abound with more fish than any other part of the sea.

But this is not all. If the above-mentioned vast resources were eliminated completely, still Alaska would be a great empire of infinite value. The day is not far distant when Seattle will be one of the world's great meat-packing centers. To-day scores of long trains roll into the Chicago stockyards daily from all parts of the Middle West, and many of America's greatest fortunes have been made by the beef kings of the world's greatest packing center. A few years hence scores of refrigerator ocean liners will be bucking the waves of Bering Sea and the north Pacific with clocklike regularity, en route from Nome and the St. Michael to Seattle, laden with reindeer carcasses.

Few realize that an industry is now in its infancy in the bleakest part of Alaska which will attract the attention of American packers before long and cause them to become much more vitally interested in our northern empire than they are to-day.

A few statistics will be sufficient to give you a vision of the future of the reindeer industry. Lapland, on an area of 14,000 square miles, feeds 400,000 reindeer. It is the chief industry of the region. Twenty-six thousand people make their living from the Lapland herds. In the coldest part of Alaska, upon the tundra slopes of the Arctic and sub-Arctic parts of the Territory, from the mouth of the Kuskokwim River, which flows into Bering Sea south of the Yukon, all the way around the coast to Point Barrow and on over to Herschal Island, there is an area much similar in climate to Lapland where, our Government reindeer experts say, there is room for from 10,000,000 to 20,000,000 head of these animals to graze.

At present the law practically gives the Eskimo a monopoly on the reindeer industry. The industry originated in 1891, when Dr. Sheldon Jackson imported 16 head from Siberia for the benefit of Alaskan Eskimos, who were threatened with extermination as a result of the arrival of the white man in northern waters with his modern methods of catching walrus and whales. Later, 1,200 more were imported by the Government. The reindeer propagates rapidly, and the herds on the Seward Peninsula, north of Nome and along Bering Sea and the Arctic Ocean, now include about 50,000 animals.

It is estimated that the reindeer industry has room to expand in northwestern Alaska to the extent of providing a living for 100,000 people in the barrenest part of the Territory. At the present rate of increase there will be more than 1,000,000 reindeer in Alaska within 20 years, and several hundred thousand carcasses will be arriving in Seattle annually. The reindeer lives on moss, grass, and willow sprouts. He forages for himself all seasons of the year and in the winter digs down through the snow and ice to the moss and lichens with his sharp hoofs.

Commercially the reindeer is extremely valuable. The flesh is a delicious food. The tanned skins bring high prices. The hair is used as a filler for the best life-saving apparatus because it is constructed of tiny, water-tight cells filled with air. When the hair swells, an Eskimo wearing a suit of reindeer skins will not drown if his kyak capsizes, throwing him in the water. The skins are also used for bookbinding, gloves, and many other purposes. The hoofs are used for the finest kinds of glue. The blood and contents of the stomach are used for puddings. The intestines supply tallow. The sinew is dried and used for thread. The antlers are valuable for the manufacture of trinkets. The milk is exceptionally thick and rich and the animal is valuable also for transportation purposes.

There are millions of acres in Alaska that will support large herds. At present the industry is controlled by the Bureau of Education for the benefit of the natives whom it has enriched to the amount of nearly $1,500,000. It is illegal for the natives to sell female deer to the whites. The Bureau of Education is afraid if the whites are permitted to compete with the Eskimo that in a few years the latter will be crowded out. The cost of shipping reindeer from Asia is almost too great to be practical.

Secretary of the Interior Lane says: "The growing belief that the reindeer may become one of Alaska's important industries seems to be too well founded to justify continued monopoly of the deer by the natives," so it is quite likely that the whites will be allowed to take a hand in the building up of the industry within a few years.

One of the most interesting sights in the North is to see the reindeer herds along the lower Yukon and on Nunivak, Stuart, and St. Michael Islands in Bering Sea.

Over $75,000,000 more has been made from the seal skins and pelts of other aquatic and land animals of our northern empire. Owing to the wholesale slaughter of females and pups by poachers, Congress passed an act in 1914 forbidding the killing of fur seals for five years. This period is nearly up and Government authorities say the herds have increased so rapidly that sealing probably will be permitted during 1917. Naturalists for many years believed seals could never be raised in captivity. But a boatswain on the United States revenue cutter *Bear*, who had studied seals for 20 years, accidentally made an important discovery. He found that the tongue of every pup seal was held to the lower gum by a ligament. He broke this ligament and the pup immediately began to eat. Prior to this discovery pups always died from hunger when taken in captivity because they refused to eat.

The other valuable fur-bearing animals of Alaska are beaver and ermine; black, blue, cross, red, silver-gray, and white fox; black, brown, glacier, grizzly, and polar bear; Arctic hare, lynx, martin, mink, muskrat, land and sea otter, reindeer, hair seal, squirrel, wolf, and wolverine.

Fifty miles out from Fairbanks one day I suddenly came upon a small clearing in the wilderness. A log cabin sat off the trail about 100 yards. Near this house was a corral with a tight fence around it 20 feet high. A barb-wire fence surrounded the whole clearing, and above the gate was a sign which read, "Visitors are not wanted here. Stay out! This means you."

Being curious by nature I promptly disobeyed the sign and walked through the gate to the cabin. My courage was buoyed up mainly by an overwhelming thirst and I proposed to have a drink. As I started to lower the bucket into the well the door of the cabin opened

and out walked the wierdest biped apparition I ever encountered. It was garbed in handmade moosehide muckluks, or boots, bibless overalls held up by one suspender, a gray flannel shirt, and an old soft tan Stetson full of bullet holes which made it look like a sieve. This apparition's face was thin and leathery like an old Navajo Indian. Half-way down the nose stood a pair of huge bone-rimmed spectacles. Under the hat was a woman's hair. I was so surprised I let the well rope slip through my hands and the bucket hit the bottom with a loud splash.

Her mouth opened and the only teeth I could see were two long ones protruding from the upper gums like walrus tusks. She spoke and her voice sounded like the screech of a rusty hinge. If it hadn't been for the fact that the sun had gone down and the clearing was surrounded by tall trees which made a snapshot impossible, I would have photographed this wild woman of the Tanana if it had been my last earthly act.

"Har stranger!" said she. And then before I could reply she continued, "Kinder dry mushin', eh?" I assured her that her deductions as to its being a dry and thirst-provoking perambulation from Fairbanks to her wilderness villa were precisely correct.

She cackled gleefully while I gulped down a quart or two of the ice water from her well.

In response to my questions she informed me that she and "the ole man" were fox farmers and did some prospecting on the side. I immediately understood why they had such an inhospitable sign above their gate. When Aristotle made his famous statement to the effect that "man is a social animal" he certainly failed to take fox farmers into consideration. They are the least gregarious of all the human race.

There is a theory, upheld by most of the people engaged in this industry, which seems to be substantiated more or less by experience, that the mother fox will kill her young when a stranger approaches. This is why they are usually kept in high corrals. I have talked with fox farmers in all parts of Yukon Territory and Alaska and they told me a wide variety of conflicting stories. The fact of the matter is that they are not thoroughly familiar with all the habits of Mr. Reynard as yet. The fox is a shy creature and will have nothing whatever to do with some men who have attempted fox farming, but with others they form fast friends in a short time.

In some parts of the North I found successful fox farms right in the centers of population and in other parts I found all the fox farms isolated. One man has an island all to himself in Prince William Sound, where he and his wife and daughter have been engaged in this interesting industry for 15 years. They are reputed to be worth a large fortune to-day. The blue fox is their specialty.

This man is a strange character. On one occasion when he sailed over to Cordova in his power boat for supplies, another old timer asked him why he ever got married, especially as he had lived on the island alone for so many years. In answer to the question the old man replied in picturesque language that he had to have some one to help him run the island.

"Anyhow, in the eight years we've been married," he said, "she's only cost me $48, and $35 of that's been for rubber boots."

The profits for a successful fox farmer who specializes in silver-grays is very large and the industry will grow rapidly.

Then on top of all these valuable industries awaiting development there is another enormous proposition. The total area of the forests and woodlands of Alaska is estimated at 156,000 square miles or 100,000,000 acres, more than four times that of the State of Indiana. Forty per cent of that is valueless except for fuel, and another 40 per cent is of little greater value. Twenty per cent, or an area equal to the whole of Massachusetts, is suitable for manufacturing purposes. The Tongass National Forest, which covers the entire southeastern panhandle and the Chugach Reserve, 100 miles wide, extending from along the coast from Mount St. Elias to the Kenai Peninsula, are the most important. All of this wood could be used for pulp in the manufacture of paper.

If all the trees in these two great Alaskan forests were cut down and converted into inch boards there would be enough to build a board walk 1 block wide around the earth by way of the Equator, and another around it by way of the poles. There is enough to pave a road 5 feet wide all the way to the moon. The timber on the forest reserves is sold at public auction.

President Taft, in 1912, appointed a commission, made up of Maj. J. J. Morrow, of the United States Engineering Corps; Dr. Alfred H. Brooks, of the United States Geological Survey; Leonard M. Cox, civil engineer with the United States Navy, and C. M. Ingersoll, consulting engineer of New York, to study Alaska and ascertain whether or not it would be plausible to build a railroad somewhere in the Territory designed to unlock its resources. They made a thorough investigation and as a result, in 1914, President Wilson appointed a commission to make surveys and estimates and submit a report relative to the best route for a railroad from the coast to the interior, after he and Secretary Lane prevailed upon Congress to appropriate $35,000,000 for the construction of a line to Fairbanks.

This railroad is now being built. Thomas Riggs, jr., the member of the commission in charge of the construction work from the interior end of the line, says the country is surprisingly easy for railroad building. The route chosen was from Seward on Resurrection

Bay to Fairbanks, a distance of 466 miles. A 35-mile branch has been constructed to the Matanuska coal fields and a 5-mile branch to Anchorage. Both Seward and Anchorage are booming. It is not known yet which will be the important town. Five thousand people have stampeded to Anchorage.

The greatest grade encountered along the route of this Trans-Alaskan Railroad is on the Kenai Peninsula between Anchorage and Seward. So far the former has poor harbor facilities while the largest ocean liners can pull up to the Seward wharf. Anchorage expects to have its harbor dredged out, however.

It is expected that the railroad will be completed by 1920. It will open up the Matanuska and Nenana coal fields, the former coal for exportation along the Pacific coast and the latter for use in central Alaska. Fuel bills around Fairbanks should be cut on a proportion of from $160 to $40. Numerous gold camps probably will be opened up on the Kenai Peninsula, along the Susitna Valley, in the Broad Pass country near Mount McKinley, in the Kantishna, Fairbanks, and Tolovana districts. It will also open up the agricultural lands along the Susitna, Matanuska, and Tanana Valleys. Pessimists say the railroad will never pay. That's what pessimists said a few years ago when railroads first penetrated the wild frontier between the Mississippi River and the Pacific Ocean. As Mr. Riggs puts it, "we expect a few lean years, but this road, which adversaries of the measure have termed 'a governmental altruistic experiment,' will result in a commercial success."

No matter whether the railroad pays or not it is money well spent if merely for no other purpose than to draw attention to Alaska and advertise this great empire of boundless wealth and opportunity.

And now I come to the last, and in some respects, Alaska's greatest resource.

Have you seen God in his splendors,
Heard the text that nature renders?
(You'll never hear it in the family pew)
The simple things, the true things, the silent men to do things,
Then listen to the Wild; it's calling you.

They have cradled you in custom, they have primed you with their preaching,
They have stuffed you with convention through and through,
They have put you in a show case, you're a credit to their teaching,
But can't you hear the Wild? It's calling you.

Let us probe the silent placer, let us seek what luck betide us,
Let us journey to a lonely land I know,
There's a whisper on the night wind and a star agleam to guide us,
The Wild is calling, calling—let us go.

This is the land of colossal ice-crowned mountains, of gigantic glaciers, of fiords rimmed in by ranges of jagged, saw-tooth mountains that make the fiords of Norway fade away in comparison and which make most other mountains of the world look like foothills. This is the land where the red midnight sun doubles back on its track when the year tide is full and where the Great God of Nature passes his invisible paintbrush across the horizon for hours in the broad daylight of midnight, throwing a new masterpiece in brilliant colors across the sky every few minutes as the former picture dissolves out. Nowhere in the world can you see such mountains, such glaciers, such sunsets, and such a wide variety of grandeur.

This sounds like the height of exaggeration. Now permit me to prove that it is merely a faltering, beggerly attempt to describe sights that defy description or reproduction by an artist. Picture in ;your mind, if you can, the grandest mountain valley you have ever seen, running back from the sea with a wall of ice 2 or 3 miles wide, from 200 to 400 feet high, and extending back into the icy mountain range in the distance for from 50 to 100 miles. Then imagine seeing great chunks caving off the face of this ice field as large as an ordinary apartment house and striking the water with a roar-like thunder, the spray leeping a hundred feet into the air and great waves rolling away from the glacier that make an ocean liner, if it approaches too close, tip from side to side as if in a heavy storm. And picture in your mind's eye a bay of deep blue in front of the ice monster, filled with icebergs heading out toward the open ocean to disintegrate as they float south and finally pass back from the Temperate Zone as vapor clouds carried by the winds—to fall again in the form of snow on the mountain peaks back of the glacier, where again they are changed back into ice as a result of pressure of more snow coming down on them. This, in brief, is the history of the never-ending cycle which continues throughout the ages along the Alaskan coast.

On both sides of this glacier, at the foot of high mountains sloping back from the coast to the right and left of the ice face are forests and semitropical Alaskan trees and underbrush interspersed with flowers of every variety, forming a wild symphony of color.

These glaciers far surpass in size any others in the world, and many of them can be approached easily and in perfect safety by the tourist.

Many of the mountains of our northern wonderland appear grander and more collossal than any others in the world because they rise abruptly from the sea; and a far greater mountain mass is visible than, for instance, in the Himalayas where the highest peaks rise from lofty plateaus.

The glaciers radiating from Mount St. Elias alone cover an area larger than the whole of Switzerland. Many of Alaska's glaciers are alive and constantly breaking off into some river or an arm of the sea while the puny glaciers of the Alps are as dead as the mummy of Rameses.

The trip north 1,000 miles through the "Inside Passage" from Seattle to Skagway is easily the most beautiful ocean voyage in the world. The water is as smooth as glass nearly all the way because the route followed by the palatial steamers bound for Alaska is sheltered by countless small islands. The trip to Skagway and return, by way of Ketchikan, Metlahkatla, Wrangell, Petersburg, Taku Glacier, Douglas, Juneau, Skagway, and Sitka covers a distance of 2,300 miles and can be made in 10 days.

Then, if the traveler wishes to go farther—and he should do so by all means in order to really get a fair idea of the enormity of this mighty land, of its tremendous resources and its colossal scenery—he should go on out through Icy Straights from Skagway, 1,000 miles past Mount St. Elias and Malispina Glacier, to Cordova, Childs Glacier, Valdez, Latouche, Ellamar, Columbia Glacier, Resurrection Bay, Seward, around to Cooks Inlet past the ice-capped volcanoes of the Alaskan Peninsula to Anchorage.

To see still more of the North and view the wonders of the interior, the best plan is to go back along the coast to Skagway, at the head of Lynn Canal, the greatest fiord on the continent, then across the coast range of mountains via the White Pass & Yukon Railroad over the route followed by the gold seekers at the time of the rush to the Klondike. There, at the headwaters of the mighty Yukon River, steamers are waiting to take the traveler on out to Bering Sea, 2,300 miles away, by way of Dawson City, Fort Yukon, which is north of the Arctic Circle, Fairbanks, which is 300 miles up the Tanana River, and past many interesting mining camps, Indian villages, and Eskimo igloos along the lower Yukon before reaching St. Michael Island and the far-famed gold city, Nome.

From Nome ocean liners make the return trip to Seattle by way of the Aleutian Islands in 9 or 10 days. The trip out to southwestern Alaska and back to Seattle again is made in 15 days, while the grand circle tour of all the North, covering a distance of 6,500 miles, requires about 40 days.

In view of the fact that Alaska is such an interesting and fascinating land, is the home of the most colossal scenery on the globe and the land of the midnight sun, it is bound to become a popular point for tourists to travel to in the future as soon as the world finds out that it is not a bleak, forbidding field of ice.

Alaska is our last great American frontier. It is an empire in the making with boundless resources and scenic wonders that grip you and hold you like a spell.

I hear the tread of pioneers,
Of millions yet to be;
The first low wash of waves where soon
Shall roll a human sea.
The elements of empire here
Are plastic yet and warm,
The chaos of a mighty world
Is rounding into form.

The man who has been able to describe the lure of Alaska and this wonderful North country is Robert W. Service, the poet, who wrote:

THE SPELL OF THE YUKON.

I wanted the gold, and I sought it;
I scrabbled and mucked like a slave.
Was it famine or scurvy—I fought it;
I hurled my youth into a grave.
I wanted the gold, and I got it—
Came out with a fortune last fall,—
Yet somehow life's not what I thought it,
And somehow the gold isn't all.

No! There's the land. (Have you seen it?)
It's the cussedest land that I know,
From the big, dizzy mountains that screen it
To the deep, deathlike valleys below.
Some say God was tired when He made it;
Some say it's a fine land to shun;
Maybe; but there's some as would trade it
For no land on earth—and I'm one.

You come to get rich (damned good reason);
You feel like an exile at first;
You hate it like hell for a season,
Then you are worse than the worst.
It grips you like some kinds of sinning;
It twists you from foe to a friend;
It seems it's been since the beginning;
It seems it will be to the end.

I've stood in some mighty-mouthed hollow
That's plumb-full of hush to the brim;
I've watched the big, husky sun wallow
In crimson and gold and grow dim,
Till the moon set the pearly peaks gleaming,
And the stars tumbled out, neck and crop;
And I've thought that I surely was dreaming,
With the peace of the world piled on top.

The summer—no sweeter was ever;
  The sunshiny woods all athrill;
The grayling aleap in the river,
  The bighorn asleep on the hill.
The strong life that never knows harness;
  The wilds where the caribou call;
The freshness, the freedom, the farness—
  O God! how I'm stuck on it all.

The winter! the brightness that blinds you,
  The white land locked tight as a drum,
The cold fear that follows and finds you,
  The silence that bludgeons you dumb.
The snows that are older than history,
  The woods where the weird shadows slant;
The stillness, the moonlight, the mystery,
  I've bade 'em good-by—but I can't.

There's a land where the mountains are nameless,
  And the rivers all run God knows where;
There are lives that are erring and aimless,
  And deaths that just hang by a hair;
There are hardships that nobody reckons;
  There are valleys unpeopled and still;
There's a land—oh, it beckons and beckons,
  And I want to go back—and I will.

They're making my money diminish;
  I'm sick of the taste of champagne.
Thank God! when I'm skinned to a finish
  I'll pike to the Yukon again.
I'll fight—and you bet it's no sham fight;
  It's hell!—but I've been there before;
And it's better than this by a damsite—
  So me for the Yukon once more.

There's gold, and it's haunting and haunting;
  It's luring me on as of old;
Yet it isn't the gold that I'm wanting
  So much as just finding the gold.
It's the great, big, broad land 'way up yonder,
  It's the forests where silence has lease;
It's the beauty that thrills me with wonder,
  It's the stillness that fills me with peace.

WEDNESDAY, JANUARY 3, MORNING SESSION.

EDUCATIONAL DAY.

The Wednesday morning session was convened at 10 o'clock with Robert Sterling Yard, of the Department of the Interior, presiding. Owing to the inclemency of the weather and the consequent limited attendance, the session was adjourned from the large auditorium to one of the smaller rooms of the New National Museum.

THE PRESIDING OFFICER, MR. YARD.

The deluge of rain has damaged our audience this morning, but it is some satisfaction to know that those who have gathered here are really and truly the faithful.

Yesterday we considered the national parks more from their practical, economic point of view. To-day we have not to do with considerations of the economic future of the parks, which is inevitable, nor with the means to bring about that economic future. What we shall talk about to-day—all day—are the parks and the people. This we have called educational day, because you can not even introduce the subject of national parks and the people without talking about education. One can not touch upon national parks in any fashion without enlarging his field of knowledge, without becoming inspired mentally and spiritually for the work of the world.

When we speak of education in connection with our national parks we mean two things. One is the education of the people to the glories and the magnificence and the uses of their national parks; the other is how the national parks can be used for the education and inspiration of the people.

Let us consider first the question of educating the people in the knowledge of their own national parks possessions. This means, in the common business phrase, publicity.

Yesterday morning I was delighted, and I regret to say surprised, to hear at least two of our distinguished legislators from the Hill, as we call the Halls of Congress, express in most emphatic terms the fact that it is up to Congress to spend money to let the people know about their national parks. Now, this rejoiced and astonished me both because that is exactly what Congress up to this time has seemed not to realize was desirable. In conducting the publicity, or, as we

prefer to say of so noble a subject, the educational campaign for the national parks, we are merely telling the people what they possess; that is all. It has seemed to me, rightly or wrongly, that the historic attitude of Government has been almost one of opposition to this very plain duty, that millions of dollars a year are spent in all departments of Government in the accumulation of valuable information without adequate appropriations or machinery for reporting it to the people for their use. So, when these gentlemen said what they did yesterday, I took note of it with great pleasure.

The kind of publicity that this cause needs costs money; there is no use dodging the fact. When you speak of a publicity campaign the average business man thinks of a campaign which attempts to get a large amount of material published free in the newspapers to boost along a business or a cause. Well, that isn't our kind. We are not competing with cigarettes, soaps, and political creeds for the free advertising of the press. The cause that we have is one much loftier than most of the causes for which publicity is sought. The Government can not enter into the usual kind of publicity campaign. Ours must stand on loftier grounds. It necessarily costs money.

In the absence of Government appropriations there are only two ways of raising money for a patriotic purpose. One is to appeal to patriotism, the other to appeal to the pocketbook. There is little encouragement in appealing to the patriotism of those who have a great deal of money because, however public-spirited they may be, a thousand causes are appealing to their patriotism every year. Consequently, in the past we have gone to those whose interests might be furthered by our propaganda. We have found them in the transcontinental railroads. The $43,000 which we raised to pay for the National Parks Portfolio was obtained from that source.

So far we have had nothing from Congress for any publicity except the publication of Government pamphlets.

As compared with other nations, we are very far behind the times in this respect. Switzerland found it profitable to spend a million dollars a year in advertising her scenery previous to the war. In these war times British Africa, which is giving up its millions to the war, finds it worth its while to send 25,000 feet of film, largely scenic, to the United States of America for free circulation here; and last summer war-ridden Canada sent a famous lecturer throughout Canada in a private car, with private attendants, private conductor, all expenses paid, attendants paid, with the guarantee that he should not from the time he left New York until he returned to New York, pay 1 cent for film or expenses, the purpose being to advertise Canadian scenery in the United States in competition with our own national parks.

And we can not buy 10 cents worth of film and have the United States Government pay for it.

During this same war summer a private commercial bureau in this city, whose activities are devoted to the distribution of films of the so-called educational sort, also traveled all over Canada in a private car under similar guaranties. In short, in war as in peace it is Canada's purpose to fill the United States with the advertising of the Canadian Rockies in competition with our national parks.

Now, you will gather from those little illustrations what difficulties and competitions we have in making the facts about national parks known to the American people. Congressman Ferris and Congressman Lenroot showed themselves modern business men when they stated yesterday that it is the duty of this nation to make the facts known to this people. If you can make the facts known to the people, they said, the people will do the rest. So they will. We hope that Congress will adopt the enlightened attitude of these men. We have the machinery, we have the men, we have the enthusiasm, and we have the ability, but we can not buy 10 cents worth of film.

When we started our publicity two years ago we felt certain that the people were ready to know the facts. We were right. The results of our slender efforts have been astonishing. People have just risen to this doctrine all over the country. But it was not a doctrine we were preaching; it was not a sermon; we simply adopted modern methods in distributing facts.

Eventually, of course, we shall win, and for two reasons: First, because the people want the parks and the facts and are ready for both; and second, because we have in the national parks of the United States of America scenery which the whole accessible world of scenery can not match in quality, quantity, and variety.

It is just as cheap to live in our national parks now as the economic conditions, based upon the patronage, will permit; and Mr. Mather's plans look forward to the decrease of living expenses just as rapidly as patronage enough can be brought into these parks to lower public charges. We can do this only by wise business administration; it can be done in no other way. But, mark you, it is necessary to enlarge the patronage in order to reduce the cost per capita. That means advertising. In short, from whatever angle we view national parks progress we get back to the fact that the pressing need of the moment is publicity.

I hope that this conference will develop new ideas for our educational propaganda. While we have been studying publicity; while we have accomplished something in publicity; while publicity is an integral part of all business, and a specially important part of this;

while propaganda is one of the facts which every business man studies as a matter of course, the particular kind of publicity which necessarily we are confined to because of our entire lack of financial backing makes our problem far different from the ordinary. We want suggestions as to how, under the hampering, the really distressing conditions which I have sketched, we can best carry on this work of educating the people of the United States to know the value of their own possessions.

But how can the national parks educate the people?

Once the publicity kind of education carries well over, once the people or a considerable part of the people are aroused, the parks will make their own publicity. Publicity, therefore, is our intermediate step to the larger educational purposes of the national parks.

The ultimate purpose of the national parks is the education and the inspiration of the people. That also is before this conference to-day; that idea infuses our entire cause from top to bottom.

When Mr. Mather and I were storm bound at the entrance to Glacier National Park last September, we talked about a project which we had discussed frequently before, namely, that the making of the parks a useful educational resource to the people might very greatly be furthered if the universities of this country would take into the parks their classes in geology, biology, and the study of natural life of every sort. I asked, "Who is that tall fellow over there?" The man I asked did not know, but presently Mr. Albright came to me and said, "There is a professor in this hotel who has been taking classes from the University of Minnesota into Yellowstone and Glacier for several years." I said, "Show him to me quick; he's the man I want." And they put me alongside of that tall man I had been asking about. A little later in the morning I am going to introduce you to Prof. Lehnerts. He has become a standard bearer in the cause.

Now, most of us prefer our education sugar-coated. The lesson is inside the coating. We go to our national parks because they are beautiful, because they are magnificent, because they thrill us, because they inspire us, because they fill us with amazement; underneath that coating of pleasure and emotion we find the education.

When I began to study national parks, endeavoring to differentiate one from the other, I found that to understand scenic beauty I had to get down to the geological skeleton, exactly as the artist has first to study anatomy before he can paint the human figure. Geology is the anatomy of scenery. A little later Prof. Ernest Lehnerts will tell you something about this, because he is both a geologist and a lover of scenery. But I have found that wherever we go into any national park the peculiar kind of beauty there found, the beauty

that makes that particular park individual, that differentiates it from all the others, has its source in geology. Consequently we base all our studies of national parks upon geology as the foundation. I believe that this idea must become the basis of any educational system which aims to make the parks useful to the people of the United States.

Again, I was delighted to receive recently a letter from the professor of history in a large university, who called my attention to the fact that much of our early history was connected with our national parks. Now, in the many other educational phases of our national parks I had not thought of them historically, but I find that our national parks are concerned with many of the most thrilling chapters of our pioneer days. This is still another approach in which, educationally, the parks and the people meet.

Many branches of science can be conveyed through our national parks to the people sugar-coated with supreme beauty. Our national parks are museums, also, nature's own museums. Two years ago I went through Yellowstone in a buggy with Col. Brett. We traveled at hours when the big procession of stages was not in evidence. The first day I counted over 80 deer, and then I gave it up. During that driving trip of five days we encountered wilderness bears seven times—I am not speaking of the "garbage bears" that haunt the hotels, but bears of the wilds.

We were not out more than 5 or 6 miles from Fort Yellowstone when suddenly the colonel drew up his horses with a little laugh. A short distance ahead I saw that an approaching wagon had also stopped. Then I noticed three bears; the mother and two fat cubs were walking leisurely across the road. In the middle of the road all three of them turned around and gazed at us very intently, as animals are wont to do. Then they turned and gazed at the other wagon. Then, without accelerating their pace, they scrambled up the hill, turned, and watched us as our wagons passed. Afterwards—at the time I was so occupied I did not notice it—I exclaimed, "Why, colonel, not one of these four horses ever turned a hair or twitched an ear with excitement"; and they had not.

Now, in New York City and elsewhere, societies, patriotic societies, are taking up the question of keeping the antelope from extinction; but one day during this drive over the Yellowstone I saw four different bands of these animals; in the smaller band, which was quite near by, I counted 16 animals, and the others were considerably larger. I saw many, many elk. They showed no fear; only the antelope kept at a distance; the birds showed no fear. Another day a bull moose—it happened at a period of our political history which made the incident especially interesting—a bull moose bounded out

of the wilds into the road ahead of us, saw us, turned up the road, and trotted probably 200 yards along the road only a short distance ahead and without accelerating his speed in excess of that at which we ourselves were going.

These incidents illustrate two great facts: They show that wild animals, after long years during which hunting is prohibited, may become unafraid of man; and that it is possible, therefore, to study them at close range and under advantages which can not be secured anywhere else than in our national parks; and not only the larger wild animals, but the smaller wild animals. There also is the extraordinarily beautiful flora of our national parks.

One of the destinies of our national parks, then, is to become the great schoolhouses for nature and science of this American people. I look forward to the time when not only technical university classes will go into our national parks, but general classes as well, when even our public schools will avail of the opportunities they offer.

No man, woman, or child can go into our national parks without becoming a better citizen of the United States and a better patriot. There is something in the glory of the mountain tops that inspires the visitor spiritually; he goes home with a pride in his nation that he never possessed before.

This is only a brief outline of the subject which is before this conference to-day. I have not gathered you together to instruct you, but to be instructed by you. It is my earnest hope that this conference shall produce helpful suggestions and ideas both as to how to educate the people to the knowledge of their parks and as to what we can best do to make the parks educate the people. I have merely suggested our subject. I am here to-day not to give but to receive.

We have a number of very interesting people with us to-day, men and women of accomplishments, of ideals, who are giving the best of their very good brains to great causes in the public good. Although they represent many lines of widely different activity, they all find a common meeting ground in this cause of the national parks. Dr. George D. Pratt, who will speak to us now, is the conservation commissioner of the State of New York because he is the man for the place, and I think we shall hear something from him that will make us think. I present Dr. Pratt.

George D. Pratt, Conservation Commissioner of the State of New York.

ORGANIZED OUT-OF-DOORS.

Mr. Chairman, ladies and gentlemen, it has been my good fortune in years past to travel through a number of the national parks, and

I want to second all that Mr. Yard has said about the beauty and the educational value of all of these parks. I only wish that all of the Congressmen and the Senators might have been here this morning to hear what he had to say.

It seems a crime that when the people in the Federal Government want to let the people of the United States know what belongs to them, and the advantages that belong to them, they can not do it; that they are hampered by a lack of appropriation.

In the State of New York we had somewhat of the same difficulty, but we finally persuaded the legislature that if we could let the people know what the citizens had it would be a good scheme, and they have given us appropriations to have motion pictures produced, and these are to be shown throughout the State in order that the people of the State may know what is being done for their benefit.

About three weeks ago I received a letter from the presiding officer of this session, in which he said: "I am assigning you a subject of delightful possibilities—'Organized out-of-doors.' Under this head you will have no difficulty in making your subject anything that you wish." It surely is delightful to be given a subject upon which one may say anything, whether it be a dissertation upon landscape gardening or a lecture upon the organization of major-league teams. Fortunately, however, farther along in the same letter, Mr. Yard gave me a more definite hint of what he considered appropriate for this particular meeting. "I am planning educational day," he said, "to present the national parks in two phases, the education of the people in national-park facts and possibilities and the practical use of the national parks as factors in public education."

With the administration of the national parks of the United States I have nothing to do, though I have often spent vacations in them and have a very keen realization of the immense part that they are coming to play in the lives of the people of the country, a part that will assume steadily increasing importance as the people become more fully educated regarding the vacation possibilities which are there afforded. I have, however, a great deal to do with a State park, which in its magnitude, and in the extent to which it is utilized by the people of the country, is in many respects comparable to the national parks which we are here to discuss. State administration of a large park must differ somewhat from national administration. The administration of New York State's great forest preserve and its utilization by the people, is the particular phase of "Organized out-of-doors," about which I wish to speak to you.

New York State owns in its forest preserve 1.814.550 acres of wild forest land and water. This land is located in four different

parts of the State. By far the larger portion of it is in the Adirondack Mountains, with which many of you are familiar. Another considerable area is in the Catskill Mountains, on the west side of the Hudson River, and within a few hours of New York City. Besides this, the State owns in Lake George over 170 islands, which constitute practically a unit in the distinctive problem of administration and utilization which they present. Forming another unit, entirely separate from any of the others, is the St. Lawrence Reservation, in the northwestern part of the State.

The purpose for maintaining the St. Lawrence Reservation and the islands in Lake George is primarily, and in fact, exclusively, that they may be saved from despoliation and may be made a vacation resort for the people of New York and other States for all time. They are in a country that is preeminently a vacation country. They are not adapted for timber production and their character gives them no value whatever as conservers of water supply. Accordingly their advantage to the State is entirely recreational and æsthetic advantage.

In the Adirondack and Catskill Mountains we find the situation far more complicated. When the forest preserve was established in those two regions the recreational use of the forest was foreseen, and had in fact already assumed a certain amount of importance. The recreational purpose, however, was not the only purpose for setting aside large areas of land in those sections under State ownership and control. Timber cutting upon an extensive scale had been going on for years and the inevitable fire had followed the ax throughout the mountains until it had become clearly evident to thoughtful people that if a forest cover was to be maintained it would be necessary for the State to acquire much of the land and to institute rigorous protective measures. Accordingly, the forest preserve was started in 1885 by legislative action. The constitution of the State, adopted in 1894, laid down the fundamental forest policy for the preserve, which has ever since remained entirely unchanged. This forest policy I shall explain in a few moments.

The forest preserve of the Adirondack and Catskill Mountains is peculiar in that it does not consist of a solid block of land. In fact, quite the contrary is the case. At the time that it was created the State owned many separate and unconnected parcels of land, of larger or smaller area, which had come to it through nonpayment of taxes, or which in some instances had never been alienated from the public domain. These parcels were interspersed everywhere with other blocks of privately owned land.

Two of the chief reasons for the creation of the forest preserve were the protection of the forest for the purpose of a future timber

supply and the preservation of the forest cover for purposes of water supply and stream control. By an act of the legislature the central portions of the Adirondack and Catskill Mountains were designated as the vital areas for these two purposes, and the boundaries of these sections were fixed by law. The boundaries were located on the first maps by heavy blue lines. The area within the blue lines of the Adirondacks was called the Adirondack Park and the area within the blue lines of the Catskills was called the Catskill Park. Thus, besides the St. Lawrence Reservation and the Lake George islands, we have in New York State the Adirondack Park and the Catskill Park, and in the mountainous and forested region outside of the park lines still other parcels of land belonging to the forest preserve. That there is opportunity for a much closer physical organization of the property is clearly apparent from this general statement.

From time to time the legislature has made appropriations for increasing the area of the forest preserve, and large blocks of land have been acquired in this way. Thus, many gaps have been filled and the State's holdings have been made far more homogeneous and extensive than they were at the time of the creation of the preserve. Even now, however, the large amount of privately held land that is intermixed with State land is responsible for the fact that the State's property is bounded by more than 9,000 miles of property lines. Within the blue lines of the Adirondack Park alone the State owns only 48 per cent of the land that is considered vital for purposes of water supply and stream control.

At the last session of the legislature an act was passed which provided for submitting to the people a proposition for bonding the State in the sum of $10,000,000, for increasing the area of the great State parks. Two million five hundred thousand dollars of this sum is to be used for extending the Palisades Interstate Park, about which I believe you are to hear to-morrow morning, while $7,500,000 is to be used for purchases within the Adirondack and Catskill Parks. It is significant of the interest which people take in forestry matters that this proposition passed by a larger majority than has ever been accorded to any bond issue in the State of New York. With the money that it makes available we shall be able to save from destruction the forest cover upon mountain tops, where it is now threatened by lumbering operations, and to knit together the State's holdings in a way that would never be possible under a system of small piecemeal purchases.

Lumbering operations should continue in the Adirondacks, and it will be the commission's policy to permit them to continue wherever they do not constitute a menace to mountain tops and wherever the character of the lumbering operations is on a scale of con-

servatism and of scientific forestry that will not mean the complete elimination of the forest cover. It is believed by the commission that the power of purchase will in itself constitute a measure of control over lumbering operations upon private land which can not have other than a beneficial effect upon the territory.

The constitution of the State lays down the fundamental forest policy covering the State land, and this policy is very clearly and directly stated in the following words: "The lands of the State now owned or hereafter acquired, constituting the forest preserve as now fixed by law, shall be forever kept as wild forest lands. They shall not be leased, sold, or exchanged or be taken by any corporation, public or private, nor shall the timber thereon be sold, removed, or destroyed."

Thus lumbering upon these lands is absolutely and forever prohibited until the constitution shall be changed. The lands are required to be kept as wild forest lands. As such they constitute a safeguard for water supply and afford a considerable means of stream control, without any further action on the part of the State than that of protecting them from forest fire. The creation of storage reservoirs at the stream heads, for greater stream control, is permitted by the constitution, but very little in this direction has so far been done.

The use of the State forests for public recreation has steadily grown in importance during the last 20 years, until the administrative problems that this use now presents are among the most interesting and important with which the commission is confronted. This is a change in purpose which has had its parallel in the national forests. In the December number of American Forestry, in an article entitled "Playgrounds in national forests," it was said that "A few years ago most of our citizens who professed interest in the national forests viewed the subject from a purely utilitarian standpoint. Mention a national forest and the discussion invariably turned to questions of lumbering, grazing, and water power. In all such questions the public's attitude was largely impersonal and usually academic. To-day the national forests of the West occupy an entirely different position in the public mind. They have become the property of the people in a sense so genuinely personal that the Forest Service, once the most bitterly assailed bureau of the Government, has become one of the most popular."

The forest preserve of New York State in the last very few years has similarly become the property of the people of the State in a sense that is genuinely personal. This increasing popular interest in the forest preserve was capable of statistical demonstration in 1903, though it had assumed by no means such importance in the public

mind. In that year the forest, fish, and game commission, to which the conservation commission succeeded, made some investigations regarding investments of capital in the Adirondacks that were not investments in timber land, and regarding the extent to which the woods were then used by vacationists. At that time there were hotel accommodations in the Adirondacks for 130,000 people, and during that year 451,000 persons were accommodated; 140,000 of them remained for more than two weeks, and 79,000 came from without the State. Hotel improvements in 1903, exclusive of land, had cost $16,427,000. Caring for tourists gave employment to 26,400 people, who received $1,130,000 in wages, exclusive of board. During that season the receipts of the hotels canvassed aggregated $8,725,000. These figures, it will be observed, covered only the business of boarding and lodging the summer tourist trade, and would be even more striking had they been made to include transportation and all of the other industries that are inseparably bound up with caring for tourist business.

During the same year, assuming a fair basis for stumpage, the lumber product of privately owned timberland in the Adirondacks was estimated at $3,275,000, while $5,600,000 was expended in wages in connection with the lumber industry.

Since 1903 the vacation business of the forest-preserve counties has increased by leaps and bounds, while ever since 1905 the lumber industry has steadily decreased. While we have no similar figures available for recent years, I believe that it can not be questioned that the vacation business of these regions constitutes fully 75 per cent of the total volume, and that lumbering constitutes probably not more than 20 per cent.

It is apparent, then, that the administration of this great property by the conservation commission must be conducted with full consideration not only of the requirements of the Constituiton, but also of the great part which the forests have come to play in the leisure moments of the people.

I shall not discuss at length the business of protecting the forest preserve and the large areas of privately owned land from fire. This is a business which requires a most careful organization. It is necessary to point out, however, that the presence of so many vacationists very greatly increases the fire hazard, and continual educational work regarding care with fire is of prime importance. This work is constantly carried on from the office of the commission and by rangers in the field, and in the long run touches practically 100 per cent of the hundreds of thousands of people who use the woods. As a by-product of fire protection, however, it is interesting to know that the trails that are kept open to mountain tops, where the commission

has its observation stations, are traveled each season by fully 50,000 mountain climbers. The mountain observers do a real service in pointing out interesting details in the views from the mountain tops, and many of them besides provide refreshments, and sometimes even lodging, for the climbers. Thus the fire service of the commission makes the mountains far more accessible and enjoyable.

The use that may be permitted of the forest preserve is, as I have pointed out, strictly limited by the constitution. Permanent camps are prohibited, and there can be no leasing of camp sites, such as characterizes the administration of our national parks. This is to be regretted. The leasing of camp sites of limited area and for short periods and the building of modest structures upon them would be an inestimable boon to the people of New York. The reason that this has not been done may possibly be found in the fact that the plain prohibition of the constitution regarding occupancy was for years unenforced. In fact, only two years ago there were approximately 900 cases of such occupancy, ranging from hunters' shacks and fenced-off pastures to hotels. We have fortunately been able to clear nearly all of these up by a rigid enforcement of the constitution, and the few remaining cases are in process of settlement. This had to be the first step toward a rational system of wider use, and we may hope that it will ultimately be followed by the enactment of more liberal provisions.

The constitution, however, does permit temporary use of the preserve to an extent that does not constitute a taking or leasing of the land. Accordingly the conservation commission has adopted regulations for the erection of tents and open camps which are more liberal than any heretofore in force.

One may go anywhere in the forest preserve without permit of any sort, and transient campers may pitch their tents without permit. More permanent camps, those that are to stand for perhaps an entire season, can be erected under permit, either with or without a board floor. It has been found that large numbers of campers wish to leave their board floors from season to season. Under the constitution, to permit them to do so, while they retain title in the board floor, is impossible. This restriction is minimized by providing that board floors that remain in place for more than a single season become the property of the State and are open to the public. The commission, nevertheless, gives preference to the person who erected them, upon application for use the following season.

Another type of structure, more permanent and comfortable, and one that is thoroughly typical of the Adirondacks, is the open camp or lean-to. It is made of logs, or logs and lumber, with a sloping roof, and is open in front to the fire. Its open character necessitates

only temporary occupancy, in accordance with the constitution. Two classes of these structures are recognized. The first class is intended for the use of travelers. They are located upon main trails and may be occupied for not more than three nights in succession. The other class is for hunting, fishing, and camping purposes and may be erected anywhere except upon main trails. The use of this class of camps by the same party is permitted for reasonable periods, the word "reasonable" being interpreted with some elasticity and solely with the idea of preventing a continuous occupancy of State land to the exclusion of others who have an equal claim upon it. Lean-tos of either class may be erected under permit from the commission, but must bear a notice that they are the property of the State and are open to the public.

The commission endeavors in every way possible to facilitate the use of the forest preserve by vacationists and offers every possible encouragement to guides to take parties into it. In fact, a number of the open camps or lean-tos have been erected by guides at points where it is convenient to take parties. It is understood, however, that the guide receives wages for his personal services only and reimbursement for expenditures, but not a cent for the use of the camps upon State land.

The future of New York State's forest preserve is brighter to-day than at any other time in its history. This is true not only because the commission's organization for fire protection has been made more effective than ever before, not alone because trespass upon State land, the stealing of timber has been eliminated, but true more particularly because every succeeding year sees tens of thousands of additional summer visitors who come in over the railroads and over the new State roads that are being built to reach all vital parts. In the interest and cooperation of these summer visitors the future of the preserve is assured quite as much as is the future of the great national parks.

THE PRESIDING OFFICER, MR. YARD.

I think you all will agree with me that Mr. Pratt holds his job by divine right. We can hardly realize how useful and to the point his paper will prove to us as pointing and illustrating the way in the problems that come before us with regard to the national rather than the State parks almost every day of our work. I have mentioned Prof. Lehnerts. When I speak about Prof. Lehnerts I always smile. It is because he got very close into all our hearts up there in Glacier National Park last summer, and because his quality of enthusiasm even matched our own. Prof. Lehnerts had been out all summer when we met in Glacier. That his class has included 40 young ladies

may or may not indicate that he was desirous, perhaps needful, of getting home for a little rest before starting his strenuous winter work; but when he sized us up he just simply hired another equipment, and turned around and went back again with us. Furthermore, before we got through that trip, Prof. Lehnerts had volunteered to promote the work which he himself is doing in other universities, and his efforts are now making to bring many universities, East and West, to look upon the national parks as schoolrooms. He will tell you about it himself.

PROF. E. M. LEHNERTS, OF THE UNIVERSITY OF MINNESOTA.

UNIVERSITY CLASSES IN THE NATIONAL PARKS.

Mr. Chairman, ladies and gentlemen, the subject "University classes in the national parks" may seem a little bit new to some, and yet I venture to hope that some of you may have had the good fortune in your time to have belonged to a university field class in the West in a national park.

Our Minnesota University work is not the first work that has ever been done of that kind. I had the good fortune to be a member of the geology class in charge of Prof. Saulsbury, of the University of Chicago, 17 years ago, and he took us through a region now called the Glacier National Park. It was under his direction that I first got acquainted with such work and learned of its advantages. Aside from Prof. Saulsbury, of Chicago, Prof. Chamberlain and Prof. Goode have conducted some similar work, and Harvard University has sent out parties under Prof. Davis and others. Columbia sent a party a couple of years ago under Prof. Johnson over an exceedingly successful tour of three or four or five of our national parks; and last year Prof. Saunders, I think it was, of Washington State University, sent a party into Glacier National Park. I believe the University of Texas sends a party into the Yellowstone; and I have no doubt other universities which I do not just now know have sent parties into the parks.

So we are not exactly the pioneers; but perhaps Minnesota might claim that she has done more faithful work along these lines because other universities have not repeated the trips regularly or for long intervals of time.

It would be hard to explain why these universities have not repeated those interesting journeys into the parks. I do believe, however, the reason lies in that conservative school board that Mr. Yard mentioned a few minutes ago. Back of the professor there is a board of regents, and usually they are not at all interested in sending their State classes into far-away territory. In Minnesota it might be that some of the people will feel that I ought to take my classes into

Minnesota and keep them there—into some of the interesting territory around Lake Superior, perhaps, or into the North among the iron mines, forests, and State parks. The same might be true of the universities of New York State. Having such magnificent scenery of their own, local sentiment might suggest that teachers and students first become acquainted with that which is near at home. Well, of course, there should be a balance, and both fields should be developed.

In our national parks we now have a territory that offers all kinds of problems for study and there are as many problems on a small or on a large scale as one might wish to encounter. The work of water, the work of ice, the work of winds, the work of rock-forming and mineral-forming agencies—all these processes that we study in the classroom in our textbooks on geology are illustrated in the national parks on a magnificent scale.

I believe that the time will come, however, when other universities will send classes into the national parks year after year and study these problems; and my reason for so believing is that the problems are there; that they are exceedingly interesting; that it is easy for university classes to be organized for such interesting work; and that it is easy to handle classes in national parks because provision is made for taking care of them.

Your chairman has suggested that the time may come when we shall have summer schools in the national parks. I am going to think about that pretty seriously, and I would be very glad if my university might be a pioneer in establishing a summer school in one or more of the national parks—eventually have a class in each of the national parks and perhaps a university summer school in one of them.

Columbia University, where I am doing some work just now, has shown considerable interest in our plans; it is willing to cooperate with us. That suggests a good point. If five or six universities could cooperate, they certainly could establish a summer school in not one but several of the parks.

You may ask, perhaps, what the advantages of the summer schools would be in the large. As I said before, it certainly would be an advantage to the students of three kinds: For students who are becoming specialists in geology; for freshmen, sophomores, juniors, and seniors studying elemental geology; and those who merely wish to get the cultural value of geology without afterwards following it as a profession.

Travel has been, in part at least, not as intelligently and as wisely carried on as other investments of time, effort, and money. Many a person travels through the West, or the East, or the North, or the South without a definite aim, and therefore sees little. Indeed, some people see exceedingly little. Now, then, I believe, as an in-

vestment of time and money, there should be more intelligent direction to travel, and perhaps the university might to some degree assist in this intelligent effort.

I might impose on you for just a moment to tell you what we announce in the University of Minnesota tour circulars. We say that these tours are more than mere sight-seeing excursions; they are educational travel courses, enriched with different and interesting dissertations and studies. They are elaborated courses in which nature herself is the lecturer. And we offer three kinds of courses—the advanced, the elemental, and those which are open to the public. I believe that possibly universities which have tried to offer these courses have presented them only in their university catalogue in about a three-line announcement—"Field courses in Yellowstone Park," for instance—and that is perhaps not enough to awaken in the minds of the reader the advantages which such a course might offer.

I do not know to what extent I ought to impose on your time. The chairman has suggested that I outline to you some of the problems in geology presented by our national parks and perhaps give you a lesson on the anatomy of one of our western parks. Well, that would be a very interesting thing to do, especially if I had brought my lantern slides with me so that you could see the views quickly, with here and there a geologic touch.

I am sure if you stood beside one of the Paint Pots in the Yellowstone, for example, and saw the richly colored clay making its noisy effort to explode, and then exploding in mounds, it would add, perhaps, to your knowledge and interest. You probably know that those richly colored clays were solid rock not more than perhaps five hundred or a thousand years ago. They were lava rock. But lava has a fashion of decaying very fast when steam passes through it, and when the Yellowstone lava, containing considerable iron, turns into clay, it passes through certain stages of color, depending on how much of the iron in the clay has been oxidized. It may be red part of the time, then orange, then gray or light ash. Much of the Yellowstone dust is lava which has decayed largely because of contact with sulphur steam. Perhaps if you stood beside the Grand Canyon of the Colorado and saw the magnificent columns in it and the interesting waterfalls at one end of the canyon it would add just a little bit to know just what that canyon means, how it got there, what the colors stand for, and what that waterfall means in the distance, how long it is going to last, and perhaps how long it has been there.

I have not time, and perhaps you at this moment would not be interested in going into detail, but I would suggest this, that streams

are of various kinds, and most of them are like Barbary coast pirates. When standing beside the Yellowstone River you might be surprised to know that it is a pirate, and that the beautiful canyon of the waterfall is the result of piracy. Yellowstone Lake drains westward naturally into the Pacific Ocean. But the Missouri River found it easy to work the lava rock into clay. Because of the depth of its valley it was able to tap the Yellowstone waters and suck them down into its present canyon; thus it is that Yellowstone Lake no longer drains into the Pacific.

So, every foot of the way you will want to ask questions, and our university professor might answer many of them. If he undertakes to do work in the national parks it is his business to know that field very thoroughly. So thoroughly should he know it, for example, that even on the ice fields, if there has been a new snowfall, he may guide his party safely in between the crevices, no matter how big they are.

Professors, I believe, are in the main very glad to take classes to the national parks, but they have hesitated because they have not known how easy it was to organize parties. Now, if some of you are in a position to write a professor of geology or of botany, say to him that you would like to have him organize a university class into such a park and watch results. I do not believe we need to send a man around to the universities to say any more than that. He would take that letter to the president of the institution—it would be such a novelty.

I believe I have taken more time than I should right now, but I will conclude by saying that if any of you are further interested in work of this kind, and if I can be of any assistance to you, I shall respond very heartily. You can always reach me by writing to the department of geography, University of Minnesota. But if you forget my name just send a letter to Mr. Yard and he will forward it. He will see that I get it. I thank you very much.

THE PRESIDING OFFICER, MR. YARD.

Prof. Lehnerts has made, and he made it years before any of us were with him, a practical start toward the educational goal, and we are sincerely hoping that there will result from his work a great many university classes of nature study, wild-life study and geology in our national parks.

You have seen a name upon our program this morning which has aroused your interest. I refer to that of Mr. Bestor, president of the Chautauqua Institution; a man who is, in just as full a sense as any man I ever met in my life, a live wire. That I have not called upon him in his place on the program does not mean that you are not going to hear him. It simply means that a telegram announces

that he will arrive in Washington at 12.35, and we will hear a big and live man on a big and live subject this afternoon instead of this morning.

A young man came to the door just before we began and said: "I am a newspaper man. I want to know whether anything of local interest will take place this morning, because I have to catch an early edition of my paper. What are you going to produce this morning that is local in its application?" "Well," I said, "national parks, I think, are local in the hearts of every rational and every irrational Washingtonian." "Oh," he said, "They are so far away. I want something local. What about this idea of taking all the public-school children to the national parks? Somebody told me that is the department's plan for this summer." "Well," I said, "I am afraid that Congress would not meet that bill."

Nevertheless there is a great deal in getting the public-school children and teachers in touch with national parks. The public-school teachers, as I told you at the beginning of this session, are alive to this movement of ours from Washington, and we are receiving letters and requests for information from all over the country. The public-school children are as alive to this subject as any subject that can be presented.

Now, we are going to hear from Dr. Philander P. Claxton, Commissioner of Education. Dr. Claxton, I suppose, knows public schools and public-school needs and requirements throughout this whole United States better than any other one individual. Dr. Claxton is also enthused with the inspiration of the national parks and their educational value to the public-school children. He has been of very great use to this movement, not only in his sympathy, but in his practical help. I present him.

Philander P. Claxton, United States Commissioner of Education.

PUBLIC SCHOOLS AND THE NATIONAL PARKS.

Mr. Chairman, ladies and gentlemen, I now understand the telephone message which the Chief of the Educational Department said came to me just as we were coming out. It seems that the same reporter, I suppose, wanted to know what I was going to say, and I said that I was sure he could not know until after I had said it, because, unfortunately, I had not had time to write out a paper as I should for an occasion of this kind.

But there are some things that I do want to say and I am very glad simply to be here and by my presence, if in no other way, to give encouragement to the work that Mr. Yard and my friend and

immediate superior, Mr. Mather, are doing for the national parks of the United States.

Until now we have been a very busy people—for 150 years the busiest people the world ever knew. Within this century and a half we have performed a task unequaled in the history of the world. We have conquered a continent. We have reduced to civilization and to the service of civilization 3,000,000 square miles of territory.

No other migration of races or peoples has equaled that by which scores of millions of people have poured themselves from all the world onto this continent and into the boundaries of the United States. The forests and the prairies, the marshes and the deserts, the mountains and the plains, the haunts of savage beasts and still more savage men have been turned into fields from which the nations are fed, and upon them have been located great cities that rank among the most populous in the world—the home of a throbbing, busy, healthy civilization.

While conquering the continent we have transformed natural resources into actual wealth more rapidly and on a larger scale than has ever been done elsewhere in the world. Migration to this country has been almost wholly of the sons of the poor, as Lowell has sung for us; of the rich and of the aristocracy of the Old World, few have come. Of all the billions of our present wealth it is doubtful if more than one billion has been brought by those who have come to make their homes here. Yet to-day, though we constitute only one-seventeenth of the population of the world we own more than one-third of the wealth of the world and are producing wealth more rapidly than all the rest of the world together. Soon we shall own a good half of the wealth of the world and within a half century should count our wealth in figures larger than those for the whole wealth of the world at the present time, just as within less than 150 years we have accumulated more wealth than had been accumulated by the whole world before the date of the declaration of our independence.

The strenuous work of felling the forests, clearing the fields, breaking the prairies, draining the marshes, bridging the streams, tunneling the mountains, harnessing the water power, exploiting the mines, building the cities, is not yet finished, but we have reached a point where the pressure becomes less. We have homes for our people, our forests are cleared, our prairies are broken, our fields are fenced; to some extent the swamps are drained and to some extent the deserts are reclaimed. Comparatively few good highways are completed, but trails have been broken. Many railroads must yet be built, but the trunk lines are established. Centuries of hard work lie before us, but for the future play may be mingled with our work. We now need to learn how to play and how to use our leisure to good advantage.

Until now our joy has been in our work and at the end of the day we have found our recreation and pleasure in talking over the work done and in planning the tasks for the morrow. While other peoples have played and worked that they might live, we have lived that we might work, and have made our work our play and have rejoiced in it. Leisure will be dangerous to us unless we learn to use it wisely. We must learn to play simply and sanely, else leisure will mean for us only waste of time; and we shall waste ourselves with our time in harmful dissipation.

Until the beginning of the present war American travel in Europe was large—larger than the European travel from any other country—and was profitable to European hotels and resorts. Americans of wealth paid large prices for their rooms at the hotels; large tips to waiters, porters, and guides; large prices for pictures, sometimes without much regard to their value as works of art. Our own commercial resorts are well patronized and usually prosperous. Our visits to these places have been profitable to the owners of the hotels and to those who hold the many and various concessions, but not always profitable to the visitors.

Possibly it is a realization of all this that has made the entire country respond so readily to the suggestions for the use of our national parks. The magnificent extent of our country, with its wide variety of land and water scenery, offers opportunities unsurpassed for large and beautiful national parks to be used as the playgrounds of the people in immediate and wholesome contact with nature. Such contact with nature and opportunity for vigorous play in the open air and the outdoors are especially needed for those who live in large cities. We have changed from inhabitants of the open country to dwellers of the city more rapidly than any other people of the world. A hundred years ago much more than 90 per cent of the people lived under conditions which we would to-day call rural, and until after the War between the States we were practically a pioneer people with no large cities. To-day about half the people live under urban conditions in cities and towns of 2,500 people or more and the urban portion of our population living in large cities is rapidly increasing. One of our cities is one of the largest of the world, and others must be counted among the large cities of the world. This city life is new to us and to the races to which most of us belong, and we are not yet adjusted to it. Children of pioneers can not immediately change the active life of the frontier to the sedentary life in the city without great strain.

Long ago Edwin Arnold called our attention to the fact that the Anglo-Saxon people are not naturally and by inheritance a city-dwelling people; they have always lived in the open country. The English nobility and aristocracy have their seats in the country;

they only visit the cities. When the Anglo-Saxon has his roots pulled from the soil and is transplanted to the city he tends to wither and die. True for the race as a whole, this is true also for that part of it which constitutes the dominant element in the population of the United States. We must constantly re-create ourselves by getting back to mother earth and reestablishing, for a time at least, our contact with the elemental forces. It is true for us as a group and true for us individually. If you will pardon a personal allusion, I may illustrate this by my own experience. For 40 years I have been a fairly busy youth and man, with only brief periods for vacation coming at long intervals. In this busy life I have found two effective means of rest and recreation—the reading of great books and close and intimate contact with nature.

There is recreation for the mind and soul in the books of those who have, through the ages, interpreted to man both himself and nature; the books of those who have stood on the mountain tops and caught the glow of the ever dawning new day; of those who, organized a little more finely than most of us, have felt the heart throb and pulse beat of humanity most fully; of those who have been able to chart to some extent the permanent currents of life beneath the waves and ripples of the surface. Recreation comes to body and soul, mind and spirit, as one climbs the mountains and from their tops catches the view of the expanding horizon; as one wanders through the forests and listens to their silences; as one sits by the waterfalls and loses himself in their mists and music; as one stands by the seashore and watches the waves as they lift themselves above the horizon or on the plains in the storm and lets his soul ride on the wings of the wind and bathe itself in the bosom of the clouds through which the lightning flashes.

Out of the forests we came; they have been our home through all the ages. We feel it in our blood and nerves. Like the giant Antæus, our strength oozes away when we are held away from the earth and increases tenfold when we come in vital contact with the soil. When the city man who knows something of nature thinks of having a really good time he plans for a trip to the country. Thoughts of the hardships of primitive methods of living do not deter him if he still has red blood in his veins. You remember, doubtless, Dudley Warner's essay on what some people call fun. It is fun to sleep on the ground with only the sky above you; to drink water from the running brook; to take your coffee hot and black from a tin cup; to burn your hands while frying bacon over a fire of brush. It is the fun of having gotten back home, and there is education and value in it as well.

Teachers, like other people, have need for this kind of recreation—possibly more need than other classes of people—and all teachers have

vacations. In America vacations are long. A German scholar is reported to have said that the vacation is the chief feature of the American school system. Our annual school term is shorter than that of any other great culture country. Almost all American teachers have four months of vacation, and the average for all is five months. There are, you know, 12 school months in the year; the average school year in our cities is 9 months; for city and country it is 8 months. Most of our teachers have no very profitable way of using these months of vacation. Many, of course, attend summer school or institute for from 1 to 6 weeks. Some who are able to travel abroad. It would be well if more of them could spend some time in the public parks and come there in closer contact with nature and learn something of wild life. For most, this is now impossible because of the expense. The pay of most teachers is small. Their recreation must therefore be inexpensive. The great majority of urban teachers live in the East, east of the Mississippi River. The parks are in the West. Distances are long in this country. Railroad travel is costly even when reduced for the summer season. We should have many more parks than we now have and they should be more widely distributed. More of them should be in the part of the country in which the people live who need them most. There should be many small parks in the Appalachian Mountains and by the sea and along the lakes. There should be several in the uplands of the South. Parks by the sea would offer opportunity to teachers to study the forms and the life both of land and water. With parks more numerous and more evenly distributed, hundreds of classes of both teachers and pupils could be formed for study. There are more than a half million of teachers in the United States. Every year a hundred thousand of these should find their way to the national parks for a period of from a week to two or three months of recreation and study. As a result they would be much better fitted for the regular work of their schools. They would then understand better the open spaces and nature close to them and could make better use of these.

I should be glad to cooperate in any way I can with Mr. Yard and any others to bring about the organization of classes for this purpose. Universities might well assist in establishing and maintaining these study classes. I do not think the suggestion that summer schools be held in the parks is an impracticable one, if costs can be held within reasonable limits.

If parks were more numerous and closer to the people many hundreds of thousands of children could use them for play and study. In this country almost all school work is done within the walls of the schoolroom and consists in learning and reciting lessons assigned in books. In some countries the practice is quite different. If you should be traveling in Germany at any time during the Easter,

Whitsuntide, summer, or fall vacations, you would meet many groups of children and teachers marching through the country on what they call Schulereisen, or school journeys, traveling and studying for days at a time. Preparation is made for these journeys weeks before they are begun; and much of the instruction of the children will be based on them or illustrated by experiences gained by them for months afterwards. The necessary expenses are very little. Railroads make very low special rates for them. Children and teachers live very simply, stopping at small inns, buying their food at the shops and eating by the wayside. I have very pleasant memories of a week spent 20 years ago with a group of third-grade boys and some teachers who made a trip from Jena to the Thuringian Forest and north Bavarian highlands, visiting old castles, convents, mines, quarries, and quaint old villages; tramping through mountain forests and across the fields, frequently singing as we went; stopping at little inns; eating black bread and sausage and drinking dark or light beer—the beverage of the country. We were warned against drinking water; water might be polluted—beer, never.

The total cost to the children for the week's outing was, I believe, $4.50 each, of which the children were expected to pay $1.50. We were out a full week and traveled several hundred miles. When we returned the children had spent a vacation week very delightfully and had gathered the material for many most valuable lessons in the following months. This group of boys of 9 to 11 years old had in previous years been on many such trips in different directions from their homes and had thus gained more or less detailed first-hand knowledge of a good part of their country.

Our country does not lend itself to work of this kind for school children as Germany does. Distances in this country are long; roads are frequently not good and there is more uniformity than in European countries. National and State parks, if more numerous, would make such outings more easy and more profitable.

As it is, most of our people, including, of course, the children in the schools, live far away from any national park; but all help to support the parks by their taxes. They should at least, therefore, be told about them and have opportunity to see good maps and pictures of them and of the places of beauty and interest in them. The best place—and in many communities the only place—where information in regard to the parks can be given effectively is in the schools. There is no other place than the public schools where all the people can be brought together. All children are in school at the age when descriptions and pictures, especially of the unusual and wonderful, appeal to them. High school students can study them carefully. Older people of the school community can come together at the schoolhouse for lectures and stereopicon illustrations.

These lectures might well be given by teachers or local people who have themselves visited the parks. People are always more interested in hearing one tell what he has himself seen or experienced than in hearing those who have their knowledge only at second hand.

There should be on deposit at some place—preferably at Washington—large collections of stereopticon views of the parks and their most beautiful and wonderful features. Of all the more important views there should be many sets. These should be sent upon request for the use of any school and at no cost except for transportation. This would make a very effective kind of park extension service. I should be glad to have the Bureau of Education cooperate in this with the Office of National Parks. Pictures and maps should be sent free of charge or at a nominal cost to all public and private schools asking for them. It would cost comparatively little in this way to give to to all school children and to most older men and women fairly adequate information about these places which are the common property of all the people but which most of them may never visit.

As I said in the beginning, we as a people have worked hard and persistently. We have made homes for ourselves and our children. We have accumulated wealth. We have earned at least some degree of leisure; some surcease from toil has become possible for many of us. We must learn to use this leisure aright or it may prove our undoing. There is no good, no final or absolute good, except the human good. All our lands and bonds and material wealth of whatever kind, if they are to have any real and final value, must be transmuted into human intelligence and human joy of the best kind. The national parks and their right use will aid in this. To bring the people to the parks and the fullest and best possible information about the parks to the people is a work well worth doing. The results can only be good.

The Presiding Officer, Mr. Yard.

We owe to Dr. Claxton a substantial vote of thanks for that speech, which is full of suggestion. There were two or three invaluable ideas there which we shall take up with Dr. Claxton later on for advice. The idea of getting the public school children into the national parks to me has been a dream. I have never supposed or considered it a serious possibility at this time nor perhaps for long years to come. Other of his suggestions will help us on our way.

There has just come into the room the president of the association that bore the brunt of the battle for the creation of the National Park Service. Mr. McFarland was due to speak yesterday upon the subject of the "Economic destiny of the national parks." I had asked him to say something about his own association in connection with the national-park work, because it had been a very

important and valuable factor in placing this movement where it is. He was in the field long before Mr. Mather was in the field, and he has had the tilling of the soil for the park harvest which is now beginning to flourish in the souls of this people. Mr. McFarland, who has been in a sense a public teacher for many years, will also, I have no doubt, contribute something to the special nature of this session of the conference, which deals with the problems, Mr. McFarland, first of getting before the people the news of their heritage of scenery; and, secondly, with the use of that heritage of scenery by the people for their knowledge and inspiration. I introduce Mr. McFarland.

J. Horace McFarland, President of the American Civic Association.

ECONOMIC DESTINY OF THE NATIONAL PARKS.

Mr. President, ladies and gentlemen, the American Civic Association early in its existence saw the importance of considering that national parks were actually national parks, and not merely incidental parcels of lands set aside by quite incidental legislation, and with a most fragmentary relation to the General Government. At the time we began to agitate the matter there was not a desk in Washington which belonged wholly to the national-park work; indeed, there was not more than a third of a desk in any department relative to the nation's park possessions.

Even before we began with the national parks as such, dealing with those already established, we thought it our duty to prevent aggression. It was rather early in Mr. Roosevelt's administration that I reecived a letter one day from a good woman who wanted to know if something could not be done to prevent the building of a trolley line around the rim of the Grand Canyon of the Colorado. I thought something could. So did Mr. Pinchot. So did Mr. Roosevelt. And the Grand Canyon immediately thereafter was, by Executive order, declared a national monument. The trolley line is not yet there.

Mr. Roosevelt was not addressed on the subject of national parks because the broad conception was not yet in our minds, but when Mr. Taft came into office as President we began, very early in the administration, an effort which brought us into close connection with the Secretary of the Interior. We went to Mr. Ballinger with the thought that the time had come to give the national parks a definite status. He quickly saw the idea, and the first draft of the national parks bill ever offered in Congress was prepared in the office of Mr. Ballinger, and submitted for review to a meeting of the American

Civic Association. Every suggestion we made was immediately and fully adopted. That bill was offered by Senator Smoot in the Senate, and by Mr. Davidson in the House, both then firm friends of the parks, and still friends of the national parks.

The essential thing in this legislation was that there should be a declaration as to what a national park was; what it was for. Frederick Law Olmsted it was who phrased that definition, and with all the mutations of the national park legislation, his phrasing has remained. It has been the only thing we were unwilling to give up. Our idea of an advisory council we had to let go, but we have never been willing to see the declaration as to the purposes of the national parks eliminated from the bill, which is the reason we feel that the bill which was passed in August last is worth while.

The American Civic Association kept on following the national park effort after Mr. Ballinger resigned. When Mr. Fisher came in, our relations became closer, and we followed throughout the administration vigorously and insistently. I had the honor to write the words relating to national parks which appeared in one President's message, and it was a pleasure to find that the President of the United States could see that the national parks were worth bothering about.

When Mr. Lane came into office, Mr. Watrous and myself did not allow much time to elapse until we saw him, and I well remember that on the 15th of March, 1913, when we called on him, he said that he had not had time to look into the matter seriously, but the idea of a national park service struck him favorably, and that if the railroads were conducted in the same manner as the national parks, no man would be brave enough to ride from Washington to Baltimore.

There was another relation the American Civic Association has had to the national parks which may properly be mentioned at this time. When Mr. Roosevelt called that memorable conference on national resources in the White House in May, 1908, I had the honor to be present and to deliver an address on "The value of natural scenery as promoting patriotism," and I do not think that in connection with whatever I have done in a public way there has ever come to me more satisfaction than I felt, after finishing that short address, when the venerable old Secretary of Agriculture, Mr. Wilson, said, "Those are good words, my boy. The world will forget what the rest of us say here, but the women and the children will read and remember those words."

Mr. Yard has asked me, however, to address myself to "The economic destiny of the national parks." It is rather a large order for a 15-minute address. I will merely endeavor to give you the headings, so that you may think it out for yourselves.

The American Civic Association has long since ceased to be interested in that unfortunate slogan "The city beautiful." We believe in efficiency, in accomplishing something. The beauty will come, and the thing that is not really useful is never beautiful.

We have long known that recreation spells efficiency in communities. I would like to ask that you give consideration to a few thoughts in that direction. We want to consider the use of the national parks as playgrounds.

I want to pound that single word "play" into your minds, if I may. Perhaps it does not seem dignified to you. It means something just the same. I have ventured to formulate a definition which I should like to have you consider. The lexicographers do not give it, but it is this: "To engage in exercise or occupation of any kind for diversion, amusement, or recreation."

That's the kind of play we believe in, and the kind we expect to continue to promote.

There is good reason for considering this angle of the subject. It has been worked out by a most able park superintendent, George A. Parker, of Hartford, Conn., that there is a definite amount of time spent by each human being in play. He assumes that the time not occupied in eating, sleeping, or working is playtime, and he insists that it amounts to at least five hours every day for every individual. If you will challenge the statement in your minds, you will be rather inclined, I think, to say that Mr. Parker's estimate is low. However, I ask you to accept for the moment the statement that five hours per day per person is being used for something else than eating, sleeping, or working. When that time is added up for the Nation of 110,000,000 people it becomes an incomprehensible sum of time—about 63,000 years—to-day, and to-morrow, and every other day the recreational expenditure of the United States of America. We do not control it at all; it happens, whether or not. We have little to do with it, save that we can influence it; but we can not make it longer or shorter. We are tending all the time to make it longer as we reduce the hours of labor, and that movement is hardly likely to be stopped.

Further, we spend money in this playtime, and Mr. Parker has figured that play averages us 2 cents an hour. That does not seem much, but when you pile it up for the United States of America, with the time used also, looking at 63,000 years a day and at $11,000,000 a day spent in money, doing something else than eating, sleeping, or working, the splendor of the problem which is before this present organization fully appears.

This expenditure of time and money is always going on. We have only such influence as we may choose to exert, but we can not stop it. As I have said, I believe that the use of this play time ought to be

beneficial, and that if it is we should be making a better nation rather than a worse nation all the time. The play time and expenditure includes the time and money used in churches, saloons, theaters, libraries, and everything not related to eating, sleeping, and working. There is not time here to go into the details, but they are awe-inspiring as to the divisions of the recreational expenditures of the people of this country, and I can not recommend to you a more wholesome survey than that of the play problem in your own home community. See how it is spending its play time and play money, and see how infinitesimal is the amount of time diverted and the amount of money used for good.

We believe, then, in the American Civic Association, that we should do our utmost to divert some of the play time and some of the play money toward the upbuilding of the people, and away from the down-pulling of the people. Now, public recreation may, in a general way, be separated, as it may relate to parks—the city parks, playgrounds, parkways, and sometimes I might say the county parks, which are intimately related to where we live. These provide "first aid to the injured." They give the first chance to see the sky, and to feel the influence of a clean, pure breeze. They do not always do that, for I have seen playgrounds in cities as dirty as they could be, but the general influence of the smaller parks and playgrounds is that of first aid to the injured. The broader areas, the State parks and the national parks, serve a different purpose. They reach after the spiritual side of the matter, and that side is the most important to the nation, because in it lies the whole impulse of patriotism, on which the safety of the nation depends.

I have sometimes asked audiences whether they have ever heard of a desire to take up arms in defense of a machine shop. Of course, you can hire guards to defend a machine shop; but do you ever hear of people springing to the defense of a town as unlovely, for instance, as Hoboken; or could the State of Pennsylvania be aroused to defend the smoke, filth, and dirt of Pittsburgh? No, not a bit of it! Often the man who made his money creating the ugly conditions goes traveling, and when he begins to boast he says very little about his smoking factory or his dirty towns. He exclaims about the beauty of his neighborhood, his State, his country. The whole basis of patriotism is love of country. Without it there is no safety.

We can not expect people to go sightseeing in these lavish days and undergo discomforts. If the national parks are not made comfortable as well as comfortably accessible they will not be used, and an important means of promoting patriotism will lie dormant. If the parks are made easy for the people, they will be used extensively. I have had much to do, in my own park experience, with the intensive use of city parks, and have helped to work out certain for-

mulæ as to how to get the most people to make the most park visits. In Harrisburg, where I live, there are about 74,000 people, who make annually around seventeen hundred and fifty thousand visits to the parks. All we have done, Mr. Chairman, is to make the parks in Harrisburg accessible and comfortable. God made them beautiful.

Another of the things that could be done in the direction I am trying to indicate is to increase the number and proximity of these parks. If there was on the wall here a map of the United States the national parks would show as only little spots, mere trifles; and they are so far off. I have just come in 38 or 40 hours from the shadow of one of the newest and the most accessible national park—the Rocky Mountain National Park. I had my eyes on Longs Peak on Sunday morning about 9 o'clock, and it has taken all the time since to get to Washington. It is too far off.

The national parks are not close enough; there are not enough of them. Why should the park center be so far beyond the center of population? Why should we in the East have to spend about $150 to get the first whiff from the pines of the Rocky Mountain National Park, the first glimpse of its snows? Are we thus penalized because we happen to live where the most people live? No, Mr. Chairman, the parks must be brought close to the people. We who work out the problems of putting the park in competition with the hospital and graveyard and jail know that it is never safe in a community to reckon on the women and children and deficient men going more than a quarter of a mile to a park. We know that we must put the parks in reach of the people.

If national parks are worth while they must be where more people can reach them without large expenditure. It would be a good investment for the United States to make a park survey of the entire country and to indicate certain areas as intended to be national parks to serve the Eastern States, others to serve the Middle States, and the Northern States and the Southern States.

I insist the time must soon come when instead of having national parks created by accident or through the devotion of some interested man we must have a system of national parks all over the land in order to accomplish the upbuilding of patriotism.

We want also unification in national park management. It is now the fact that there are three departments handling national parks—an obvious absurdity. If the departments do not soon fix it up between themselves, some independent agency like the American Civic Association, not caring whose toes it treads on, will need to try to eliminate some of the duplication. It would be a good job to put all the Federal departments into better relation. It would be doing a great thing for them and for the people.

Congress now has spent a gigantic sum on the national parks—nearly a quarter of a cent per person a year. If it would spend a half cent per year per person for parks, I think Mr. Mather would think the millennium had arrived. And if 1 cent per person per year was provided, he would be unable to comprehend all that could be done for our national parks.

Yet Philadelphia spends $1.40 per person for park purposes; Milwaukee, 93 cents; Pittsburgh, 53 cents. Why should not the United States spend a whole penny for each of us annually in our national parks?

Let me put it in another way. The United States spends the gigantic sum of $700 a day on its vast areas of marvelous natural wonders; Philadelphia $655 on her little bit of most inadequate park area; Milwaukee gets away with $1,076; and even smoky Pittsburgh spends $862 per day on her parks, which Pittsburgh knows is better than extending cemeteries and providing more policemen.

We need extension of the sort of national park promotion we have recently had. Indeed the kind of management that has been going on in the last 18 months in the National Parks Service is so near business management that I do not see how it can have happened in Washington. Here are Mr. Mather and Mr. Yard, business men, actually managing national parks as if they were a business enterprise. It is extraordinary; but I wish it might be extended, and that we might have a whole lot more of it, and that they might be given money, much real money to do the job, such as Mr. Schwab would give them if they were working for the Bethlehem Steel Corporation.

I am not throwing mud at Congress, because Congress does the best it knows how, and we who elect its Members are the responsible persons. When we get around to having a budget in the United States and working with it like any business man, then we will get plenty of money for parks; but I do not want to wait so long. This appropriation of 1 cent apiece for every inhabitant of the Nation ought to come right away, this session; and it should be an automatic, continuing, annual appropriation of 1 cent apiece. That would mean the automatic increase of the support in proportion to the population. There are American cities in which it is written in the organic law that not less than 1 mill of taxation shall be spent on the parks, and the park authorities in those cities can really plan, because they have something to plan for and something to plan with.

I do not think that what I am now about to say will be popular, but I must say it. In the management of the parks I think the Government should do the whole job. I see no room whatever for the

delegation of the doing of anything in a national park. Nothing should be sold, except as sold at cost by the Government to the people. Why? The Government can buy in the cheapest manner and has indefinite credit. It pays no rent or taxes. It needs no profit. It needs to pay no interest on its investment. Naturally, therefore, it can render the same service at far less cost. If the Government can be trusted to send our letters the Government ought to be trusted to provide us with beds and food in the national parks. If the Government can be trusted to do the things it does through the Army and the Navy it should be trusted to run automobile stages for us in the national parks.

I do not mean to criticize what has been done. I am full of admiration of what I have seen in the parks, and of those now doing park service on concessions; but the very fact that it is good business for them makes it bad business for the people. The only proper way is the handling of the functions of the people by the people. There are States that do that and cities, also. George A. Parker, whom I cited, is responsible for a most excellent and epigrammatic definition of the relation of service and business. He says: "Business is to get all you can for what you give, and service is to give all you can for what you get."

And that's the answer. There is no possible reason why we should not have the cheapest and best service. This man Parker has been trying in Hartford to sell things at actual cost. He can not do it. He has been unable to avoid making a profit in selling milk and chocolate and other things that he is permitted to sell, because he can not get the units down low enough not to make a profit.

I hope you are familiar with the recreation centers on the South Side and West Side in Chicago. These are courageously run by the park authorities, things being sold at cost. They are magnificently handled because they are done for the people by the people. I would not want to be long in the company of one who says the people can not be trusted to do these things. Municipal government is no longer what Mr. Brice said it was 20 years ago—"The one conspicuous failure of the American system."

I go back to my starting point. "The economic destiny of national parks" is to promote patriotism; but there is another aspect to it. If we want to be a little bit calculating—and Americans are sometimes said to be a little sordid—then, the economic destiny of the national parks is to bring a tremendous amount of money into the United States from abroad. I wonder if you realize that the one great natural wonder of the United States which is most attractive, and which is not yet safe until it becomes a big national park—Niagara Falls—is estimated to produce $30,000,000 a year of travel

revenue outside of any power use that has been taken from it. Niagara Falls is easily accessible and is visited by 1,500,000 people each year.

There is one truly tremendous travel revenue possibility for the United States—a possibility beside which the doings of Switzerland in attracting visitors might sink into insignificance. Indeed, Switzerland could be lost in Rocky Mountain Park. If we are willing to provide the conditions and facilities, the handling of the national parks becomes a purely economic proposition; an investment, not an expense.

But the greatest of all park products, Mr. Chairman and ladies and gentlemen, is the product of civilization, the product of patriotism, the product of real preparedness, the product of manhood and womanhood, unobtainable anywhere else than in the broad, open areas which alone the Nation can provide. There, ladies and gentlemen, is a product which we must promote and which we must have, and everything we can do and everything we can spend which will increase the facilities of the United States for intensifying our all too feeble national spirit for increasing the fervor and vigor of our spirit of devotion to the country—every such thing we can do is thoroughly worth while. That is then, ladies and gentlemen, the "economic destiny of the national parks" of the United States.

THE PRESIDING OFFICER, MR. YARD.

I thank you, Mr. McFarland. I am very glad to see that our stenographer has been most industrious; I shall be glad to have a chance to study that speech at a later time. Although we are so few this is a distinguished gathering in many ways. It is so late that we shall have to stop at the close of our program, but it is with regrets. I see here Marion Parsons, for instance, of the Sierra Club, who could give us some useful thoughts on this subject if there were time. And just a few moments ago Dr. Raymond, of Wellesley College, just left us, whom I met out in Crater Lake last year and who is full of the subject. We have Mrs. Sherman here, whose life is spent in education. She is educating the country through her control of the conservation departments of the 9,000 women's clubs united in the General Federation.

And we have here no less than two "fathers of national parks." One of them is Mr. Enos Mills, whose campaign of 11 years resulted in the Rocky Mountain National Park and whose whole life is the life of a teacher. And I see sitting back there Judge Steel, whose devoted patriotic personal efforts at his own expense—from what he saved out of the salary of a country school-teacher for 17 years—finally resulted in the creation of the Crater Lake National Park.

I only wish, instead of being half past 12 o'clock it was half past 10 o'clock, so that we could hear from all of these people, for everyone of them have thoughts on the subject of education that would be extremely useful for us to hear. And there is Mr. Barber over there who wants to help us establish winter sports. I might mention a number of others.

But we will now adjourn until a quarter past 2 this afternoon, and we hope that the weather will enable us to have a large enough audience to assemble in the auditorium. We have had an extraordinarily fine session this morning and we have a very fine program for the afternoon.

(Whereupon the Wednesday morning session was adjourned.)

WEDNESDAY, JANUARY 3—AFTERNOON SESSION.

EDUCATIONAL DAY—Continued.

The Wednesday afternoon session was convened at 2.35 o'clock, with Robert Sterling Yard, of the Department of the Interior, presiding.

THE PRESIDING OFFICER, MR. YARD.

This morning the rain poured down in torrents, and we held our session a little late with a few of the faithful in a smaller room which we well filled. It was one of the most successful meetings that I have attended anywhere. It was a kind of "love feast," and I only wish that those who are here this afternoon and were not here this morning had had the pleasure of hearing the valuable and inspiring addresses that we had at that time.

We are discussing to-day the people and the national parks, not at all the administration of the national parks, economic or otherwise. We are discussing this people and their national parks, and when we discuss that subject we discuss education, because no one can visit our national parks without becoming insensibly educated and inspired.

This afternoon we shall continue that subject. We shall first speak of the national parks as a scientific asset, and Dr. Walcott, Secretary of the Smithsonian Institution, the man of men upon that subject, will talk to us.

We want to discuss, because the question of education in the national parks is twofold, first of all our need to instruct the people in the knowledge of what their national parks contain—their scenic resources. We must inform them. That is all we need to do—to inform them; the people will do the rest themselves. That is the first part of our educational propaganda. The other part, the one that will

survive the former, and in the end will be the greatest of all, is what the national parks will do to educate and inspire the people.

We have both aspects of the subject of education before us to-day. We shall have an author to speak upon our national parks, Mr. Herbert Quick. Mr. Grosvenor, whom I think we all recognize as the authority on the subject, will talk to us about teaching by picture. Dr. Gilkey, of Chicago, who is here, although he has not yet appeared on the platform, will speak of the "Spiritual uplift of scenery in national parks and the Grand Canyon," and Dr. Gilkey can speak on that subject. Dr. Holmes will speak on "The painter and the national parks."

I now have the pleasure of presenting to you, without introduction, because no introduction is needed, Dr. Walcott, Secretary of the Smithsonian Institution.

Dr. Charles D. Walcott, Secretary of the Smithsonian Institution, Washington, D. C.

NATIONAL PARKS AS A SCIENTIFIC ASSET.

Mr. Chairman, ladies and gentlemen, when I came in I told our chairman that the subject assigned to me was one which could be dwelt upon for an hour or more with ample illustrations or descriptions, or limited to five or seven minutes, and under the circumstances I prefer the five minutes. I have prepared a brief note, and I am going to read a paragraph at the beginning and a paragraph at the end, with some comments as to the first.

Dame Nature has a way of hiding wonderful secrets in out-of-the-way places where the brawn and brain of man must work hard to overcome physical obstacles and unravel the hidden mysteries.

Scientific explorers long ago began to search for the whys and wherefores in the Yellowstone, the Yosemite, the Grand Canyon, the Rockies, the Cascades, and the forests of great trees on the Pacific coast. One by one the more salient wonders of these regions were brought within the realm of the knowable. Gradually the people awoke to what nature had preserved for them and demanded that the strong arm of the Government be thrown around the great study and recreation areas of the Nation. Within these parks scientific researches will be conducted for generations to come. Men of science and research will be drawn to these everlasting original sources of nature's story and will return to their work invigorated and enthused for deeper study of the wonders of the earth.

Considering the scientific aspect of the parks carries me back to the first days when I came to Washington, and I heard of the Hayden, Powell, and Wheeler surveys, and learned that Dr. Hayden

had explored the Yellowstone, overcoming Indians and obstacles of all kinds, and penetrating what was then an almost unknown, unexplored region. Dr. Hayden brought back a wonderful story; he also brought back the results of scientific research. This afternoon we are to hear Dr. Holmes, one of his assistants, speak of the parks from the point of view of the artist.

Two years ago I went to the Yellowstone to make special studies, and I took with me a report, published in 1874, by Dr. Holmes upon the Yellowstone Park, which is full of scientific information and data that is as true to-day as when it was written. Dr. Hayden's work is almost monumental, as leading the Nation to understand the possibilities of many sections of the West, and incidentally its great treasuries of scenery and wonders that have since been developed and are now included in our parks.

There was another man in those early days, a one-armed soldier, Maj. John W. Powell. He was enthused with the idea of learning something of the North American Indians and went West to get in touch with them. Then he became infected with the microbe of the explorer, and started out with the idea of going down the Colorado River, starting in Wyoming. He went down through Estes Park, and finally through the Grand Canyon of the Colorado, one of the greatest feats of exploration probably even undertaken by an individual on this continent. He described the Grand Canyon of the Colorado, and may I stop here to say that he was the son of a Methodist circuit rider, one of the preachers of the older days, who went about on horseback and exhorted the people. Maj. Powell inherited the facility of speech and personality of his father. When he came back from the canyon he came to Washington, and he explained to Congress, and to public men, and to audiences everywhere the wonders of that region. He also enthused many, many men, both in public life and private life in the great West, with the necessity for Government exploration.

Another man that went out about 1852 was Dr. John S. Newberry, of the School of Mines of New York, a geologist, who went across the continent, traveling on horseback and by wagon. He also visited the Grand Canyon, and wrote up the early history of the region.

So it has been all the way through. Different explorers, different surveyors, especially the geologists, have looked into the wonders of the West, and gradually built up a public opinion that finally demanded that these magnificent areas be included in national parks and something be done to preserve them.

In California John Muir, whom you all know, carried on a propaganda about the Sierras, also Alaska. Gradually these men created

interest that has led many others to follow in their footsteps. In the great survey of the fortieth parallel, Clarence King and his men explored across the plains to California. The Wheeler survey started from the southwest, and explored through Arizona, New Mexico, and north into Utah and Nevada. Other surveys were carried throughout the far Northwest until the development of our present great Geological Survey in 1879, when systematic mapping and work was begun. I recall when, in 1879, going—sleeping on the floor of a freight car—to a point about 100 miles south from Salt Lake, and then by horseback to visit the Grand Canyon. There were no trails, there were no railroads, there were no wagon roads. Our party, after riding nearly 300 miles, reached the sections north of the canyon. Then the topographers went to work to make up the topographic sketch maps, and it fell to my lot to work out the geology from the Pink Cliffs down to the Colorado River. That section embraces 11,000 feet of bedded rocks deposited in layers, one above the other. The Pink Cliffs contain fresh-water beds and fossils that are similar to those of to-day. In the winter of 1882–83 I returned to the canyon over the great forest-covered plateau and went down into the canyon in December, coming out in February; there I learned of a still greater series of still older rocks 12,000 feet in thickness, with more or less appearances of animal life in them, that were unknown elsewhere in the world. Thus, we have in this Grand Canyon area some 24,000 feet of rocks that practically represent the period of the life history of the earth as we know it to-day. That series has been restudied lately, and it is a region where investigations will go on for many years to come.

A few years after, in connection with the work of the Geological Survey, I went to northern Montana, and with a pack train and a hardy man who had been living in the region for many years traveled some 900 miles, crossing and recrossing the Rocky Mountains in search of data that would connect the geology of Canada with that of the United States. It fell to my lot at that time to secure quite a number of these 10-foot panoramic views, some of which Mr. Grosvenor has reproduced in the National Geographic Magazine. I then learned what there was in the area of the future Glacier Park, such as living glaciers that explain the phenomena that may be seen in the Yosemite and elsewhere, where only the traces of the ancient glaciers are left. To-day in studying the Yosemite, if one wants to know how the ice worked and what happened when the glaciers were there, he can go either to Mount Rainier, in the Rainier Park, or to the Glacier Park and learn what is actually going on. In the Glacier Park region there happens to be a very ancient series of rock, and in those rocks you find traces of the oldest life that is

found on earth, simple forms like the fresh-water algæ, whose remains are preserved so as to be seen in their sections by the microscope.

Two years ago I wanted to know more about the fossil algæ, so I went to the Yellowstone Park, and there I found in hot springs and geysers that the same types practically were forming in deposits similar in appearance to those that occur in those very ancient rocks of the Glacier Park.

That is another illustration of how the student that is interested in any one problem in any one of these parks may find the solution in some other park. You have all heard, of course, of the great fossilized forest of the Yellowstone. There you will see trees from a few inches in diameter up to 8 or 10 feet, with the roots exposed on the face of the cliff, tree above tree, which have been overwhelmed with volcanic deposits of bygone ages. Now, if you want to know about those trees and learn something of them, the place to go is to the Sequoia National Park, where you will find trees of essentially the same type growing, and you make your comparisons between the agatized fossil trees and those that are living to-day.

I spoke of the explorations of the Yellowstone years ago by Dr. Holmes. There he studied more or less of the Indian remains that he found at that time, and Dr. Hayden in all his work, and Maj. Powell in his, were always looking for the remains of the Indians of archeological interest. Now, if you are interested in that subject, you can go to the Mesa Verde Park; you can go practically to any of the parks, down to and into the Grand Canyon, and there you will find the remains of a prehistoric ancient people. In other words, the people of the United States have now brought together in their parks a vast field of scientific study which can not fail to be of material assistance to every student interested in the various subjects. If you are interested in volcanoes and eruptive rocks, go to the Yellowstone, and see the wonderful mountains of volcanic rocks and the geysers, and realize the tremendous forces that produce the geysers. Go to Crater Lake and see the opening of an old volcano. Go to the Hawaiian Islands and see the volcano in action. These are only a few illustrations of the value and the assets that the Nation has already included within its parks.

There are other areas, as was well said yesterday by the chairman, that must come within the parks system. Secretary Lane and all interested are trying to bring those areas within them, and I hope that the pressure of public opinion will be such that within a few years we will have not only in the Rocky Mountain region but anywhere in the United States those areas that should be preserved in perpetuity for the students and for the people.

In conclusion, I will read my last paragraph:

Men and women with minds weary from the constant turmoil of business will inhale the elixir of life in the parks; they will marvel at the rule of law in nature and apply scientific method to their daily life and activities. Whether we will or no, the scientific method and divine spirit must rule humanity in the future, and as a great source of training and inspiration the national parks will be a mighty asset, both scientific and spiritual, through the centuries.

THE PRESIDING OFFICER, MR. YARD.

I want to take this occasion to say that in my part of the getting ready for this conference I have found a spirit of cooperation and of helpfulness, yes, of eager cooperation and eager helpfulness, from Dr. Walcott and Dr. Holmes and from all of the officials of the Smithsonian Institution, that has not only eased our work here but has pushed it forward. The best thing I can wish the national parks' cause is that it shall continue to profit by the same spirit that Dr. Walcott and his associates have shown us in this instance: but there is no question about that—we know that we shall have that same spirit of encouragement and help from this institution so long as it exists, and so long as the national parks exist.

Dr. Walcott spoke of scientific study in our national parks.

Just to recapitulate for a moment, Prof. Lehnerts, of the University of Minnesota, has undertaken for us, in the spirit of public helpfulness, to promote among the other great universities of this country, East and West, the system of university classes in our national parks which he has been conducting for seven years past for the University of Minnesota. Every national park should become a classroom for the universities and the schools of the United States. Later on I was greatly encouraged when Dr. Claxton, the Commissioner of Education, said in his speech that he considered one of our great objectives should be the use of the national parks as schoolrooms for many of the scholars of our public schools. Dr. Claxton, who is an eminently practical man, has some eminently practical ideas on this subject, and I am very glad indeed that we got a verbatim report of his address of this morning, for it will serve as a textbook for us in our operations in the future.

In the near future I hope we shall see the birth of the nationl parks movement outside of the Government. The natural feeling for the national parks, the uprising of the people in response to our humble efforts, and to the long-continued efforts of many such propagandists as Enos Mills and Mrs. John Dickinson Sherman will soon take concrete form. Some time there will be born a national parks association which shall consist of private citizens interested in

this cause from every State in this country. The province of this association is to work for the national parks outside of the Government, just as some of us are working for the national parks inside the Government; and between the two there shall exist a partnership of sympathy and public spirit.

Knowing this, recently in New York I had occasion to call upon one of the live-wire citizens of this land, Arthur E. Bestor, president of the Chautauqua Institution. In the course of our talk I told him about the coming national parks association and he rose to it, as everybody has risen to it, with enthusiasm. I expressed the hope that he might become one of the governors of that association, to which he agreed only upon one condition, and that was that he should be "a very live governor" of that body. I mention this incident now to give you a hint of the spirit of the man and teacher who is now about to address you.

Arthur E. Bestor, President Chautauqua Institution.

ORGANIZED POPULAR EDUCATION.

The National Parks Conference has no more important task than the organization of such machinery as will bring to the people of America the knowledge of their unsurpassed heritage in the national parks and an earnest desire to enjoy them as individuals. Speaking on behalf of Chautauqua Institution, for two generations one of the great centers for popular education and one of the first places where the parks as national playgrounds were brought to the attention of the American people on a large scale, I can assure you of our readiness to put at your disposal all of our facilities for publicity and all of our agencies for the influencing of public opinion.

Our problem, strange to say, has not been unlike the one in which we are interested in this conference. Chautauqua has had to induce people to leave their comfortable homes in all parts of the country; has had to provide for all their physical as well as mental, spiritual, and recreational needs; had had to maintain them in safety, health, and comfort; had had to see that their environment was such that they could work out their social and intellectual salvation in comfort and happiness. We have succeeded in building up the unique center for popular education of the world, partly because we have successfully met the same needs that face you in connection with the national parks. We are still under the necessity of taking into account railroad rates and transportation problems, sustenance, and sanitary arrangements, and of carrying on publicity on a national scale.

There are great interests involved in this conference which do not concern themselves with my particular topic—how the parks shall be administered, how influence shall be brought to bear on Congress for their maintenance and development, what advantage shall be taken of them by scientific and educational organizations, what shall be the relationship of the National Park Service and the National Parks Association to other organizations. But all those who are interested in any of these questions will do well to remember that all are equally concerned in the problem of the education of the mass of the people with reference to the parks.

How to make our citizens aware of their priceless possessions; how to substitute America for Europe as the travel field for lovers of magnificent scenery and natural beauty; how to make "See America first" a national slogan; how to create a desire and an ideal—these are the problems with which we are concerning ourselves.

Comparisons while odious seem always necessary for our human understanding. Some lovers of our national parks seem to have adopted as their slogan some such phrase as "Substitute America for Switzerland" and to conceive their task as the turning of travel from the Old World to our own country. There are certain difficulties inherent in such a task which we ought frankly to face. Compared with Switzerland we have not as yet many of the facilities which make travel there so great a delight. Government-owned railroads; hotels and inns along every road and at the end of every trail; organization of an entire nation for the convenience of tourists; expense adjusted to every desire; ease of access to centers of population; historical, literary, and romantic associations—all these and not merely scenery alone make the charm of Switzerland and other parts of out-of-door Europe.

If we are really desirous of making the national parks known to the American people we must face these difficulties:

(1) Distance from centers of population especially from those parts of the country lacking the grandeur and uniqueness of scenery offered by the national parks. The expense of travel is a considerable item in the vacation budget of all of us. In Europe all travel is organized on the basis of first, second, and third class, which most of use take advantage of in Europe, but are rather ashamed to use in America.

(2) Expense: This, of course, varies with personal taste, but there are thousands of people who will never visit the parks because it seems too expensive an undertaking, but who really could afford the trip. Our literature must give better indication of the expenses of such trips adjusted to the economic necessities of various classes of travelers.

(3) Private exploitation: Too often in America, even where the Government owns and administers some historic or scenic site, we have left to private exploitation all the common necessities of life. Niagara Falls under the old individualistic system was almost unbearable. Public control and intelligent administration have made recent visits to the Falls a joyful experience. I am not attempting to discuss the whole problem of Government control, but it will add to the sum of national proprietorship if the Government can more and more actually administer to all our need in our own national playgrounds.

(4) Lack of romantic, literary, and historical associations: A fine beginning has been made in the National Parks portfolio in publishing the legends and pioneer history. Our authors and painters and nature lovers can do much in creating a literary and artistic tradition for the parks.

(5) Largeness of the task: Any of us who are engaged in the task of public education know what a task such a propaganda involves in an individualistic society like ours. It is not merely that the human mind is so inveterately opposed to new ideas and that so many of us look to some country on the other side of the sea as our mother land, but that the work of giving a hundred million people even a minimum of knowledge is a vast work which challenges us by its very immensity.

What are some of the agencies at our disposal and organizations to be utilized?

(1) Organizations directly involved: In the railroads which reach the parks we have the most powerful and influential corporations of the country through which they pass. They have already carried on a great advertising campaign. I think now of the advertising of Glacier Park by the Great Northern and the Grand Canyon by the Santa Fe. I understand that more and more the railroads are carrying on a continuous advertising campaign to increase travel, are cooperating with each other and with the National Park Service, and that they stand ready to unite in every effort to make the parks better known.

(2) Personalities: In this movement we can count confidently on the support of all lovers of the out-of-doors, of all protectors of bird and animal life, of all conservationists of beauty and natural resources, of all students of geology and forestry, of all believers in the surpassing natural beauty of their native land. And all these will devote themselves to this labor of love because they are working not for individual gain but for the joy of the task and in a common understanding with others who have the same unselfish spirit.

(3) Publicity: We are creating a literature. John Muir, Theodore Roosevelt, Enos Mills, William T. Hornaday, and others have

shown us the way. More and more newspapers and periodicals will give attention to the parks and their development. The associated clubs have done a tremendous piece of work in connection with the problem of national security. They might well have their attention called to the possibility of a nation-wide propaganda for the national parks as one of their next tasks. Every patriotic organization should have this patriotic opportunity called to their attention.

(4) Universities, colleges, and scientific societies: Their leaders will more and more look to the national parks as laboratories, as opportunities for scientific research and as the most ideal centers for combined vacation and education.

(5) Motion pictures: How wonderfully this most widespread of our modern approaches to millions of people lends itself to propaganda for the national parks. We can reach the multitudes direct in no more effective way, and the people themselves will pay the bill.

(6) Chautauquas, lyceums, women's clubs: All these will respond to any such opportunity. It is only a question of how rapidly the National Park Service and the National Parks Association are prepared to supply slides and motion pictures to cooperate with lecturers and programs committees. Every chautauqua auditorium and lyceum hall and clubhouse and school building will be open if approach is made with national appeal.

(7) Schools: The distinguished Commissioner of Education has doubtless pointed out how the educational system of the country can be utilized. Those who have access to publishers of textbooks will see to it that even a disproportionate attention is given to the national parks in the next few years in the books which are in the curriculum of our elementary and intermediate and high schools. An exhibit of national-park pictures should be available for every school willing to place the exhibit and use the profits for purchase of some of the pictures themselves. Alongside copies of the old masters and European pictures, some of the fine photographs of the national parks should be in every school of the country.

Our work is to create such an organization as can simultaneously take advantage of all these avenues of approach. Our task is stupendous because so many opportunities are at our hand. Our propaganda yields itself to every agency for popular education and democratic organization and national publicity; it relates itself to every organization of a patriotic character; it links itself to every movement in which we are most deeply interested at the present time, conservation, preparedness, Americanization; it challenges us to an individual and collective task of the utmost importance and far-reaching value in our common national life.

THE PRESIDING OFFICER, MR. YARD.

In reaching the people with the knowledge of their scenic resources we seek the aid of the author and of the artist. The literature of travel, the literature of out of doors, the literature of the mountain tops is undeveloped in America. There are distinguished exceptions, of course. Many books have been written which will live; but the literature lags behind nevertheless. It is in its infancy.

Now, it is one of our great desires that this literature shall become a national literature. Our publishers are as yet unawakened to the commercial possibilities of real mountain books, because the books which are usually offered to them are the journals or are the casual observations of passing travelers—travelogues, evanescent, momentary. But what we seek will grow out of this mass of evanescent books—the book which touches the heart of the people, the book which lives because it touches the heart of nature.

It is our desire, then, to awaken the authors, the writers, of this country to this great unexploited or little exploited field, and I have asked to speak to you on the subject of the author and the national parks a man whose name is familiar to every reader of the journal of greatest circulation in this United States. I do not speak of him in his official governmental capacity, interesting and important though that is, because on this occasion he is an author, a writer, and a lover of the big things of life, not only the big things scenically, not only the big things in the mass, but big things of the spiritual world.

I introduce Mr. Herbert Quick.

HON. HERBERT QUICK,
MEMBER OF THE FEDERAL FARM LOAN BOARD.

THE AUTHOR AND THE NATIONAL PARKS.

Mr. Chairman, ladies and gentlemen, two or three years ago there existed in the city of London an obscure street. It was peopled by obscure men, and yet that street ruled England, and those men ruled the England of that day and rule it yet. That street was Grubb Street, and the men who inhabited it were the obscure authors of the British Empire, and at that time to be known as a "Grubb Street scribbler" was a term of reproach in the mouths of those who thought they were infallible in England, but who really were governed, and their sons after them have been governed, by the Grubb Street scribblers.

Now, in this country, the business of writing has reached proportions absolutely unknown in any other country or in any other age of

the world, and a writer not long ago coined a phrase which not only illustrates the importance of the authors and writers of America, but also shows the facility of those authors and writers in throwing a thing upon the screen with the lightning flash of a pithy phrase. He named the Authors' Fraternity, that great unorganized fraternity, which is a fraternity of thought aspiration and action, of pain and suffering—he called this great fraternity of men and women "Greater Grubb Street." And I stand before you here to-day as a representative in the service of the national-parks movement of the United States of "Greater Grubb Street," the greatest institution for stringing words together in such a way as to make more or less sense which exists in the world's history!

Now, I speak of "Greater Grubb Street" as an agency for turning out the printed page. Let me tell you that I am not apologizing for a literary trial, or the ideals or the motives or the behavior of the denizens of "Greater Grubb Street," a street in which I am very glad to be a resident. I do not believe that the English language has ever been written as well, and I have in mind Addison and Steele and all the supposed masters in English; but I do not believe that the English language has ever been written as well as it is written to-day in "Greater Grubb Street." The masterpieces of a hundred of the classics of the English language—I say a hundred of these masterpieces—might be cited which are pure as compared with the almost unconsidered literary pieces which are thrown out to-day by the writers of "Greater Grubb Street." The novelist could not sell one of his books to-day to any publisher in the United States, unless it might be Leather Stockings, and every year there are 50 novels written by the "Greater Grubb Street" fraternity and published in popularly circulated magazines, some of them widely circulated, and some of them not so widely circulated, that are better in every respect than any book that Cooper ever wrote. And when I speak of Cooper, I do not mention him as a horrible example, as a man who enjoys a too great popularity; I could mention others, the mention of whom, I am afraid, might give me a newspaper notoriety which I do not care at this time to incur—stories, poems, books of all sorts, which are given to the use of the Englilsh-speaking world as great works, which, if they were offered to-day on their merit, would not be published by any publishing house in the United States. And to-day there are better poems published monthly in the magazines than anybody could read 100 years at a time in the history of the English people.

I do not claim that the writers of to-day are any of them any such geniuses as those great geniuses that have lived in times gone by, but English poetry is written to-day with truth, with sincerity, with success, and with the highest sort of poetic feeling by the denizens

of "Greater Grubb Street" in America, and I am here this afternoon to try to bring home to you the fact that you do not need to go back to the time of Addison and Steele, nor to those specious times of Queen Elizabeth; you can look around you, and in America to-day you will find a great mass of men of great talent who are writing the English in prose, in poetry, and in the drama, and writing it with wonderful skill and with great success; and so far as the financial returns are concerned, it makes a writer who is somewhat diffident as to his own talent, not to say genius—it makes him ashamed of himself when he reads of the struggle of such a man as Robert Burns to live by his pen and realizes the amount of money that he can make here by things so infinitely below the poorest thing that Robert Burns ever wrote. So that the "Greater Grubb Street" is not only a great agency for the writing of English in all its forms, but it is also a great institution for the making of money. The number of people who are living well, and who are in receipt of good incomes, on "Greater Grubb Street" would be the astonishment and the marvel of the inhabitants of the old original "Grubb Street" if they could know, for instance, of the income taxes that are paid by the authors of the United States.

This is a mighty agency that I have rather playfully typified to you here as "Greater Grubb Street." It is the greatest advertising agency which the world ever saw, and I was almost ready to say that the world will ever see. It is backed up by the most enterprising publishers ever known; it is backed up by magazines and newspapers of a circulation which is perfectly astounding; and the publicity which is given to the writings, and the workers in "Greater Grubb Street" is one of the marvels of this day, something which those who lived by literature in past ages never could have imagined as being possible. There are magazines now with circulations running far above two millions, and if you wish to realize the difference between the "Greater Grubb Street" of to-day, and the literary world of 50 years ago, take one of those magazines and compare it in mechanical finish, in illustration, in style, in artistic make-up, and in the quality of the literary matter published in it, with such newspapers as the New York Ledger, which had the greatest circulation in the time when the older people here present were struggling to find something entertaining to read. Why, those old newspapers were crude; they were absurd in their crudity; and the people who will buy 2,500,000 copies of a magazine such as I might mention, which is circulated in the United States now, and of the quality possessed by it, show thereby that they have made a mighty intellectual march past the time when they bought the New York Ledger and the New York Weekly, when I was a boy; and the difference in quality between those magazines and those old literary newspapers and the popular

magazines generally of the United States, is the best possible gauge by which the historian of the future will distinguish between the civilization of 1870 and the civilization of 1917.

Now, we come to the national parks. "Greater Grubb Street" is the locality which will make or mar the national-park movement, and whether or not the national-park movement succeeds within a short time in doing what it wants to do, or takes a generation to do it, will be determined by the spirit of cooperation which can be developed between the national parks and those interested in the national parks and our people of "Greater Grubb Street" in the United States.

The national parks are wonders which it is not worth while for me to attempt to depict. All I need to do is to cite what has been said and point to what will be said from this platform, and to say "Them's my sentiments!"

No nation in the world can compare with the United States in first-class, high-class, marvelous mountain scenery, or can compare Alpine scenery with the United States; I mean scenery easily accessible to so large a number of people; and scattered about throughout the United States are other places which should be in the national-parks system. It is a shame, and almost a crime, that the Grand Canyon of Arizona should not be a national park. There ought to be national parks in other parts of the United States, and I think there ought to be a national park between this city and the city of Baltimore, which would be the entrance to our great American London.

Now, you can not build up those things through Congress unless this business of making the proper use of our great natural wonders and our great natural beauties becomes part and parcel of the life of the people. Why do we all speak—when we speak of mountain scenery—why do we all think of the Alps first? Why, because we have read nothing but the Alps all our lives, so far as mountain scenery is concerned, and we do not read it in guide books of the Alps; we read it because "Grubb Street" put the Alps in every novel and in every poem and in every play in which the mountain scenery was necessary as a part of the movement. You read "Our Mutual Friend," for instance, by Charles Dickens, and he takes you to the great St. Bernard. He did not take you there because he wanted to advertise Switzerland, but every time you are led by the pages of Charles Dickens to read that book, as I have read it a half dozen times, you are at once placed in the position of a man to whom the Alps are being sold.

Once there existed, as you all know, a singular character in England, known as White, who wrote a book called the "Natural History and Antiquities of Selbourne," and in it we read to-day of the

things which Gilbert White noticed in that little picturesque, common, ordinary English neighborhood. He tells us about a species of goat turning head over heels in the air, and he rather suspects they do it for the purpose of scratching themselves. He tells us all sorts of things about the natural history of animals and we read it and are interested in it, not because we are interested in goats or their tumbling over, but because we are interested in the genius of this man White, a genius which every man is supposed to read now, or he is not a well-read man. The same is true of the things described by Isaac Walton in his "Complete Angler." If only the people read Walton who are interested in fishing, the sales of "The Complete Angler" would have fallen off many years ago to almost nothing, but we read Walton not because we are interested in fishing, but because the thing he writes is beautiful and attractive and always will be.

Yesterday I was reading about the battle of Waterloo. I did not care anything about the battle of Waterloo. Yet I read with the most avid interest page after page of the description of the form and the hill and the sunken road through the battle field of Waterloo. Why? Because I had happened to pick up a volume of Victor Hugo, and it was the charm and it was the genius of Hugo that made me read about the Battle of Waterloo, and nothing that I cared about the battle of Waterloo.

John Muir has written about the Sierras, and he has written about the glaciers up along the Alaskan coast, and there is one of his books that we all ought to get and read once in a while, and I have no doubt we will, and we will read and know more about glaciers than most of us would know if we went over the route itself; and why do we read it? We read it because we are interested in a little dog, "Sticky," and we do not care much about the dog himself, but it is the masterly way in which John Muir put the glaciers into a work of genius, as the setting for the charming quality of the dog. We read Thoreau not because we care anything about Valden Point. Why, the only thing that would take us to Valden Point would be because Thoreau wrote it. But its the genius of Thoreau.

Now, the parks are still without all of these things which fill people's minds with the idea of the parks. We think of going to the Alps, going to the lake countries of England, or wandering over the heaths in Scotland, or going anywhere where genius—literary genius—has put the scenery upon the pallet of literary production, and where we breathe it in, where we can not help but breathe it in if we are well read and cultured persons. The parks of the United States lack all that. I ought not to say that, ladies and gentlemen, in view of the fact that I wrote a book about the Yellowstone Park; and yet, let us be candid. I think we may as well admit that even

the Yellowstone Park lacks something at least of what it should have in the way of a literature.

Now, "Greater Grubb Street" to-day, to-morrow, next year, and 25 years from now, should be enlisted in the business not of writing advertising matter for the railroads or the park service, but of filling the minds and hearts of "Greater Grubb Street" with the spirit of the parks themselves. Why, the parks are full of the natural material of literary production. We think of Barbarossa sitting in his "Enchanted Mountain," some little insignificant hole, a place over in Europe, but he sits there in a cave with his long beard growing down through the ages, and he is going to wait until something happens—I have forgotten just what, and he is aroused; but in the Yellowstone National Park, or in Crater Lake, or in the Arizona Canyon, or in various parks of the United States there are richer materials in them for fictitious literature which is brought out for the purpose of doing a particular literary stunt, but which, if the authors of the United States were filled with these things, would appear naturally in poem, novel, play, picture, short story, and all forms of literary production.

Why, out in the Yellowstone Park there is a place where there is a petrified forest, and it is a well-known fact that the first man going through there found the streams and trees petrified, and there was a petrified bird hanging aloft in the air with petrified song bubbling out of its mouth, and all that kept the bird hanging there from coming to the ground was the force of gravity, and that was petrified, too. It is a perfectly well-known fact that a traveler in Yellowstone Park early saw within sight of him a great huge elk feeding, and he fired at him three or four times, and the elk neither stopped feeding nor ran away, and the man finally approached the elk, and he found there was a glass mountain in the shape of a telescopic lens, and the elk was 75 or 80 miles away, but was made to appear by the glass mountain as though it were very near, and you can see it if you go there to this day, and you will find that a pretty good roadway has been made out of the tunnel ploughed by the bullet.

Then there is a spring in the park that is hot at the top and cold at the bottom, and things can be caught in the bottom of the stream and boiled for dinner in the top of the stream. And there in Crater Lake those Indian guides who had their age-long conflict, and I had it on the authority of no less a person than the chairman of this meeting who wrote about it, that these things are supported on absolute authority and are true. Now, of course, his statement that certain things are based on absolute authority I will admit I read in another part of his book, but I take it also to refer to the phenomena of these lakes.

Now, the American legend in the Arizona Canyon, the Yellowstone Park, the Rocky Mountain Park, the Glacier Park, and all of these places; the book of travel, the narrative, of adventure nowadays in the park, and the poem inspired by the park, by its scenery, by its occurrences, the play located in the park—all of these things are not going to come unless the denizens of "Greater Grubb Street" are made familiar with the parks just as rapidly as they can be educated to the beauties of the parks and when the advertisements in our magazines are filled with park literature, not because somebody wants it published—that does not make people read it; not because Mr. Robert Yard or Mr. Stephen Mather gets around somebody and induces him to publish an article about the parks—that won't make people read it; but when the literary people of the United States have become so imbued with the park itself that they begin to write about it as the natural setting for their own thoughts, then it will go into a million avenues of thought in such a way that the people will breathe it in with their intellectual life; and when they begin to do that, you can not keep people out of the parks. You won't be able to take care of them in the parks. When the parks become an essential background for the great mass of literature which is interesting, not because it's about the parks but on account of its own inherent qualities of genius, of talent, then you will begin to find that your whole work of getting people to go to the parks is done, and all you have to do is to give them a good time while they are there and take care of them and give them the facilities, and the parks will become the fashion; and just as soon as anything in the United States becomes the fashion it is all off. We will have to go somewhere else than to the park to have a good time, because there will be so many people there; they will be around underfoot all the time.

Now, how is this to be done? Once get "Greater Grubb Street" under this proposition and your work is done. They will write about it in spite of the editors. They will print it in spite of anything you can do.

Now, in that respect, with reference to that phase of the matter, I do not know that I have any concrete suggestions to make as a defense of "Greater Grubb Street." I think perhaps I can not say very much except this: I want to tell you what the Canadian Government has done. Now, there may be some innocent-minded people here who wonder why it is that Smith, Brown, Jones, and Robinson, authors, writers of repute, have been writing so much about Canada, northern Canada, western Canada, for the last 10 or 15 years. Why is it that so many stories have been located in western Canada? Why is it that every author feels that he has to write about the Northwest mounted police or the muskrat or the mouse or some other border

product? Why, it is done, because the Canadian Government has made it impossible for the American writers to avoid writing about western Canada. Why have they done that? I will tell you what they have done to me, and then you will understand how they have done that.

More than 10 years ago people connected with various things in western Canada began asking me to go to Canada and make a trip. They said all you will need to do is to go to Canada and travel through Canada. You can go to the Hudson Bay if you want to; you can go up to Prince Rupert, or through the grain districts, or the Canadian rockies, or into Ontario, if you want to. Just take a trip up through Canada.

"I can not afford it," I said. "It will not cost you anything. You will travel on a pass. Your expenses will be paid." I said, "No; I will not go on that basis. I won't put myself under obligations to write anything on that basis." They said, "No; that will not make any difference; all you need to do is to go up there, and you will have to write about it. You can not help it."

And it is a matter of fact that any author who gets inspiration will bubble over and write about it, whether he wants to or not. What finally happened was, I felt I was tempted. I was told that a company of agricultural editors were going to be given about a 2,000-mile trip through western Canada at the expense of the Canadian Northern, and the Grand Trunk Pacific and the Canadian Pacific Railway, and would I not go? I said, "I do not think anything of that western country. I am opposed to the American farmers going up there. I won't write anything about it." "Well, go anyhow, and have a good time," they said to me. And I went, and I was up there for weeks, and had an excellent time; saw a lot of interesting country; and to save my life I could not help writing about western Canada from time to time ever since. Now, if they did that to me, they did it to hundreds of other authors in America.

The writers of America have not been corrupted by Canada; they have just been filled up with Canada. The Canadian people have taken the highest ground in the world; they have simply thrown their doors open and invited the writers of America to come to them. Without the slightest obligation to write anything about Canada, absolutely free of any contractual relations, implied or otherwise, and the writers of America have gone up to western Canada, and northern Canada, and also Ontario. They have traveled all over it. It has cost them very little; and the result has been that the literature of the United States to-day is more permeated with Canadian influence than with the things of the United States, so far as outdoor life is concerned.

Now, it isn't the fault of the writers of the United States. They have had a chance to see Canada. They have not had a chance to see the national parks of the United States. I do not know whether it can be arranged so that they can; I very much doubt it; but I will say this, that if any arrangements can be made by which "Greater Grubb Street" can be mobilized in and about the national parks of the United States, and fill the literature of the United States as it comes from the presses to-day, with the beauties and the graces and the charms and the grandeur of the national parks of this country, it would be the finest thing in the world for the people of this country, because, as a matter of fact, a man sees in nature what he takes to nature. A man brings back from the journey nothing more nor less than what it gives him, and the people of the country need to be educated in the enjoyment and the appreciation of the national parks scenery and all the other scenery of the United States. They want to understand that the time has now arrived when we must make our own legends, and our own superstitions, and I promise you, Mr. Chairman, that if "Greater Grubb Street" is once turned loose on this matter, and "Greater Grubb Street" is once turned loose on this proposition effectively, your work will be largely expedited.

THE PRESIDING OFFICER, MR. YARD.

The address that we have heard is most enlightening. It comes right from headquarters; and we are much obliged to Mr. Quick for some valuable hints. Mr. Quick may have got himself into trouble by his speech, because I know we shall be after him for some very lively help in following out the suggestions that he has made.

Now, there is another element in all this besides the literary one which has its great hold upon the American people. This is the age of pictures. Stories are largely told in pictures. One picture carefully chosen, some one has said, is worth, for message sake, a thousand pages of ordinary written words. The picture carefully chosen, the picture with a mission, picked from many by the man who perceives its usefulness for carrying out its mission, will carry to thousands upon thousands of people who never would bother to read the printed word.

There is with us here a man whom all acknowledge to be the man of greatest accomplishments in the art of approaching the public by pictures. Mr. Gilbert H. Grosvenor, the editor of the National Geographic Magazine, will now speak awhile to us and will, I know, enlighten us as to how the message of the picture can best be utilized in carrying our message of the national parks to the people of the United States.

(Mr. Grosvenor's revised address was not received in time for publication.)

THE PRESIDING OFFICER, MR. YARD.

But we must have not only the writer, not only the photographer, not only the picture maker, not only the editor, carrying the message of the national parks to the people of the United States; we must have the artist. The artist uses line and mass and color to convey the spiritualized fact, not the literal physical fact; and that may suggest a definition perhaps of art in its relation to national parks, that it shall carry the spiritual fact to those who do not see, who have not the opportunity of looking upon these spectacles and perceiving for themselves what lies enshrined within.

It is not, you will perceive, the line itself, it is not the physical mass, it is not the proportion, it is not the light nor the shadow nor the color that carries the spiritual meaning; it is the artist who interprets by using these mediums. It is therefore one of our greatest objects to secure the help of the artist in the convoy of the message which the national parks have for this people.

In order to emphasize this fact, we have attempted at very short notice to get together a loan exhibition of paintings of scenery illustrative of our national parks. That exhibition, small but worth while, is now up stairs in the National Gallery. When, some six weeks or less ago, Mr. Mather suggested this idea to me, and I, being in Chicago, sought Mr. Eggers, director of the Art Institute there, for advice and encouragement and suggestion, he asked, "You come from Washington?" I said I did. He asked, "You are going back there?" And I said, "Yes." And he said, "There is in Washington a man who, if you will see, will make it needless for you to go further. See Dr. William H. Holmes, of the Smithsonian Institution, and you will need see no one else."

I have seen Dr. Holmes. Dr. Holmes is, let me tell you, not only, as Dr. Eggers stated, one of the great curators of this country, one of the unusual makers and displayers of collections of pictures, but an artist himself of deep feeling, an artist with great power of interpretation, an artist who is inspired with the spiritual sense which is the soul of art. I present Dr. Holmes.

DR. WILLIAM H. HOLMES, HEAD CURATOR, NATIONAL GALLERY OF ART.

THE PAINTER AND THE NATIONAL PARKS.

It gave me great pleasure to install in the large room of the National Gallery the collection of paintings brought together for this occasion in illustration of the wonderful scenery of our national parks. It is for the most part a sane exhibit although not wholly free from the pathologic manifestations which characterize the so-called modernist movement of to-day.

I would call especial attention to the works of Moran, Bierstadt, and Hill who, with Church, are the great exponents of American landscape art. The genius of these men alone has risen to heroic heights enabling them to grasp and present on canvas the greatest subjects which the continent affords. Following close upon the footsteps of these masters are Laurence, Parshall, Butler, Rungius, Ufer, Leigh, the Powells, Groll, Potthast, Daingerfield, Peyraud, Babcock, Dunton, and others whose works, shown in this collection, are worthy of the admiring attention of the public.

When I came to the Smithsonian Institution 45 years ago Thomas Moran was exhibiting in the main hall of the institution his great painting of the Yellowstone Canyon which now hangs in the United States Capitol. To-day he is at El Tovar, on the south rim of the Grand Canyon of the Colorado, still at work, true to his early love and adding steadily to his marvelous record. He is the master par excellence of the canyons, the plateaus, and the mountains. His grasp of the great subjects and his knowledge of form, color, rock structure, vegetation, and every phase of atmospheric effect are marvelous.

The painting of the Grand Canyon of the Yellowstone, shown on the east wall of the gallery, is his masterpiece—a work which insures his place as the first painter of our national scenery, if not indeed, the greatest landscape painter that the world has produced. I have climbed the sculptured walls and slid down the sulphurous slides of the real canyon and studied the subject from all points of view and under all atmospheric effects and find this work a wonderful interpretation in its reality, beauty, and poetic expression, yet presenting with the utmost faithfulness the infinity of detail which characterizes the original and which escape the brush of all others who have attempted the subject.

Bierstadt's "Mount Whitney," on the west wall of the gallery, is a superb work true to the type of the Sierra Nevadas and a strongly poetic interpretation of one of the grandest phases of our crystalline mountain ranges. Those of us who have dwelt for a time in these wilds find it hard to pass this picture. The gallery to which it belongs has fallen heir to one of the greatest treasures of American landscape art.

The "Awakening of the Grand Canyon," by Parshall, is a masterly interpretation of a phase of this marvel of marvels which few have sought to represent. The sun strikes the lofty rim of the far-away cliffs, while the canyon itself is filled with mist so that the observer must search for the gorge and the river as he must search for the real gorge and river before the morning sun has thought of revealing them.

My failure to mention other works in detail must not be thought of as indicating that many of them are not worthy of mention, for

every picture in the central group tells its vivid story of the wonders of our great West.

It is entirely natural that one who began exploring in the Rocky Mountains 44 years ago and who has witnessed the development of the great surveys and the inception of the movement for the establishment of national parks should take to reminiscing, but I shall not weary you by recalling the multitude of scenes and events that come to mind. I have sketched perhaps every range and group of mountains from Montana to Mexico and have climbed nearly all of the great peaks of the ranges and explored the valleys and canyons. When I am homesick at all it is for these wilds and especially for the upland parks which nature has arranged with more than the skill of the landscape gardener. Everywhere there are subjects to inspire the painter's brush and at the same time to test his skill.

I may speak of the Yellowstone Valley where we began our explorations in 1872, and recall the inception of the idea of setting aside the central portions of this wonderful land as a national park. Dr. Hayden, the director of the survey of the Territories and his able executive officer, James Stevenson, conceived the idea, and on their return to Washington they, with others, urged upon Congress the advisability of reserving this great area as a free resort to all the people. The paintings of Moran, who accompanied the expedition in 1871, were an important factor in bringing the project to a successful issue.

In those early days many of the physical features of the park were without names, and names were freely given for convenience of reference in the topographic as well as the geologic work. I had the pleasure of naming mountains, valleys, streams, and geysers, but did not name the peak which bears my own name. That was the work of Geographer Gannett, but I did not object. A feature of particular interest on the east fork of the Yellowstone is Amethyst Mountain on the marvels of which I made the first report. The face of the mountain shelves off in narrow cliffs in which stand out in bold relief the trunks of petrified trees, suggesting the columns of a hundred ruined temples. The Tertiary forests had been buried one over another in the gradually accumulating volcanic débris and thus became petrified and the erosion of the valley in subsequent ages wore away these partially consolidated formations leaving the trunks exposed. Many of these trunks were originally hollow and as petrifaction progressed they were filled with crystals of quartz many of which have the amethystine hue, and on breaking open the trunks the crystals were exposed and easily extracted. Our pack mules were loaded to the limit with the remarkable specimens.

In 1872 our work carried us to Colorado, where several years were passed in exploring the great ranges, the features of particular in-

terest being the conquest of the Mountain of the Holy Cross, myself being the first person known to have reached the summit, and the valley of the San Juan, on the wonders of which I had the honor of making the first report. Moran's great paintings of these subjects are well known.

In 1880 I had my first look into the Grand Canyon of the Colorado River. In company with Maj. Duton, I approached the gorge from the north, riding through the deep forest which covers the great Kaibab Plateau. As we rode forward we began to catch glimpses of the blue through the mesh of tree trunks and foliage, and gradually as we approached the rim the blue, which seemed the blue of the sky, sank deeper and deeper until we found ourselves hesitating to proceed, the impression being strong that we had come to the edge of the world. Reaching the edge, the great gorge began to reveal itself, and what at first had seemed the blue sky became a vast expanse of sculptured plateau fronts, diversified by promontories, isolated pyramids, and deep recesses in infinite detail, extending to impenetrable depths. To the east the chasm cut the horizon in a great notch and the same again far to the west.

I spent two full days in making a pencil panorama of the canyon, my own natural method of expression being the graphic. Description is vain. We must depend upon the pictorial art to convey to the mind of those who can not visit the region some idea, howsoever weak, of this greatest wonder of the world. But I can not go on. The memories and scenes crowds upon my mind so that I am helpless in the face of the task.

THE PRESIDING OFFICER, MR. YARD.

Now, let no one go, if he can help it, because the coming dessert is fine. We have considered the educational features from various points of view, but the soul of all scenery is spiritual, and this will now be discussed by the Rev. Charles W. Gilkey, of Chicago.

At the close of his address the conference will be adjourned until this evening, when we shall have same remarkable colored slides shown in this room by Mr. Gleason.

I present Mr. Gilkey.

THE REV. CHARLES W. GILKEY, OF CHICAGO, ILL.

THE SPIRITUAL UPLIFT OF SCENERY AS EXEMPLIFIED BY THE GRAND CANYON.

Mr. Chairman, ladies, and gentlemen, some of my Chicago friends have been teasing me a bit lately with a new story of a Scandinavian girl who has just come to Chicago. She felt herself very far from

home and wanted to be very careful. On the first Sunday on which she was in our city she went to a Scandinavian church. The minister happened to be a rather youthful and apparently unmarried man, and at the close of the service he spoke to the stranger in his congregation, expressing his pleasure in seeing her there. He said: "I would like very much to come and call on you some time." The Swedish girl blushed and stammered: "No, t'anks. Ay bane have a fellow alretty."

You may have felt as I did when I first looked over the program for the conference, and particularly for this afternoon; I felt that the conference was amply provided for, and that there seemed to be little reason why a plain preacher should enter it.

But I have been struck by the fact that, in all the addresses which it has been my privilege so far in the conference to hear, the note which it is mine to sound is not sounded now for the first time; that through all these addresses the term spiritual, in its widest significance, as including all the higher interests of our nature, the whole gamut of the possibilities of the human life, has steadily been held forward as one of the most remarkable, and certainly one of the most powerful, of the effects of our national parks upon all of us who visit them. It is that phase of the subject falling distinctly to me this afternoon that I want for a little while to fasten your attention upon.

The national parks are not simply evolutions of nature at her greatest, at her best, at her grandest, as you have probably noticed when you have visited the parks; they are also very many times in their way an evolution of human nature, sometimes at its finest, rarely, perhaps, at its worst.

You have heard, as I have—who of us has not?—in visiting some of the great scenic places from one or another of the group of travelers in which you may have found yourself, some remark which might evidence itself not at all as a judgment on the scenery, but rather as a judgment on the person that uttered it. My father-in-law is very fond of telling his particular experience at Glacier Point in the Yosemite. The company had just arrived there and was standing breathless, speechless, at the outlook, when suddenly, while everybody was trying to recover his breath and composure in the midst of the wonder of it all, from the rear of the group, in a high feminine voice, came this remark: "Sarah, where do you suppose they bought those awful curtains in our room at the hotel?"

Fortunately, most people do not succeed in revealing their human nature with such startling clarity as a remark like that reveals the unfortunate maker of it, but for all of us human nature is revealed when we come into the presence of the great objects of the natural world. Some of us burst into speech as intellectually irrelevant per-

haps as that was. Some of us more or less adequately express the reaction of our esthetic nature openly, and some of us, lacking words, say nothing at all. For our human nature, in its capacity in such scenes, runs through the whole gamut of human life and its possibilities; and that is why educational day has such a natural part in the very center of the program.

We are thinking to-day about the reaction of the national parks on human nature. Other addresses earlier to-day have sketched its reaction on our mental, our esthetic life, the extraordinary power of great scenes like these to stimulate our minds to their utmost, bringing our esthetic natures to their furthest sensibility. But just as the intellectual and the esthetic parts of us are integral and normal parts of our nature, so are the normal and spiritual capacities to which, in the broadest comprehensive way, we apply, as I shall apply it this afternoon, the term "spiritual," are natural parts of our human nature. And the interesting thing about our national parks, as about all great objects of natural scenery, is that they not only quicken men's minds, stimulate men's esthetic natures, but that they deepen powerfully men's moral consciousness; and even more powerfully do they stimulate men's religious nature; it is this latter phase of the great work of our national parks, in deepening the spiritual capacities of human nature, to which I have to ask your attention.

My own attention has been focused upon it since my own first visit to the Grand Canyon during the summer just passed. On my return to Chicago I tried, in a series of three addresses to my own people there, to review some of the spiritual uplift of such scenery as that in our western parks, and particularly in the Grand Canyon; and I have been struck with the fact not simply as a matter of theory, to which one might go in defense, but as a matter of experience, that not only have those who are fortunate enough to see these great things with their own eyes but those who even by proxy, as it were, can get in touch with some of their spiritual results and impressions, enjoy the spiritual uplift of our western scenery. And let me say particularly of the Grand Canyon that it is one of the real facts, one of the most real facts, of human experience.

The thing that struck me first, when, with others, I came to the edge of the rim of the canyon, the thing that differentiated it at once from all of the other great natural objects which I had seen during the summer in the West, was the totally different effect which it produces on the spectator. Who of us does not remember the chorus of "Ohs!" and "Ahs!" and "Isn't it wonderful!" and that conventional familiar chorus of the last summer or two which I suppose will be rendered in other words after a year or so when our contemporary slang has changed a bit—"Some view." That's the way we Americans talk when we get into other corners of our country.

But the thing that struck me at once, not only about myself, but about all of my fellow travelers, when we approached the canyon was that we all were doing the same thing, starting back in involuntary reaction, in bewilderment, as if instinctively afraid to look down, and in breathless silence; and nothing grew upon me more in the next hours, the next days, than the way in which the canyon asserted over you, not simply at your first impression, but the longer you stayed there, that mysterious, irresistible mood of silence.

At first you yield to the mood and rightly, perhaps, you do not attempt to analyze or explain it. But after a little while I found myself rather curiously trying to find why it was that the canyon affected me and everybody else, apparently, so differently from the way other great things had done; that, whereas in all these other great scenes we all burst into chattering speech here we started back in breathless awe. I have three guesses and because they are fundamental to what I want them to try to say I want to give them to you simply for what they may be worth as guesses.

One is that the extraordinarily psychological effect of depth upon the human mind and the human faculties of perception is, I begin to suspect, that natural shrinking which is common to us all and which in many of us rises almost to a positive complaint. We all regard the career of the steeplejack as one of dreadful daring. We are far more sensitive to depths below us than we are to heights above us; and the extraordinary thing about the canyon and one reason why, I suspect, is it seizes you with that grasp of sudden awe, is that it takes advantage of this intuitive human shrinking from great depths below. When you go up into a building by the elevator or the stairs you go up gradually, and as you go up you get steadily used to the new perspective. When you climb a high mountain you become used by the physical adjustments of the effort, by all the ascending outlooks, to the gradually ascending heights, and when finally you look down you are more or less adjusted. But at the canyon you are making your way through a scrub pine piece of woods on perfectly level territory and all of a sudden, without any warning, the ground breaks down below you literally a mile.

Then I have another guess, which is, of course, very familiar, the incredible immensity of it. I was trying to make real in Chicago the distance from Hopi Point east and west and telling our folks that that was one-third as far as the distance from Chicago to Joliet and just as far as from Chicago to Wisconsin. You do not need, you who have been there, to be reminded of all the incredible immensities of it, the 13 miles straight across, the 20 miles across to the other side, diagonally, the 4,500 feet below to the first level of the floor, and the 1,500 feet deeper yet, and that most astounding of all; also that little glimpse of the Colorado River you thought

might be a mile long until the guide told you it was times that many. This incredible immensity of it is one of the other elements in this great all.

And the third is the weird immensity of its color. Its gray and purple and red and brown are familiar enough to us in small dashes and at close range; but when nature has not been satisfied with molding into fantastic forms mountains thousands of feet high and stretching out miles in extent, but has painted them in bands a thousand feet wide, shading into each other, and has set you at a perspective miles away in order to see her gigantic canvas, then the total effect is entirely different from that given by colorful nature in other instances. And that is another of the reasons why the canyon is so utterly impossible to reproduce.

You hear all the words that have been piled together about it and none of them come anywhere near its reality. You see all the photographs and stereopticon and moving pictures and all the paintings that the utmost skill can depict, and then you have not seen the canyon because you have not felt it.

And that's just what I am trying to say, that the most extraordinary thing about the canyon is that indescribable mood into which it does not so much plunge as seizes you, and there you are. For when you take these same colors and mix them on a small scale in a little picture, however skillfully, the result is essentially and intrinsically different from what the reality was on that scale of immensity, with that weird immensity and blending of color, and beyond all with that yawning depth which seizes upon all the instincts in you and makes you start back in fear and in silence. And that, too, is I suspect the reason, as has just been suggested by the last speaker, why one really, to understand or appreciate the canyon, one must stay a while.

I have been sincerely sorry ever since coming away for those unfortunate visitors who have to run in and out on the next train. The canyon refuses to yield its inner secrets to any sudden assault. You can not take it by storm. You have to live with it, for the lights and shadows, the combinations of color are changing with every passing hour. At sunrise, high noon, and sunset it changes with the changing sky and it alters its mood with yours, and you must see it at all hours; you must see it in all conditions in order really to have it impress upon you this mysterious spell.

And among the reasons why you must stay awhile—and here again I come back close to my emotion point, which I am anxious that you should feel before I go on to apply it—you must stay awhile in order to appreciate that the other mysterious fact about the canyon is its silence. It is not only that you are silent in its presence, but that it is silent in yours; and that hush of eternity that broods over it

day and night is one of the most mysterious and one of the most powerful things with which I personally have ever come into contact.

I do not know how it was with you, but I remember well, after long moments out on one of the points, when no sound had been heard, and when often the wheeling buzzards with their motionless wings seemed to add to the terrible stillness of it because they never uttered a sound, that the very chirp of the cricket on the route going home was a positive relief, as if to reassure you that you were not the only living thing in the whole vast scene.

And I well remember the impression made on me when I was fortunate enough to see one of those wonderful bluebirds dip down over the edge of the rim with a flourish of marvelous deep blue as the sun fell on it; I was thankful for his little song to set against that silence. But I noticed that he, too, like me, seemed to be afraid of all that was down there; that he too did not venture many score of feet out over the great rim of the upper edge.

Now, if my own experience of the canyon, as I have tried to suggest it to you in some of the things that seemed to me salient about it, is at all characteristic, it is the basis at once for the first and most important thing that I want to say this afternoon about the spiritual uplift of such scenery as this and about the canyon in particular; and that is this, that, better than any place I know, the canyon creates that awe and reverence which are at the very foundation of all spiritual life.

The students of morals and religion in our time are telling us that human instinct is the root of both. Life is the human instinct of all. The reason why the spirit is perhaps no stronger in our modern life is because the conventional flatness, the obvious mediocrity, the familiar shallowness of the life which you and I have to live is so ever present with us that it has dulled, if not atrophied, this fundamental instinct of awe and reverence which is at the bottom of all real spiritual life.

Now, what the canyon does for you is to pick you out of circumstances and scenes and away from people and ways of living that do little to stimulate your awe and reverence, and to set you down in the place where, try as you will to resist, try as you will to hold yourself in another mood, you can not help yielding to your awe and reverence.

From whatever point of view you approach the canyon, you also become interested in it as a student. Your mind may be extraordinarily stimulated by the marvellous aspects of its geological history; it may be apparent to you that those lowest bottoms must be where the Colorado River is wending its way; that the walls are all vertical; and that they may have been thrown up by some earthquake

aeons before the horizontal strata of the wider canyon were deposited at all; that after that process was all complete some other prehistoric river had to begin to cut its way down before the modern river could begin to cut its slot at all. And when your historic imagination has taken that retrospect back into the uncounted aeons you feel just like one felt in the presence of the works of prehistoric man at the San Diego Exposition last summer. You have begun to feel that your intellectual curiosity is summoning your intellectual imagination to reverence and to awe.

But it is not perhaps so much your intellect that is summoning to reverence and awe as it is your emotion. How powerful that is I can not tell you. Neither can I erect it in you unless you have been there. You and I can only restore the mood of awe and reverence within ourselves by going there again ourselves.

The best sentence I think I have found to express this thought is on a post card I picked up:

> Eluding all sense of perspective or dimension, outstretching the faculties of measurements, a boding, terrible thing, unflinchingly real, yet spectral as a dream.

I know no six or seven words that sum up the remarkable conception of the canyon's remarkable effect on the human imagination than those last words: "A boding, terrible thing, unflinchingly real, yet spectral as a dream."

Speaking of the awe and reverence which lie at the bottom and root of all true spiritual life, let me remind you with all frankness that no nation on earth so needs just this stimulant as we Americans. The third dimension has dropped out of our national life. We are the biggest nation on earth when it comes to measuring length and breadth and talking about it. Who lives as we do? We talk about great figures, great statistics, great numbers, great distances, great wealth, great values, great credits, great finances, and all the rest that have to do with the other two dimensions. But when you stop to think about the third dimension, the sense of depth, that is what everybody misses in our American life. Kipling looks at us and, in a very friendly, very frank series of phrases, points out exactly this lack of awe and reverence.

One of our older Americans, only a few weeks ago, was saying that one of the most significant and perhaps one of our most dangerous aspects of our national life was a passion for up-to-dateness; that we will not read a newspaper that is more than 24 hours old; that we look upon a book written further back than the last month as quite ancient; and that as a result the sense for all the past, that sense in which awe and reverence plays so large a part, more and more has tended to drop out of our national consciousness; and that,

in becoming so tremendously up to date, we are at the same time getting unusually shallow.

That is just what I mean when I say that the third dimension is forever tending to drop out of our American life. Suppose it had been an American instead of Moses to whom the voice came out of the bush—"Take off thy shoes from off thy feet, for the ground whereon thou standest is holy ground." What is your guess as to the characteristic American reply? Would the American have kept his hat on and asked why he could not keep on his shoes also? Or he would never have heard the voice at all?

My point is this, that anything which gives to we Americans a tremendous, overwhelming sense of the third dimension has to do with one of our greatest needs psychologically. Why? Because things moral always have to do with that third dimension. You can feel the difference between what Mr. Lloyd George a little while ago called the sense of self-sacrifice, the high plateaus of moral character, and those lower levels of the senses, those sins of the disposition—the bad temper, unkindness, and selfishness which are the lowest moral levels of all. Unless you can feel the difference between those levels, where are you as an individual? Or how is the nation that loses that sense going to keep its moral sense, its consciousness? If you are interested in pursuing this line of thought, when you go home read Tennyson's Vision of Sin, and you will see at once that through it all runs the picture of a mountain range. Do you know, when I stood on Hopi Point, at the Grand Canyon, I began to suspect that Tennyson might have written the Vision of Sin there. Do you remember those last lines, with their wonderful picture of human destiny and the mystery of human life? See how the picture fits the canyon—

> At last I heard a voice upon the slope
> Cry to the summit, "Is there any hope?"
> To which an answer pealed from that high land,
> But in a tongue no man could understand;
> And on the glimmering limit far withdrawn
> God made Himself an awful rose of dawn.

And anybody who has ever seen sunset or sunrise at the canyon has seen the perfect setting of Tennyson's verse.

Whatever increases in our American souls the sense of the third dimension is directly a moral education—and it is more than that. Whatever increases in our American souls the instinctive sense of reverence is the planting of a root of vital religion. For, to a man into whose soul there never comes the consciousness of anything so supreme, so wonderful that he can only bow before it in breathless awe, how can there come any personal experience of religion?

Just once more, if I may detain you but a moment. I had one other experience at the canyon that has helped me how to understand what I believe to be part of the secret of its extraordinary spiritual uplift, and that was the sense of dependence and the dread of loneliness which the canyon can cast over you. We were out at Hopi Point. I will not try to describe it for you; I could not; but as we watched the shadows lengthen upon the canyon and the deep purple setting of night steal up the valley, Mrs. Gilkey turned to me and said, "I would not be alone here for a great deal."

Not until the remark was made did I realize the profound psychological truth. "I would not be alone here for a great deal." And on the way home she made another remark which has stayed with me ever since. She said, "Do you know I feel as if I had stood before the last judgment seat—as if the secrets of my soul had been laid bare?"

I will have to leave it to those of you who have been at the canyon under such circumstances to recognize what I believe to be the truth of both those remarks. No spot on this earth that I have ever stood in has so fastened upon me an instinctive dread of being left alone, an instinctive sense of dependence on other companionship, an instinctive sense of personal responsibility such as that impressed upon me at the canyon.

I have been wondering ever since if possibly a visit to the canyon will make it a little easier for all of us to understand a thing that religion has always talked about, and always will, and that is the instinct that every human life is strangely, mysteriously responsible. The traditional doctrine of religion that incarnates is the doctrine of the last judgment. Now, naturally enough, those whose last idea of terror was that of standing before the judgment bar painted their scenes of responsibility in terms of a great judgment seat, a great white throne, and a great judge. Rightly or wrongly, that no longer holds for you and me; and particularly for us Americans that doctrine no longer holds the dread that it used to hold for our ancestors. But you go to the canyon some day at sunset and stand upon Hopi Point and let your soul answer. You will know then more about the doctrine of the last judgment than you ever knew before.

Once more, and only a reference: They told us that down in a little walled canyon alone or in groups live men who have fled from justice and are trying to escape society. Stand on the rim and look down. Watch the depths where darkness lingers in the morning and hovers in the evening; and you will begin to see a parable on human life. It has stayed with me ever since. Deep in nature's canyon depths hide those unsocial beings who flee the face of men. High up on the rim where first they see the sunrise, where the light stays longest, where the promise of the new day tarries last, are the

prophets and seers of humanity, with all the rest of us clambering up or slipping down on the slope in between.

One profoundly suggestive hint that the canyon gave me the last hour I spent with it was this: The best views are not those from the bottom, fine as they are; or upon the slopes, interesting as they are. For the best views of the canyon, stay up on the top. It is true of human life no less. It is not the realist's exploration into the life of the underworld which affords the widest, the best, the truest outlook on human life. It is not even the geologist's exploration on the slope, invaluable as it is. It is the outlook of the individualism that can climb to the peak of human life and look over its whole scope; that can let its soul look up and down in reverence and awe.

All this our ancestors would have called natural religion; and our ancestors, like modern detectives, would have gone around the grand canyon with microscopes looking for a little finger print of the Almighty. For us modern folk, also, this is natural religion, only we get at it just the other way. We have found out more than our grandmothers knew about the ways in which the Grand Canyon and all the other great wonders of the natural world have created, and we are less consciously dogmatic than they were. It may or may not get anywhere to trace the connection between cause and effect or to try in any literal sense to make these the handiwork or the finger marks of the Almighty; but we can not afford to lose out of our lives or out of the Nation's life natural religion in its true eternal sense, the natural religion that comes not so much by process of argument by nature as by process of investigation into the mysteries and secrets of the human soul. As one thinker has well put it, it is not through nature that our modern world comes to God; it is through man.

Perhaps this is not so heretical as at first it might sound; for no less an authority than George Adams Smith tells us that to the highbrow of old, with his wonderful sense of the starry heavens and the earth beneath, God's masterpiece of nature were not so much of an argument as a sacrament, not so much a proof of God as a revelation of the world outside, of the love and care which he had found in his own soul's experience. Another said, following out the same great thought to which I am trying to lead you, that two things moved him to awe—the starry heavens above him, and the moral law within him; and, if the starry heavens above, say on a silent night in the Yosemite, or if the wonders of that same light as it lingers in all its splendor in the Grand Canyon, will move any of us or our countrymen to awe, it has thereby helped us to a quicker and a keener awe for that moral light within us, which, after all is said and done, is the only indispensable thing for the future of our nation.

(Whereupon the afternoon session was adjourned at 5 o'clock p. m.)

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WEDNESDAY, JANUARY 3, EVENING SESSION.

The entire evening session was devoted to an illustrated lecture on the national parks by Mr. Herbert W. Gleason, of Boston. The lecturer used 150 lantern slides, all colored from nature, most of the coloring being by Mrs. H. W. Gleason, who has accompanied her husband on all his trips through the parks. A number of remarkable moving panoramas were also shown, giving broad landscape effects from high viewpoints.

Herbert W. Gleason.

It has been my good fortune to visit all of the more prominent national parks of the country, in many cases repeatedly, and also many of the national monuments. From more than a thousand photographs taken on these various trips a brief selection has been made for presentation on this occasion, the object being, not to give a comprehensive view of the scenic beauty of the national parks, which would take many evenings, but simply to indicate here and there some of the more striking features.

The principal national parks of the country fall readily into two divisions, geographically; first, those which are found along the range of the Rocky Mountains, and secondly, those which are found on the Pacific slope. Beginning with the first division, Yellowstone Park naturally claims chief attention, not only because it is the largest of all the parks and was the first to be established, but also because it possesses many features which are absolutely unique. Indeed, in the minds of many people it is the only national park which we possess—they have never heard of any others.

On the splendid arch of basaltic rock which stands at the northern entrance to Yellowstone Park there has been engraved the legend: "For the benefit and enjoyment of the people," a sentiment which may well serve as the text for any discourse upon our national parks, and also as an appropriate rallying cry in all efforts for their protection and perpetuation. Yellowstone Park would deserve its establishment if only on account of the beauty of its ordinary features of mountain, lake, and river; but it has worthily commanded world-wide attention because of the wonderful variety and splendor of its volcanic phenomena. Prominent among these are the remarkable terraces and travertine deposits at the Mammoth Hot Springs. Here the "Minerva" Terrace, "Cleopatra" Terrace, "Jupiter" Terrace, and many similar formations constitute an assemblage of extraordinary interest, while the manifold rainbow tints of the travertine are exquisitely beautiful. So with regard to the multitude of hot springs and boiling pools—the "Beryl," "Punch Bowl,"

"Morning Glory," "Oyster," "Emerald," etc.—one finds here infinite variety in form and color, as well as never-ceasing charm. But Yellowstone Park is famous more especially for its geysers—those relics of old-time volcanic activity so startling in their habit and so mysterious, at first sight, in their operation. No other locality in the world equals the Yellowstone in the number, variety, and magnificent display of its geysers. It is worth a long journey just to behold a single eruption of "Old Faithful."

Every visitor to Yellowstone Park notes with delight the surprising tameness of the wild animals. The bear, deer, elk, antelope, squirrels, marmots, and even the birds evince a confidence in man which speaks volumes in favor of the policy of protection which has been accorded to all wild animals in the park, and it is a welcome fact that the same policy in the case of other parks is producing the same happy result.

The climax of beauty in Yellowstone Park is found in the Grand Canyon of the Yellowstone. Here on the walls of this canyon nature seems to have exhausted her palette of colors. Such brilliancy is found nowhere else on earth. As Enos Mills happily says, it is "lined with the sunset." Standing on Lookout Point, facing the Great Falls, one is almost carried away with the supernal beauty and fancies himself suddenly transported to another world. No wonder that more than one skilled artist, seeking to reproduce the scene, has dropped his brush in utter despair.

The second largest park along the crest of the Rockies is Glacier Park in Montana, so called because of the fact that within its borders are found more than 60 living glaciers. These glaciers, however, are all small and do not compare with the glaciers in Mount Rainier National Park, or even with those in Mount Olympus National Monument. But Glacier Park excels in other features, especially its mountain lakes, many of which surpass in beauty those of any other section of the country. At the western entrance to the park lies Lake Benton, a superb sheet of water 10 miles long, and affording glorious views of the surrounding mountains. Corresponding to this, at the eastern entrance, is Lake St. Marys, also about 10 miles long, from whose shores there rise abruptly stupendous mountain peaks, giving views of rare sublimity. St. Marys is always beautiful, even when the storm clouds gather and the thunder rolls and the winds lash its surface in fury. One may spend many days of unalloyed delight by its shores.

And St. Marys Camp is an admirable base from which to make excursions to other points of interest. Among these the trip to Lake McDermott is especially popular. Here, close by the Continental Divide, there nestles an alpine gem of the first water.

Rarely can one find a combination of mountain, lake, glacier, and forest scenery so commandingly beautiful. And from Lake McDermott, too, various side trips can be taken which are highly rewarding. One of the most enjoyable of these is that which follows a mountain torrent up to its source in Iceberg Lake. Here, in a glacial cirque at the foot of great cliffs which rise sheer for 2,000 feet and more, lies a glacier whose ice is continually breaking off into miniature icebergs which float about the lake. Rather a chilly locality, one would say, for wild flowers to choose as a home, yet upon the very borders of this icy pool there flourishes a host of brilliant flowers—spirea, asters, harebells, geranium, elk grass, painted brush, etc.—a jovial company.

Return to St. Marys Lake may be made over Piegan Pass, a wonderful trip of some 22 miles, terminating at Going-to-the-Sun Camp, where the surrounding scenery is among the grandest in the entire park. The mountains, instead of being named "Mount Jones," "Mount Smith," etc., are named after old-time Indian chiefs or to commemorate Indian legends. "Red Eagle," "Little Chief," "Almost-a-Dog," "Single Shot," "Siyeh," "Going-to-the-Sun" are some of these. From St. Marys the trail leads to Gunsight Lake, with side trips to Blackfeet Glacier, Pumpelly Glacier, etc., and then over Gunsight Pass and on to Lake McDonald, passing Sperry Glacier on the way. The northern portion of the park, which, however, is reached with some difficulty at present on account of the scarcity of good trails, abounds in alpine scenery of the most rugged and picturesque type.

The Rocky Mountain National Park, one of the latest to be established, is located in the northern part of Colorado and includes some of the most impressive and strikingly beautiful scenery of the whole Rocky Mountain Range, centering about Longs Peak (altitude, 14,256 feet). The park is notable for its easy accessibility, being within a few hours' trip from Denver either by train or automobile. The western entrance is at Grand Lake, a delightful summer resort, and the eastern entrance is by way of the winding river canyons, fascinating in their wild beauty, which lead to Estes Park, a region long famous for its many attractions as a summer home. Estes Park, while not within the actual bounds of the national park, is yet an essential portion of the park, as it forms the chief starting point and base of supplies for all excursions in the park proper. One might easily spend a month in Estes Park and enjoy a new excursion almost every day. Among these trips may be mentioned the following: Up Black Canyon to Hallett Glacier on Hagues Peak; by way of the new Fall River road to Specimen Mountain and over the Continental Divide at Milner Pass; also over the divide by way of Flattop Mountain and down

to Grand Lake; following the trail from Moraine Park up to Fern Lake and still higher to Lake Odessa; another trail to Loch Vale, Glacier Gorge, and Taylor Glacier; climbing to the summit of Lily Mountain, the Twin Sisters, Estes Cone, etc.

But the crowning excursion in Rocky Mountain Park, for those who are competent to undertake it, is the ascent of Longs Peak. This is usually made from Longs Peak Inn, the home of Mr. Enos Mills, who has rightly been termed "the father of Rocky Mountain Park" because of his long and persistent devotion to its interests. Under ordinary conditions the climb can be made without danger and with no especial difficulty, good muscle, steady nerves, plenty of "wind," and a fair degree of gymnastic ability being the requirements. After leaving timber line the surrounding country opens up in truly magnificent style, and on reaching the summit the view in every direction is sublime in the extreme.

Wild animal life in Rocky Mountain Park is peculiarly interesting, there being a number of bands of mountain sheep within the park, while everywhere one finds abundant opportunity to observe the habits of the beaver. As to wild flowers, the number is almost countless, and the midsummer display is beautiful beyond expression.

Colorado is fortunate in possessing still another national park, situated in the extreme southwestern corner of the State—Mesa Verde National Park. This park was created for the purpose of preserving a most interesting series of prehistoric cliff dwellings which were discovered a few years ago in some of the canyons of Mesa Verde. It is a decidedly novel experience to ride 30 miles to the summit of this mesa, and then, on coming to the rim of one of the canyons, without having previously seen a sign of human habitation, suddenly discover, halfway down the perpendicular wall of the canyon, a whole village of stone houses sheltered within a great cave. And it is yet more novel, on descending the steep trail leading to the cave, to explore one of these community dwellings, to note the plan upon which it is built, the excellence of the masonry—far surpassing that of present-day Indians—the peculiar forms of doorways and windows, the fireplaces, the curious underground kivas or ceremonial chambers, the attempts at frescoed walls in places, the finger prints of women and children made in the fresh adobe mortar when the stones were first put in place, the deep grooves in the solid rock where the men sharpened their stone axes, for these structures were built in the Stone Age when tools of metal were unknown. These grooves are pathetic, likewise the rough scarf marks still to be seen on the ends of beams used for supporting the second and third stories of the dwellings. Who these cliff dwellers were, where they came from, how long they lived here, where they went to; these are problems in archæology which are far from being solved. Three of

the principal groups of buildings, the Cliff Palace, the Sprucetree House, and the Balcony House have been put in excellent repair, under Government direction, and bid fair to last for still another indefinite period.

The people who formerly dwelt here have left abundant evidences, not merely of their skill in masonry, but in the making of pottery and fabrics. They possessed also a considerable artistic sense for a rude people, for their implements and vessels of earthenware are profusely ornamented. An astonishing fact, hard to be explained, is that some of their designs duplicate early Christian and even ancient Greek and Egyptian patterns.

But Mesa Verde is not the only national park devoted to the preservation of antiquities. Casa Grande National Park, in southern Arizona, includes what is probably the most remarkable structure on this continent—a great stone house of singular construction and use unknown, so ancient that when it was first discovered by Spanish explorers in the early part of the sixteenth century it was then an antique ruin, and among the native tribes of the region there was no shadow of tradition respecting its character or history. Montezuma's Castle and the Tonto Ruins, also in Arizona, are included among the national monuments, both preserving excellent specimens of the cliff-dweller's work. Of similar character are the Navajo and Walnut Canyon Monuments, also in Arizona. In February, 1916, the Bandelier National Monument, in the Rio Grande Valley, N. Mex., was created. Within an area of 18,000 acres there are included a large number of cavate dwellings which have exceptional archæological interest. It is proposed to extend this area farther to the north so as to include the remarkable Puye Mesa, the whole to be called the National Park of the Cliff Cities. Still another region of fascinating interest along the same line is the Canyon de Chelly, in the Navajo Reservation, where are found a series of cliff dwellings in the red sandstone walls of a box canyon, which in itself possesses extraordinary beauty. This canyon is not yet even a national monument, but measures have been taken looking to its establishment as such.

Coming next to the national parks on the Pacific slope, the first to engage attention is the Mount Rainier National Park in the State of Washington. The crowning feature of this park is, of course, Mount Rainier, the highest mountain on the Pacific coast, and one of the most majestic peaks to be found anywhere in the world, for the entire altitude of the mountain (14,408 feet) can be seen from sea level. The glacier system of Mount Rainier is immense, covering 48 square miles and including 28 distinct glaciers, some of which are of enormous size. The mountain also presents many interesting evidences of its ancient volcanic activity. The ascent of the moun-

tain is frequently made and proves a most inspiring experience. Like a diamond in a setting of emeralds, Mount Rainier is surrounded by a number of most charming natural parks, in which the display of wild flowers, in their abundance, variety, novelty, and brilliancy, is quite on a par with the magnificent aspect of the mountain. High up on the mountain slopes one may sometimes meet with a herd of wild goats, also an occasional flock of ptarmigan—that bird of arctic habits which apparently loves to dwell amid perpetual snow.

But Mount Rainier was not always the highest mountain on the Pacific coast. In prehistoric times another mountain in southern Oregon towered above Mount Rainier. But this mountain, which was a mighty volcano like Rainier, met with a sad catastrophe one day. Either the whole top of the mountain was blown off in some terrific explosion or else the mountain swallowed itself, so to speak, the latter being the generally accepted theory of geologists. Whatever the fact was, we find to-day an immense caldera occupying the highest level of the mountain, and within this great crater there is a lake, 6 miles in diameter and with a maximum depth of 2,000 feet, of indescribable beauty. This lake is in the center of Crater Lake National Park—one of the most interesting and beautiful of all our national parks. The lake itself—a deep ultramarine blue in color, the steep walls inclosing it which rise in places to a height of 2,000 feet above the lake, the glowing tints of copper and sulphur and amethyst which the volcanic rock exhibits here and there, the graceful drapery of the mountain hemlocks both within and without the crater walls, the quaint "Wizard Island" which was upheaved after the major cataclysm, the neighboring snow-crowned peaks—all these combine to make a picture which the beholder will ever remember with utmost delight.

California rejoices in possessing no less than four national parks, as well as several national monuments. Entering the State from the north, we first come to the Lassen Volcanic National Park, created in the summer of 1916, which contains, among other interesting volcanic phenomena, Lassen Peak (10,465 feet altitude), which has become widely famous of late on account of its awakening from a long slumber and indulging in a prolonged series of spectacular fireworks.

Yosemite National Park is surpassed in size only by the Yellowstone and Glacier Parks. Many people confuse Yosemite Valley with Yosemite Park. The valley is included within the park, but only as a single feature, the area of the valley being only about 8 square miles, while the area of the park is 1,125 square miles. Still, even if the valley stood absolutely alone, it would be well worthy of high distinction as a national park. For within this limited compass it seems almost as if nature had sought to bring

together the most magnificent and graceful specimens of her handiwork. Yosemite Valley has been often described and illustrated, but in spite of this every visitor on entering the valley is met with a revelation of grandeur and beauty such as he had never before conceived. And the vision never palls. One may spend weeks in the valley; he may visit it repeatedly, yet the wonder and the glory of it are ever fresh and awe compelling. El Capitan, Cathedral Rocks, Half Dome, Mirror Lake, Vernal Fall, Nevada Fall, Yosemite Fall, Bridal Veil—these are names familiar to a multitude of people through verbal descriptions and pictorial reproduction, but only those who have seen the reality can begin to appreciate what Yosemite Valley means.

But having seen Yosemite Valley one should by all means undertake a tour of Yosemite Park. Tuolumne Meadows, some 30 miles north of the valley, is now easily reached either by trail or automobile road and forms an admirable base from which to explore a large section of the High Sierra as well as to visit many localities of notable character in the northern portion of the park. Mount Lyell, Mount Dana, Kuna Crest, Tioga Lake, Mono Pass, McClure Glacier, Dog Lake, Conness Peak, Piute Mountain, Rodgers Lake, Matterhorn Canyon, Kerrick Canyon, Tilden Lake—these are only a few names. There is the marvelous Grand Canyon of the Tuolumne, a stupendous gorge, beginning shortly below the Tuolumne Meadows and extending westerly for nearly 25 miles, carved out of the mountain mass by an ancient glacier, with walls rising sheer from 4,000 to 5,000 feet high, while through the narrow canyon there courses the Tuolumne River in one continual succession of glorious cascades and waterfalls. Difficult of access as yet—for there is no trail except through a small portion of the canyon—it rewards the explorer with some of the most magnificent canyon scenery on the American Continent.

At the lower end of the Tuolumne Canyon lies Hetch Hetchy Valley, in many ways a counterpart of Yosemite Valley, yet with a marked picturesque quality of its own. Those of us who have seen Hetch Hetchy in all its primitive beauty can not help a feeling of sadness in view of the fact that the valley has been given to San Francisco for an artificial water reservoir.

The Sequoia and General Grant National Parks were established for the purpose of conserving some of the most notable groves of that magnificent tree, the *Sequoia gigantea*, relic of an earlier geologic age, found only in California, and commanding the highest interest on account of its immense size, its majestic dignity, and its hoary antiquity. Unquestionably, these trees are the largest and the oldest of all living things. Many of them are over 300 feet high, with a trunk diameter at base of from 30 to 40 feet,

and an age dating back certainly 5,000 years and more. Few objects in all the outdoor world are worthy of such heartfelt reverence.

It is proposed to extend the boundaries of the Sequoia Park to include a region of mountainous country along the crest of the Southern Sierra and its western slope drained by the Kings River and its tributaries. If this shall be done, the new park will bring under national protection Mount Whitney (the highest elevation within the United States proper), Mount Williamson, Mount Tyndall, the famous Kings River Canyon, Tehipite Valley, and many other mountains and valleys of great scenic interest.

Brief reference may be made in closing to some of the more notable national monuments, which are to all intents and purposes national parks, though occupying a somewhat different status and being created by presidential proclamation instead of a specific act of Congress.

The Devils Postpile, in California, is one of the most remarkable collection of hexagonal basaltic rock columns to be found anywhere in the world. The Devils Tower, in Wyoming, is a closely allied formation, rising to a height of more than 1,200 feet above the surrounding plain. The Colorado Monument and the Wheeling Monument, both in Colorado, present some very striking results of erosion in the form of lofty monoliths and curiously carved and colored cliffs. The Natural Bridges Monument, in southern Utah, includes three of the largest and most striking natural rock bridges known anywhere. A similar formation is the Rainbow Bridge Monument, also in Utah, the height of which is 309 feet and the span 278 feet. The Petrified Forest Monument, in Arizona, includes three areas where are found the silicified remains of ancient coniferous trees, of great interest and beauty. Mount Olympus Monument, in the northwestern corner of Washington, is a mountain area of superb character and unusual scientific interest, its extensive glacier system being particularly notable. A plan is on foot to give this region the full status of a national park, which it amply deserves. The Sieur de Monts Monument, on Mount Desert Island off the coast of Maine, a locality of historical interest and scenic beauty, is the only national park or monument yet created east of the Mississippi.

There are many grand canyons in the United States, but only one Grand Canyon; and by far the greatest, both in area and importance, of all the national monuments is the Grand Canyon of Arizona. No words can describe the awful majesty and the sublime beauty of this stupendous chasm. As Prof. Van Dyke has said, "Instead of its being, as is sometimes stated, the eighth wonder of the world, it is the first wonder of the world." A bill is now before Congress, with good prospect of its being passed, to make the Grand Canyon a full-

fledged national park, and thus to preserve for all coming generations, under full governmental control and protection, this masterpiece of nature's production.

The Harriman Fiord in Alaska, an arm of Prince William Sound, is a proposed national monument of exceptional interest and attractiveness. Only 12 miles long and a mile or so in width, it is an amphitheater of sublimity tremendously impressive and exquisitely beautiful. On all sides rise lofty mountains whose summits pierce the clouds at altitudes varying from eight to eleven thousand feet above sea level. Five huge glaciers descend directly into the fiord, discharging icebergs with roars of thunder, while many other glaciers lie on the higher slopes, the azure hues of their pinnacles and crevasses glistening in the sunlight. Few white men have ever seen this wonderful fiord, but in coming days, with the opening up of the new governmental railway, it is certain to become widely known and prized as one of our finest scenic assets in all Alaska.

One other national monument should be mentioned, not merely for its intrinsic interest, but because it honors the name of one who devoted his life, in a very real and most effective way, to the welfare of our national parks—the Muir Woods of California. This is a tract of primitive redwood forest on the slopes of Mount Tamalpais, across the bay from San Francisco, which was deeded to the Government by Hon. William Kent, a Member of Congress, and named after John Muir, the eminent naturalist and writer, in recognition of his efforts to awaken interest in the wonder and glory of the outdoor world. A day spent with Mr. Muir himself in the Muir Woods was one never to be forgotten. Utterly oblivious of the fact that any special honor was conferred upon him in connection with the park, he was continually intent upon discovering new forms of beauty in the trees or shrubs or vines or flowers, all the time unfolding from his vast store of information facts of deep interest pertaining to the varied features of the park. And this was characteristic of his entire life. He gave himself in whole-souled enthusiasm to the study of nature's methods and mysteries, not solely for his own satisfaction, but that he might interpret them to others and thus reveal something of their wonder, their beauty, and their spiritual significance. To quote a word of tribute from one who knew him well:[1]

> His was the vibrant voice that sang of God's manifestation in the harmonies and beauties of nature. His was the hand that pointed the way to the clear and high places of earth. His were the feet that beat paths for others to follow, leading to shrines in the forest or meadow, on the glacier or cliff of rocks, by the river's edge, or on the mountain's summit. His name will endure, not alone because it is written upon the Muir Glacier of Alaska or among the giant Sequoias of the Muir Woods in California, but because it is written in letters of sincere love upon the hearts of thousands whose lives his own has sweetened and brightened for all time.

[1] Prof. E. S. Meany, of the University of Washington.

THURSDAY, JANUARY 4, MORNING SESSION.

SUBJECT, "THE RECREATIONAL USE OF THE NATIONAL PARKS."

The Thursday morning session was convened at 10.08 o'clock, with Mr. Enos Mills presiding.

THE PRESIDING OFFICER, MR. MILLS.

Ladies and gentlemen, I am sure you will confer a great favor on the speaker as well as obtaining a distinct advantage for yourselves if you will gather forward in the room.

The subject to be discussed this morning is "The recreational use of the national parks." The first speaker on this subject is Mr. W. A. Welch, who is the chief engineer in charge of the Palisades Interstate Park. As some of you may not know, we will say that this park embraces about 30,000 acres of land. Altogether, $8,000,000 have been expended in this park. Five millions more are already available and will soon be spent. More than one-half of this entire sum has been donated privately.

Now, the man who has charge of the spending of this money, on whose shoulders falls the burden of carrying out the admirable plans and policies of this interstate park machine, is the man who is to speak this morning. The work which this man is doing is really evolutionary and revolutionary. Heretofore, when too many workmen have been afflicted with "blue Monday," they were simply dropped from the rolls and others substituted. Heretofore, when people got bad, they were put into prison, and when there were too many of them they enlarged the prison. In later years, especially the last few years, society is finding that much inefficiency and crime and indifference may be prevented by providing outdoor recreation. Hence, great numbers of new parks are being established. They are being used for the benefit of everyone.

Some years ago, a well-known philosopher said that a man's chief business is his amusement. Not until recently, as I have suggested, has society taken this statement seriously; but it is a known fact that people progress on their playgrounds, and if they do not have playgrounds they do not progress. From now on I think you will see increased areas made into playgrounds, and they are to be given to the public to use these playgrounds. At any rate, the Palisades Interstate Park is within two hours' travel of 10,000,000 people; so you can see the opportunities this park has to serve the people.

Well, now, fortunately, it is being developed in what I think will be considered the best possible manner. There are no French fixings, there are no marble columns, there are no unnecessary decorations;

that park is handled so as to adjust itself to the needs of the people. For instance, there is a large hotel in one part of it. This hotel is conducted by the park management. No one is making money out of the visiting public. There isn't a concession in this park. If you want a boat ride, the boats are there free, because that park belongs to the people and is run for the people.

To me the most inspiring spot in the world to-day is the Interstate Park—the Palisades Interstate Park. The man who is in charge of it, who is doing the greatest work that I know of at the present time, Mr. W. A. Welch, will now speak to us.

MR. W. A. WELCH, CHIEF ENGINEER, PALISADES INTERSTATE PARK.

THE MAKING OF A RECREATIONAL PARK.

Ladies and gentlemen, I have a little son about 3 years old whose greatest pet is a very small kitten, and I took him to the zoological park in New York a short time ago, and told him that I would show him some more kittens. I took him into the lion's house. He stopped at the door and looked around at those cages of the lions and tigers and leopards and jaguar, and then he tugged and tugged at my coat, an said, "Papa, we are in the wrong place. These are all big kittens here." And that's the way I felt when Mr. Mather asked me to tell you something about our poor little park, because I know something of the national parks; I know their wonders and their magnificence and their glories; and it seems very foolish to bring up something about our little park up in New York State. But our time is very limited; we are late; and if you will permit me, I will just read through a little sketch of the park we have here and then show you a few of the pictures that will visualize to you the uses that the people are making of the Palisades Park.

I will show you just a few pictures of the people in the park, and so try to visualize to you some of these things. The first of these pictures which were taken under the palisades were necessarily taken in the morning, and so there are not very many people in the park.

(Thereupon Mr. Welch showed a number of pictures of the Palisades Interstate Park in New York State.)

The Palisades Interstate Park had its inception in a movement started in the nineties to save the palisades from the quarrymen.

The first plan was a proposal in 1895 to induce the National Government to acquire the cliffs and the land under them for a military reservation. This idea, however, was abandoned, and then the New Jersey Federation of Women's Clubs began an active campaign which resulted in the creation by the New Jersey Legislature of a

commission to investigate and formulate a plan for the creation of a park.

This resulted in legislative action by the States of New York and New Jersey in 1900, creating the Palisades Interstate Park Commission, each governor being empowered to appoint 10 commissioners, 5 of whom must be residents of his State, and the other 5 residents of the other State.

The New York bill carried an appropriation of $10,000 for expenses, and the New Jersey bill a like appropriation of $5,000. The commisisoners, who serve without compensation, decided to devote all of this money to surveys and the acquisition of lands, and to spend none of it for administration purposes, and for 10 years they had their office literally "under their hats."

This $10,000 appropriation was used to bind an option on the largest quarry which was then operating opposite One hundred and fifty-fifth Street, New York City. The price of this property was $132,500, and the balance, $122,500, was donated by citizens of New York, the option taken up and the quarry closed. The surveys showed that there were approximately 900 acres of land in the 12-mile strip under the palisades over which the commission had jurisdiction. The commission estimated that this could be acquired at the rate of $500 per acre, and they asked the New York Legislature for $400,000 and the New Jersey Legislature for $50,000, this proportion being determined by the fact that the entire strip was much more accessible to New York City than to any of the large cities of New Jersey.

The legislatures made the appropriations as requested, and within the next nine years the commission succeeded in acquiring practically all of this land by purchase. In 1910 the jurisdiction of the commission was extended northward along the west bank of the Hudson River to Newburgh and westward to include the Ramapo Mountains in Rockland and Orange Counties, N. Y.

New York State voted a bond issue of $2,500,000 and transferred to the commission the Bear Mountain prison site of 500 acres. Mrs. E. H. Harriman donated 10,000 acres of land and $1,000,000, and other individuals donated $1,600,000, while New Jersey appropriated $50,000 for the construction of the Henry Hudson Drive through the park.

In this past year New York State has again voted $2,500,000 for the acquisition of additional lands and a like amount is being raised by private subscriptions for further development of the park.

At present the commission own about 30,000 acres of land and have expended in its acquisition and development nearly $8,000,000, 55 per cent of which has been contributed by individuals. The commissioners, all of whom are active business and professional men

who have unselfishly devoted their time and labor all of these years to the creation of this great playground, are entitled to the sincerest gratitude of all lovers of the great out of doors. Only we of the organization know how much time they have willingly taken from their private duties to devote to the study, planning, and execution of this project, or properly realize the immense value of the services that this body of men are willingly giving to the people—services that it would be impossible for any private enterprise to purchase.

Four years ago the commission really began the work of opening up and making the park accessible and usable. They did some work at first by contract but found this expensive, unsatisfactory, and destructive; so they organized their own engineering and construction force, purchased their own plant, and have done all their work in this way. Our organization, which was taught first of all to destroy nothing, preserve at any cost all vegetation and natural beauties, has always been free from political influences and is now a thoroughly loyal, well-knit force, which can carry out work of any kind or magnitude. Many of its members were taken from the former residents of the park lands, this being particularly true of our patrol and forestry forces. We have taken most of our building materials from the property, having our own sawmills, crushers, etc.

The palisades section, which extends for 12 miles along the west shore of the Hudson River directly opposite the upper part of New York City, embraces all the land between the top of the steep cliffs and the river. This was a veritable wilderness, cut off entirely from New Jersey by the cliffs themselves and almost inaccessible from the river because of the rough bowlder-strewn shores, the only landings being at the few quarrymen's and fishermen's huts. There were the wrecks of many abandoned schooners and fishing boats half buried in the few beaches which existed.

The area between the shore and the steep cliffs, which is from 300 to 1,000 feet wide, was heavily timbered and covered with a mass of dense undergrowth and was almost impenetrable. The entire shore front has been cleaned up, wrecks and other obstructions to navigation removed, 13 large docks constructed out to deep water where river boats, excursion steamers and barges can land, a number of smaller docks erected for motor boats and small pleasure craft, stone bulkheads built in front of the marshy shores, and many acres of these marshes filled in and made into playgrounds.

Three large motor-boat basins were constructed which accommodate more than 1,000 pleasure boats.

Ferries have been established between New York and the park. A number of bathing beaches were built by covering the rough shingle with crusher dust from the quarries, bathing floats pro-

vided in the deep water off these beaches. There were many springs along the river's edge. These have all been cleaned out, protected, and provided with pumps. Pavilions, bathhouses, shelter houses, refreshment stands, comfort stations have been erected, a path from 10 to 30 feet broad has been built along the whole shore. Many other paths lead from this up into the groves which have been cleared out and made into beautiful picnic grounds and many sites for campers provided in the upper end of the park. Stairways have been built down the face of the cliffs to enable the people of New Jersey to get into the park.

One of the most wonderful driveways in the country has been constructed up the cliffs at Englewood and is now being extended northward along the foot of the cliffs 5 miles to Alpine. This section will be opened next summer and will be one of the finest scenic drives in the East. This development right at the door of the world's greatest city, easily reached by ferry for a 5-cent fare, has brought several million people into the park during the past three years.

One of the beaches which is nearly a mile long has been reserved for the use of canoeists, and many thousands of the members of the canoe clubs, as well as the unattached canoeists of New York and New Jersey camped there during the past summer. Just north of Alpine a number of camps were conducted last season by the neighborhood associations of New York. These were week-end camps for boys and this proved a most successful experiment. Hundreds of working boys from the city would go over on Saturday afternoons and remain in the camp until early Monday morning. They had tennis and hand ball courts, bathing and boating, their climbs through the rocks and woods, and two nights each week away from the stifling tenements. Next year we hope to have several more camps in this locality that will accommodate several thousand boys. To the north of these camps and farthest away from the regular ferries general camping is permitted and encouraged, and several thousand people camped in this area last year. There were many families among these campers who remained in camp most of the summer, the bread winners spending their vacations and all of their week ends there. Still farther to the north Forest View Dock and Playground was a favorite place with the social organization one-day excursions. There were more than 90,000 of them landed at this dock last season. A few miles north of the New Jersey State line and on the west slope of the palisades ridge, behind the village of Nyack, the commission own a detached tract of over 500 acres. A part of this tract was developed by the State of New York for a rifle range, and several substantial buildings erected for the use of the National Guard. This

range was abandoned just after its completion and given to the commission, who have restricted it to the use of working girls as a summer camp ground. This camp is conducted under the auspices of the Y. W. C. A., of New York. There were more than 5,000 girls in this camp during the past season. They were taken up there from the city, provided with tents, bedding, food, medical supplies, enjoyed the playgrounds, the woods, and mountains, straw rides to the river and bathing beaches at Hook Mountain and were talked to by competent teachers around their nightly camp fire for two weeks at a cost to them of $7 each. This camp has been most wonderfully successful, and the commission hope to greatly enlarge its capacity and make it possible for many more girls whose lives are bounded by the shops and tenements to each year enjoy a little fresh air and sunshine.

Just north of Nyack the palisades ridge bends back to the river and for 5 miles the country is just like the lower palisades. The commission now own all but one quarry site in this section and that one has been condemned and is now in the courts. Very little development work has been done in this section, but we hope soon to open it up as a great summer camp ground. The next 8 miles of the Hudson shore is occupied by the villages of Haverstraw, Stony Point, Tomkins Cove, and Jones Point, which lies just at the southern edge of the Highlands. Just inside the Highlands on the site of the proposed Bear Mountain prison, the commission has made its greatest development. This is about 40 miles from New York by the river, and in order to get the people up here at a reasonable price, the commission arranged with a steamboat company to run boats from New York to Bear Mountain daily throughout the summer at a round-trip fare of 50 cents for adults and half rate for children on week days and 75 cents on Sundays and holidays. These steamers brought more than 300,000 people during the past summer.

The commission built two large docks and filled in several acres at this landing, erected steel ramps leading from the river to the lake, and all of the regular passenger steamers on the river make regular stops here now. The West Shore Railroad has established a station here.

On a shelf at the foot of Bear Mountain, 165 feet above the Hudson, lies Hessian Pond, a beautiful body of clear spring water, 40 acres in area. Just south of this pond we have made a 20-acre playground, with baseball fields, tennis courts, football fields, and running tracks.

On the shores of the lake there is a circular dancing pavilion of rustic construction on the floor of which 500 couples can dance and the floor and the music are free. There are ice houses buried in the side of the mountain with rustic picnic pavilions on their roofs. There are many tables and benches in the groves for picnic parties

and swings for the children. There is a boathouse on the lake and 150 rowboats which are free. These boats are in such demand that it was found necessary to limit the time of their use by each party. To accomplish this we devised a scheme by which we require each party taking out a boat to deposit 25 cents to insure the return of that boat within 40 minutes. This deposit is returned if the boat is brought back on time. The year before last so many deposits were forfeited, the great majority voluntarily and after the boats had been returned on time, that we netted $1,360 from these free boats, and during the past season they have yielded $1,872.

Between this playground and the lake we built Bear Mountain Inn, a great restaurant which accommodates more than 3,000 people at one time. The first story is of great arches built of the moss-covered bowlders taken from the old stone fences on the property. The second story is of huge chestnut logs from our forests. The dining rooms are all open—no doors, no windows. The first floor is devoted entirely to lunch counters and self-service, and here the prices are as low as the quality of the food will permit, and a substantial hot dinner can be obtained for from 30 to 40 cents or cold lunches, milk, coffee, tea, and iced drinks may be purchased and carried to the tables in the picnic groves. On the second floor in the large dining room, which seats more than 1,000 people, a table d'hôte dinner may be had for $1.25, or à la carte in proportion. In the special dining room on this floor—a room occupied and designed especially for automobilists, the service and prices equal those of the best hotels of the world.

All of the food in all of the restaurants is of the same grade—the best the markets afford. In the basement is an extensive refrigerating plant, a bakery, an ice-cream plant, a laundry, a bottling plant where all of the soft drinks are manufactured with the water from Bear Mountain Spring—one of the finest springs in the world—storerooms, and electrical plant. There are two completely equipped kitchens on the other floors. This restaurant is conducted by the commission and more than $100,000 worth of business was done there during the past season. Just north of Hessian Pond is the site of Fort Clinton. Across the deep gorge of Popolopen Creek, beyond, is the site of Fort Montgomery, the first capital of the State of New York. These forts we have just connected by a steel arch bridge 600 feet long and a little higher than the Brooklyn Bridge, over which passes the new boulevard which the commission are assisting the State highway department to build along the west shore of the Hudson—the extension of the Henry Hudson Drive, destined to be one of the country's most beautiful motor roads.

These forts, which are now the property of the commission, have not been disturbed since the revolution. Great hemlock and pine

trees are growing on the old ramparts and through the ruins of the old buildings. We are now opening out and uncovering these old works and marking and in some instances restoring parts of these historic spots. In the heavily timbered plateau behind Fort Clinton and at the north end of Hessian Pond, sites have been prepared for several hundred camps, and these have all been occupied during the past two seasons. Many families camp here, it being near the boats, the inn, and playground, and altogether an ideal camping spot. Last season 25 shop girls were maintained in one camp here, who secured all of their supplies from the inn and were chaperoned by the deaconess of one of the New York churches. The girls were kept in camp for two weeks each, and all of the expenses of the camp were defrayed by one gentleman in New York. We are now building with money contributed by this gentleman log buildings for a larger camp, which he will maintain in the same manner, and there are several other parties now talking of doing similar things next season.

The majority of the commisison's holdings lie back from the river behind Bear Mountain. A tract of heavily wooded, well-watered mountains extends 16 miles to the westward and 3 to 6 miles wide. These mountains are covered with heavy deciduous forests and contain a number of fine streams and lakes. We have carefully forested most of this tract and have planted more than 2,000,000 conifers.

This to me was the most interesting feature of our last season's work.

These poor little brats, almost skeletons, who had never been off the New York streets in their lives, who had lived in the poorest, most congested tenement districts of the East Side, coming as some of them did from families of ten or a dozen, whose only windows opened on a filthy air shaft, who had never had enough to eat in all their lives, were brought into these beautiful woods, taught to swim in the lake, fed on the best and most nourishing food, exercised and drilled regularly by expert physical culturists, given the best of medical care, mothered by trained nurses, and so carefully handled that there was not one case of illness among 450 boys, and this at a time when the whole East was terror-stricken by the infantile paralysis epidemic.

These boys were shown more of nature's wonders and charms in this one short summer than their people have known in all of their lives, and this is one of the things, it seems to me, which really makes for preparedness, and we want more of these camps—not only for the undernourished, but for all of the city children. The commission is now discussing the ways and means to establish in the park a number of classes or kinds of group camping. Camps

similar to this nutrition camp—camps like the Boy Scout camps or boys who can pay their way; group camps for families who can be fed from a common mess hall at the lowest possible rate; group camps for poor families to be supported by charitable organizations; group camps for families or individuals to be fed from a common mess hall or the inn at a higher rate; the individual camps of parties who can afford to pay a small fee for their permits and possibly the leasing of acreage around some of the lakes for the erection of summer camps under the direction of the commission's forces.

The water, sanitary, and garbage-disposal problems have, we think, been solved. The experiments which we carried through last season were so successful that we feel that these essentials can be properly taken care of.

One whose boyhood was passed in the mountains and plains of the West, who roamed and camped and hunted at will in that great playground, who learned to love all the mountains, valleys, and streams, the trees and flowers, and all nature's wonderful creatures, can not but feel that the present generation is missing so much from their lives, so much that will make them better men and better women, not only better physically but better mentally and morally. We who know and understand this can not do too much to enable them to see and enjoy some of nature's wonders and to work out for themselves some of the little mysteries which so fascinated us and so carry with them through life the sweet memories which are so dear. This is the feeling we have instilled into our park organization, the feeling that makes our work so fascinating, the knowledge that we are opening up and making accessible to everyone our little bit of unspoiled wilderness, and we are all proud of our little 30,000 acres of land because it can be used by so many people, for it is within an easy two hours' journey of more than 10,000,000 people.

The Presiding Officer, Mr. Mills.

I am sure that everyone will agree that Mr. Welch is doing a splendid service for mankind; and in this connection, as you know, someone has said that the best use to which scenery could be put was to make it into a park for the benefit of men, women, and children. Surely the work that he is doing in this interstate park well justifies that use of scenery; and in this connection, why knock this proposed national park of the forest lying between Washington and Baltimore? This forest is being depleted every day. It is becoming more valuable every day. If it isn't done to-day, five years from now all that remains you will have to buy at exorbitant figures. I would

like to see a national park made of the forest region that is obtainable between Washington and Baltimore.

Will Mr. Barber please come to the platform? Now, the gentleman who next speaks to you climbed Mount Washington in 1858. I am not going to say anything about his age. Someone has already said that the automobile has divided the human race into two classes—the quick and the dead; but the human race also is divided into two classes—those who are afraid of weather and those who are not. Now, weather is one of those peculiar intangible things that will bear acquaintance. The idea of winter sports, you will readily see when people become so enthusiastic over them; surely the winter weather will bear acquaintance. At any rate, before you realize it, our national parks and other places will be used all the year round; they will be used in the winter as well as in the summer; and the man who speaks to you to-day has had many weather experiences.

Still further in this connection, many of the national park supervisors are already at work on a plan for the using of the parks in the winter time; and I am sure that these supervisors realize, after hearing Mr. Welch to-day, that they hold positions of extraordinary honor and responsibility. I am glad to know that the park supervisors are to view the Interstate Park to see what Mr. Welch is doing in that region, for then, I am sure, they will return to their respective parks determined to make the best use of these parks for the people at all seasons of the year.

At any rate, Mr. Barber is an enthusiast on winter sports and winter outings. He will tell you in his own way about his mountain climbing, and I am sure that you will enthuse with him.

Mr. J. W. Barber will now speak to us on "Winter sports in the national parks."

Mr. J. W. Barber.

WINTER SPORTS IN THE NATIONAL PARKS.

Mr. Chairman, ladies, and gentlemen, referring to Mr. Mills's introduction, those who know me would hardly say that winter sports is my special hobby, but I am pleased to bring that subject before you to-day for the reason that I think there is great need of systematic work being done in this country for the development of winter sports. There has been a great deal said here in my hearing—and I have attended most of these meetings—in regard to the use of the mountains, their beneficent influence upon mankind. But nothing has been said until to-day of the recreational value of sports.

Now, I have lived just about long enough to realize that there is no recreation that does not have sport. A man that is not sportively

inclined is not a man that usually goes into the wilds and takes up recreation as a pastime.

We have a slogan, and a very good one, I think, which we first heard about three years ago, "See America first." In explanation of my attitude toward this slogan, I climbed Mount Washington in 1858; but it was two years earlier, in 1856, when I, with my father, waded through the snow in April in the Franconia Range and mounted an observatory which was then getting into disuse, in this the oldest national park in America. It was then old. I say "national" in the sense that it is the only large section worthy of the name of a national park which was used for two generations or more nationally. I refer to that section of New Hampshire which commences at The Flume, passes The Old Man of the Mountain and Mount Lafayette, and then continues around the White Mountains.

After all this long time this section, traversed by 2,000 automobiles, say, 10,000 per day on any fine day in August, has come into its own, not, however, under the Department of the Interior but as a forest reserve under the Department of Agriculture. It will be, I hope, ere long the recreational center for the East, and is to-day an open playground for the people of New England and all of our country as well.

From 1866 to 1895 I visited rather systematically the sport centers and the recreation centers of our country, and it was at the camp in Paradise Park, which was shown you last night on the screen, where Mr. Mather first caught his inspiration, that I found, in comparing notes with others, that I had seen as much and more of our own country than any one of the 200 in that camp. "Well, old fellow," I said, "it is about time that you took a vacation on the other side, as you have 'seen America first.'" Accordingly, I have spent two seasons in Switzerland at the time of their winter sports; and that is my reason for being here. But, as my time is quite past and there are others to come, I will forbear anything that I was to say and will ask for the lights to be turned out in order that I may give you some idea of how winter sports are conducted in Switzerland, in the effort to show you that it is very easy for the American people to adapt many of their sports for use in our own country.

(Whereupon pictures of winter sports in Switzerland were shown.)

THE PRESIDING OFFICER, MR. MILLS.

I am sorry to have to cut down the time of the speaker, but we are already very late and there are others to follow. Will the other speakers please come to the platform—Mrs. Ada F. Chalmers, Dr. Hugh M. Smith, and Mrs. Marion Randall Parsons.

The next speaker who will address you is a lady who believes in giving her children the greatest advantages in the world; that is to say, out where nature is big and real, where the children will have their imagination, which is the greatest gift that man possesses, stimulated and expanded along the proper lines. This lady will tell you far better than anything I can suggest the experiences she has had with nature. I now take pleasure in introducing to you Mrs. Ada F. Chalmers, who will speak on "Family hiking in national parks."

MRS. ADA F. CHALMERS.

FAMILY HIKING IN NATIONAL PARKS.

Mr. Chairman, ladies, and gentlemen, as a child growing up I always had a great desire to play in a small patch of woods near my home. Here I spent all the time allowed me for play; making mud pies and building imaginary castles. In the spring it was here I found the first violet; in the summer I spent hours wading in the small creek on the edge of this woods and catching small yellow butterflies; and in the fall I spent many happy hours tramping through the dead leaves there, gathering chestnuts which I would carry home and roast.

To me the woods and all it contained were my friends and playfellows; but strange to say, my brother and cousins who made their home with us did not enjoy my pleasure. They preferred the louder, noisy games of the day, which gave me but little pleasure. Truly, it was a case of a child being alone among many, for my mother did not share my love for the woods either.

Years passed, and I grew to womanhood; later assumed the duties of wife and mother and made my home in a distant city. Although my little patch of woods was now lost to me, my love and longing for it did not die.

One early spring day, when the longing to be out of doors is strongly felt by all, I received a letter from an old girl friend, asking me to come to Montana and visit her, holding out as a special inducement a camping trip which we all would take to one of our great national parks.

Of course I accepted, and around this trip revolves the story which prompted Mr. Mather to invite me to come from Missouri to place before this conference the story of our camping trip and a few suggestions.

I offer the facts and the story of our trip as a suggestion for other mothers and all persons who wish to enjoy our national parks and can not afford to pay the necessary high charges which must prevail in the national parks until enough people patronize them to enable the Government to reduce the rates.

Knowing absolutely nothing about the conditions within the park, but having a born desire and curiosity to see and enjoy some of the wonders and beauties of my own country even though my purse was small, I immediately began to plan for one good time.

Letters passed frequently between Mrs. G. and myself, and we arranged between us that as much as possible of the clothing necessary for our camping trip should be made from old clothing on hand.

Our attic and barn were thoroughly searched, and for several weeks before starting for Montana I spent every spare moment trying to piece together our outfit.

For a time my task looked hopeless, and several times I was on the verge of giving up; but finally two shirts, pockets included, were made for myself from two discarded woolen skirts; from a third skirt I fashioned a thoroughly up-to-date walking skirt. This skirt, of which I was so proud, became the bone of contention between Mrs. G. and myself. She insisted that my skirt would be in the way and only add extra weight. I did not contradict her statements, but I could not make up my mind to adopt trousers and leave my skirt at home. However, I compromised by making the skirt very short (only to the knee), and I only wore it when in or near one of the chalets. With a pair of Duxbak hiking bloomers, woolen stockings and underwear, heavy walking shoes, gloves, and leggings I soon found my outfit complete.

The next thing was to outfit the boys.

My eldest boy had a heavy Boy Scout uniform which he had outgrown. This was brought down from the attic, and after I had thoroughly overhauled the coat, pants, cap, and leggings, it became the prized possession of my youngest boy. With a woolen sweater, underwear, hose, gloves, and heavy shoes, outfit No. 2 was completed.

Two flannel shirts and a heavy duxbak hunting suit of his father's was made to fit (in imagination only) the eldest boy. These were his first long trousers, so who could blame him for admiring their length and ignoring the extra girth at the waist?

A rubber poncho and two woolen blankets each comprised our bedding. We each carried a 2-quart water bag, for which I had made a flannel case which could be slipped on and off. At night we used these bags for pillows and during the day on long tramps they took the place of canteens.

The day before we were ready to start for Belton, we purchased outright two shaggy bronchos from a guide for $25; also a supply of bacon, flour, matches, candles, and meal, a folding oven, and a second-hand aluminum cooking outfit. The bronchos and the above-named goods he agreed to deliver to us two days later when we should arrive at the head of Lake McDonald.

August 3 found us eager and ready to start on our big trip through Glacier National Park.

We took the train to Belton, a jolly crowd of six, and then, via stage and launch, reached the head of Lake McDonald. Here we were joined by the two pack horses which were to be our traveling companions throughout the trip.

G's horse was old, slow and sure, and bore the scar of many a hard knock, while ours had such a noisy way of breathing that we named him "Blow." He was a very sociable fellow and had a never-tiring way of offering you his right hind leg whenever he thought you were behind him. However, the old adage, "Change not the old friends for the new" holds well in Glacier National Park, for the new ones are scarce and hard to find, so "Blow" and I became fast friends, as I always endeavored to arrange my meetings with him face to face.

After learning how to pack our supplies and fasten them to the pack saddle, we hit the trail and walked what seemed to be 8 or 10 miles uphill and reached the Sperry Chalet about dark. Here we pitched our first camp and decided to remain for the night. Mr. G. set up our tents while my boys gathered wood and built a fire. Mrs. G. and I then got acquainted with our new cooking outfit. While she prepared fried potatoes, bacon, and onions, I made corn bread and set it to bake. These, with coffee and cookies, completed our first meal.

The next day about noon we broke camp at Sperrys Chalet, and a short distance down the trail we fell in with a party of four gentlemen from Billings who were enjoying a little fishing trip. The distance from Sperry to Gunsight, our next camping place, is about 10 miles, uphill and over unbroken paths of snow. We reached Gunsight at dark, my boys and I tired and hungry and my friends very much out of sorts. When supper was over, and we were all getting ready for a good night's sleep, Mrs. G. surprised us all by announcing that she had had enough of camping and was going to return home in the morning. This was indeed a disappointment to us all, especially my boys, who were already in tears. After talking the matter over with the children, we decided that we would remain in the park and hit the trail by ourselves. After a good night's rest, immediately after an early breakfast, we broke camp, my friends to return to Belton, my boys and I to continue the trip by some 12 miles through the pine woods to Going to the Sun Chalet.

On our arrival here late that afternoon the children and I pitched our first camp. My! how carefully I removed each strap rope and bundle from off of the pack horse, and how frightened I was lest I should never be able to get them evenly balanced and securely tied on again.

We remained in the Going to the Sun district for four days, fishing, gathering flowers and leaves, and visiting many points of interest within 5 or 6 miles of our camp.

The morning of the fifth day here, after purchasing a fresh supply of food at the chalet, we started on our trip to St. Mary Chalet. It was a beautiful day, and the scenery along the way beggered description. We met no one along the trail, but we saw many kinds of beautiful birds.

Arriving at St. Mary we pitched our second camp, built a fire, washed up, changed shoes to rest our tired feet, and enjoyed a fine trout supper. The trout were the gift of a gentleman tourist who was stopping at the chalet. While eating supper, I suddenly realized that I was tired, so without waiting to say "good night" to the stars we just tumbled into bed. The following morning we awakened, refreshed, rested, and eager to start the new day.

We remained at St. Mary five days, and it was while here that my youngest boy caught his first trout. My! but he was proud! He would not allow me to cook it, but insisted that he was going to keep it and take it back home with him. So sincerely did he desire to keep this trout that, during my absence from camp that afternoon, he melted the mutton tallow which I used to waterproof our shoes with, and tried to coat the fish with tallow, instead of paraffin.

Many Glaciers Chalet lay 25 miles or more northwest of our present camping grounds. Owing to the long distance over the rough trail I hesitated and wondered whether it was advisable to undertake the trip with the children and our short-winded pack horse. However, we decided in favor of the trip, and sunrise next morning found us up and breakfast over. We took the trip by easy stages, camping when and where we pleased along the trail. We reached Many Glaciers in the late afternoon of the fourth day. Here we spent five most enjoyable days. The morning of the sixth day at Many Glaciers found me up at dawn watching a most wonderful sunrise. After an early breakfast, our marketing and food supplies safely packed away, we cleaned camp and hit the trail for our return trip to St. Mary.

When about two hours on the trail misfortune overtook me. My right shoe sole suddenly divorced itself from its upper, and it was only by the aid of strings torn from a bandana handkerchief and by wearing my stocking over my shoe, that I was able to reach St. Mary Chalet.

Here for the first time in 24 nights we slept in a bed under a roof. The following day I sold our outfit to a party of tourists for $5 more than the original cost, and made arrangements for myself and children to return to Belton by auto 24 hours later.

On figuring up expenses I found that the total expense of our trip was $108.17, or $4.16 per day; $1.39 per day for each person, myself and two boys, 9 and 12 years old.

I think that you will agree with me when I say that our trip points the way to a new field of enjoyment open to thousands of women and children.

It proves that persons of limited means who love the great out of doors and beautiful mountain scenery can enjoy it as fully as those who can afford the luxury of the hotels. In fact, I believe that they can enjoy the scenery far more, for they are not obliged to return to the hotel at regular hours for meals and bed. They are free to linger as long as they please in the beautiful spots far away from the hotels and camps, and may stop where and when they please to fish, photograph, or sketch.

My experiment proves more than this. It proves that the national parks could be and should be enjoyed by the masses, both from an educational as well as a recreational standpoint. With the opening of commissary or food stations within our national parks the camper and hiker would be able to replenish his food supplies, and women and children of limited means could then enjoy long summer periods there, when the men folks could not secure vacations long enough to go with them.

This would open the way to an immense field of enjoyment. Groups of students younger and older would then be able to spend whole summers in the wildest parts of our national parks under the care of a competent woman only.

Furthermore, experience is not necessary. Any woman of fair physical strength and endurance may confidently undertake a trip of this kind provided only that she has courage and good common sense, the ability to take care of herself, and enough confident resourcefulness to meet the emergencies of an unaccustomed and rough environment.

It is not an easy life, but it is a splendid experience.

The woman who undertakes it must be able to walk 10 miles or more over mountain trails without undue fatigue. She must not be afraid of a horse, and she must learn how to pack her outfit on her horse each morning and unpack it at night. She must learn how to pitch a tent, make a fire in the open, and be able to cook the simple things that make living cheap and comfortable in our great out of doors.

But all of these things are easy. The principal requisites are the love of nature and the great out of doors, a stout heart, an even temper, and common sense.

Some day this experiment must be made more carefully and completely for the benefit of the cause. The woman making it must have

a good equipment, and keep a daily record of everything which will help other women to undertake similar trips. The record, with full instructions, must then be published and made available to all the women of modest incomes in the land.

I thank you.

THE PRESIDING OFFICER, MR. MILLS.

I am sure Mrs. Chalmers will be interested to know that this year a college woman will be employed as one of the guides in the Rocky Mountain National Park. I know of one other woman guide there, and I am certain that from now forward the number of lady guides in the park will be increased.

Now, the time is late, but I want to make three little announcements: To-night in this room Mr. Stephen R. Capps, of the United States Geological Survey, will give an illustrated lecture concerning the wild animals around Mount McKinley. Also, to-night there will be an illustrated lecture concerning scenes in the Rocky Mountain Park, with pictures taken by Mr. Clatworthy.

The next speaker, Dr. Hugh M. Smith, Commissioner of Fisheries, is a man thoroughly acquainted with his subject, but I really believe the fish man has never been appreciated and has been more sinned against than sinning. For instance, one of the best qualities which anyone can possess is the gift of imagination, and it is always discouraged. The only man I know of who usually has nerve enough to give his imagination full sway is the fisherman. Now, you know it is extraordinary how fast a fish grows from the time you catch it until you tell about it that night. Hence we have with us to-day Dr. Hugh M. Smith, whose business it is to keep the streams supplied with fish that thousands of people may find their health and recreation while chasing the fish, and at the same time stimulate a wholesome imagination. Dr. Hugh M. Smith.

DR. HUGH M. SMITH, OF WASHINGTON, D. C., COMMISSIONER OF FISHERIES, DEPARTMENT OF COMMERCE.

FISH AND FISHING IN THE NATIONAL PARKS.

Mr. Chairman, ladies, and gentlemen, the message I have to convey may not be as long as some fish stories you have heard, but may prove to be as dry as the proverbial angler. In view of the lateness of the hour, perhaps it would suffice for this occasion if I were to resume my seat after simply saying that the national parks should be and can be made the finest fishing resorts in the country, and that the Bureau of Fisheries is cooperating with the Department of the

Interior and the park authorities in bringing this condition about, and in maintaining it after once being established.

I trust that the various specialists and interests and activities represented in this notable conference will not feel aggrieved if I remind them that there is no one feature of the national parks that appeals to so many people of such diverse temperaments and callings as do fish and fishing. I take it that no one would dispute the statement that a very large percentage of the visitors to the parks are attracted thereto wholly or partly by the fishing.

In my own experience, which I am sorry to say has been somewhat limited, about the first question that one asks or has propounded to him when he lands in a national park is, "Which would you rather do, or go fishing?"

About three years ago the Bureau of Fisheries undertook the task of systematically stocking with suitable fishes the waters within the national parks and forests, and a comprehensive plan covering such work was agreed upon after conference with the Departments of the Interior and Agriculture. Prior to that time, although valuable and lasting work had been done, there had been no definite or sustained policy looking to the maintenance and increase of the fish supply in the vast areas within the reservations, and no adequate attention had been given to the wonderful and inspiring possibilities that are thus presented for augmenting the attractiveness and usefulness of the parks and forests.

For the proper administration of the national parks with regard to their fish life, an indispensable preliminary duty devolving on the Government is the investigation of the physical and biological character of the water of each park with particular reference to the present fish life and the possibility of improving by artificial means the number and variety of its fishes. Such an investigation has been made by us in many of the parks and is planned for others as rapidly as circumstances will permit.

In 1916 we conducted an investigation in Glacier Park from the standpoints of the ichthyologist and the fish culturist. The inquiries confirmed the widespread belief that this is a field of almost boundless opportunity for intelligent fishery effort, and indicated that this peerless park, with its Atlantic, Arctic, and Pacific drainage systems, with its innumerable lakes and streams, and with the diverse biological conditions that accompany such different physical features, can possibly be made the leading game-fish preserve and angling resort of the whole world.

What has been accomplished in the Yellowstone Park by intelligently aiding nature in producing and maintaining desirable game fishes is well known. That field serves as a model and an object

lesson, and the same general policy which has been followed there is recommended for all other parks.

It is not desirable at this time and place to enter into a detailed discussion of this matter, but I may be permitted to outline very briefly some of the factors involved in the proper development and management of the national parks with regard to their fish life:

(1) Different waters should be reserved for different kinds of fish. Where nature has evolved a particular type of fish in a given water, it will usually be found to be the part of wisdom for man to maintain that type instead of disturbing the balance by promiscuous transplanting.

(2) The introduction of nonindigenous fishes and the transfer of species from one basin to another in any park should be strictly prohibited except by authority of the department.

(3) The stocking of the waters of each park should be in accordance with a definite and fully matured plan; and the responsibility for keeping the waters properly stocked should rest on the Bureau of Fisheries.

(4) Adequate regulations for the preservation of the fish life in each park should be formulated and issued; and each park visitor should be promptly acquainted with the regulations.

(5) Where the laws of adjoining States are applicable, it will be the best policy to adopt them.

(6) The regulations should be liberal and designed to afford the greatest freedom of fishing consistent with the preservation of the supply.

(7) The duty of determining the regulations that are required in each park should devolve on the Bureau of Fisheries in consultation with the local authorities.

(8) For each park there should be issued by the Government for gratuitous distribution a pamphlet or booklet describing and illustrating all of the fishes therein, and giving information regarding their size, habits, game, and food qualities, etc., such as the general visitor requires. Such a document prepared by the Bureau of Fisheries for the Yellowstone Park has proved very useful and popular.

It behooves the legislative and executive branches of the Government to appreciate the superb fishing attractions offered by the national parks and to give all necessary financial and other support for the proper development and utilization of their aquatic resources. Anglers—professional and amateur—constitute a large and influential element of our population. Most of them, while still retaining the enthusiasm that old Izaak Walton instilled in his dis-

ciples, have the feeling, which all true anglers must have, that it is not all of fishing to fish. To such, each of the national parks, with its characteristic scenic beauty and historic, scientific, and sentimental interest, will ever be a kind of piscatorial Mecca to which great bands of devotees will make annual pilgrimages.

THE PRESIDING OFFICER, MR. MILLS.

The brief paper by Dr. Smith shows how important it is to keep the lakes and streams in our national parks supplied with fish; also it shows what a scientifically important work it is. From the few paragraphs of the able paper which he read you can readily see that here is a fish man who understands his business.

But now, ladies and gentlemen, one of the best organizations for encouraging outdoor life, one which has from the beginning aggressively and consistently supported national parks legislation, is the Sierra Club, of California. As you know, throughout his life, the grand John Muir was its president. It was the hope of the members and directors of this club to encourage outdoor life, and this they did. In every way they persuaded people to go to the outdoors, and in recent years this organization, working largely through cooperation, has given hundreds of people excursions into the wildest places on the Pacific coast.

The lady who is to speak to you to-day has been the guide, the counsellor, and friend of many a "tenderfoot" on these outing trips. For many reasons I am glad to see that she has come here to address you to-day. For instance, she is an outdoor woman; and then she is one of those peculiar persons who is always expected by the organization to which she belongs to do all of the work that the other people do not do. Now, for eight years Mrs. Parsons has been the drudge of the Sierra Club, but she does her work carefully, whether it is in the receiving line, or whether it is cooking a meal by camp fire, or editing the magazine, as the case may be. But at any rate, Mrs. Parsons has climbed practically all of the big peaks on the Pacific coast, a record, I think, not made by any other woman, and certainly by no man; so you see she enjoys outdoor life. There is, by the way, a tribe of Indians in Colorado that called their country the "Land of the Blue Sky," and, when I think of how many towering peaks this lady has ascended and stood upon—on their pinnacles against the clouds and the sky—I think of Mrs. Parsons as the "Lady of the Blue Sky," Marion Randall Parsons, of the Sierra.

Mrs. Marion Randall Parsons, of the Sierra Club.

LIVING IN THE NATIONAL PARKS.

Visitors to national parks are grouped on two sides of a great divide—on one side those who cling to roofs of board or canvas, on the other those who trust themselves to the open sky.

Of the first group I know little, except as I happen to have passed its different types on the trail—the supertourist, who likes to have the way made smooth before him, to be shown what to admire and how to pass from wonder to wonder with the least expenditure of time and thought; the mere tourist, willing to subject his body to some discomfort in order to see what the world has to show, looking a bit dejected about it, perhaps, when he thinks nobody is looking, lolling and lurching upon his saddle, or even holding himself tenderly aloof from it with both hands; and those happy-hearted, more-time-giving visitors who seek the parks for sheer love of the beauty they have to show. All these visitors love the parks and enjoy themselves, but not, I feel quite sure, as intensely as we do on the gypsy side of the divide. People who live in houses can only half know the charm of the mountains, for houses have a habit of claiming us in the hours of greatest beauty—at evening, and at morning, and through all the still, starry hours of the night.

All of my national park days have been gypsy days. In the Olympics or at Mount Rainier tents, of course, were necessary for occasional shelter from storms. In Yosemite Park or in all the glorious Southern Sierra of the greater Sequoia I had no shelter at all except the friendly arms of pines.

But gypsies even are of several kinds. There is the gypsy de luxe, who travels horseback and takes with him cook, packers, and his own pack train. I was of this class myself once for a few days, when three of us had a packer and two pack mules all our own. The packer, I regret to say, failed to take us at this valuation, as we learned when he said good-by. He looked my companion's "city clothes" up and down with a critical eye. "Say, I never could get on to you callin' yourselves gypsies de looks," said he. "Them pants and all. But she sure is some looker in town."

At the other end of the gypsy social scale is the "mucker," the camper who is getting his vacation at the least possible cost. He comes sometimes from a country town, driving up with his family as far above the parched valley heat as the roads will carry him. Then, abandoning his wagon, he turns the farm nags into pack horses, and travels the trails to the nearest fishing ground. Or he may be a lad from the university, traveling with a donkey, and living for incredible weeks on bacon and the simple, deadly corn dodger.

But, of all the gypsy tribes, I am most familiar with the ways of nountaineers, the mountaineers of the mountaineering clubs. We go for a month or more each summer to the national parks, in bands of 100 or 200 members, with cooks and packers and woodchoppers to do our chores, and a pack train of 60 or 70 animals to carry the baggage. In the course of a summer we may travel a park from end to end and see byways that not even the rangers know. We may shift our big camp almost as many times as there are nights in our journey. I have not time to tell you how we do it, how we have learned by experience how many pounds of sugar a growing boy will consume in a month; how many tons of ham and bacon it takes to feed 200 mountain appetites; how many hobnails must be supplied for the stout soles that disintegrate upon the stony trails and turn their wearer's apprentice to the cobbler's last; how many minutes it takes to turn nailed-up boxes, tied-up sacks, and sealed cans into a hundred steaming-hot dinners.

Let me, instead, take you with me on one of my gypsy days in Yosemite National Park. To begin the day properly I should by rights first go to bed the night before. And to get to bed I have first to find it, and I have carelessly allowed the moon to set before I start out on my quest. After the bright circle of camp-fire light where my evening hours were spent the outer darkness, where my sleeping bag somewhere lies, has a mazelike and bewildering character. One tree looks very like another, and the forest is very full of them; and a single candle, even with a tin-can reflector, makes very little impression on the encompassing blackness. After one false start I head for the commissary fires and from them set out confidently—nearly into the river that time. Again I about face, but my lantern flash evokes a masculine ejaculation that sends me veering off again. At last I come upon the tree beneath whose branches my sleeping bag lies spread out upon a mattress of pine needles. A heap of smaller bags, containing all my worldly possessions, lies alongside. This, for to-night, is home. I sit upon my sleeping bag to undress. It is a long, envelopelike bag, made of wool comforters and covered with a brown waterproof cover that makes me, when snugly encased, look like a big fat sausage. Crawling into it and getting my feet clear down to the bottom is rather like trying to lift myself up a ladder by the boot straps.

My bed doesn't feel quite as comfortable as I had imagined it might when I so carefully scraped and patted the needles into place before dinner. There is something under my spinal column that feels like the Great Western Divide. At last, after a due amount of twisting and squirming, I find my proper angle of repose. Then only do I really begin to be conscious of the clear bright splendor of the night. The stars are more sparklingly near than when it is frostiest

in the lowlands. By their light I can even dimly perceive the grouping of near-by trees and the streaks of snow on the mountain walls beyond. In the broad bend of the river the stars are shining like a little strip of sky at my feet.

Sleep seems like a mere waste of experience, but though, or perhaps because I do not court it, sleep comes quickly. The stars are paling when I next open my eyes. The eastern sky changes to yellow, then glows to orange. Two dark red mountains rise high against the sunrise.

It is time to get up—after 5 o'clock. My bag is coated white with frost and it takes some courage to crawl out of it. My fingers grow numb as I struggle with my yard long shoe laces. Washing in the icy stream is so shuddering a process that I, coast-bred Californian, realize as never before why cleanliness is ranked so high among the virtues.

The cooks have been at work since daybreak. Coffee, mush, bacon, and corn bread are ready. In cafeteria style I find my own white enamel plate, tin cup, knife, and spoon and pass in front of the rough log table to be served. I sit on a fallen log to eat my breakfast, with a bandana spread across my knees for tablecloth and napkin in one.

Breakfast over, I am ready for the trail. Six of us are going to-day on a long ramble from the camp in Tuolumne Meadows, across country toward the base of Mount Conness. We plan to follow no trail, not even a blazed way of that kind once described as "jackassable, but for horses impassable." We stop first at the Soda Spring and then set off through the open meadows. The fine, tender grasses are starred with pink and lavendar daisies; golden sheets of buttercups are spread over the marshier ground; blue lupines and violets, pink shooting stars—all alike are sparkling with a white sheen of frost. The Tuolumne River, flowing rapidly in wide sweeps and bends through the brilliant green of the meadow, flashes in the early sunshine. Along the southwestern horizon rises a rim of snowy peaks over 12,000 feet high, and below their crowns the mountain flanks are clothed in a dark forest of tamarack pines.

We are climbing, now, up a forested ridge called Juniper Crest, swinging around it toward Delaney Creek. The forest of tamarack pines here is broken by vagrant trees, strayed into the sheltered nooks from other zones—Jeffrey pines, with ruddy bark, and sturdy, spreading arms; slender, virginal hemlocks; junipers, ragged, bent, centuries old; even red firs, though most of them sadly tempest-racked and broken. Now we are following Delaney Creek, no broadly flowing river but a cascading brook singing its way down in sparkling rapids and falls over ledges of granite. In crossing it disaster overtakes me, for in giving a hand to a tottering sister she pulls me into the stream. It seems unfair that she should get wet

only to the knees while I fall ignominiously prone and am soaked from head to toe. We delay only long enough to have our laugh out, for the sun will dry my drenched clothing quickly, and colds in this blessed country are unknown.

Three or four miles of forest walking brings us to the base of Ragged Peak. We had no thought of climbing it, but when its flanks rise temptingly in our path we think it will be just as easy to climb over it as to circle it. So we start upward, bowlder leading up to bowlder, like the steps of a pyramid. On the crest of the ridge climbing grows more difficult, and on the broken fingers of the summit it is a matter of scrambling. From the crest we gain a superb view. Conness, a great frontal precipice and field of snow, towers close on one side; on the other stretches the gleaming array of the whole Tuolumne-Merced Divide, with black Banner and Ritter rising above it at the head. Ten miles of the Tuolumne Meadows are outstretched below us, from the mouth of Tuolumne Canyon up to the Kuna Crest.

To reach Young Lake, where we plan to lunch, we cross through a gap to the right of the Pinnacles. The snow field that crowns this little pass stretches far down the farther side, and down it we go coasting gloriously. On the shore of the lake, beneath a group of hemlocks, we stop for lunch. We roll together a pile of stones for a fireplace and fill the teakettle—a blackened tin can wrapped in a smutty bandanna. The can first held a gallon of tomatoes, but we have hammered down its rough-cut edges, punched two holes with a nail, fitted in a wire handle, and manufactured a teakettle. How good lunch tastes—hard-tack and cheese, sardines, raisins, and chocolate, and, for a surprise, two carefully cherished, juicy oranges, saved, with what self-restraint none but a mountaineer knows, for this gala day. Until one has been without such things for a month one can not realize what emotions an orange can arouse—an esthetic delight like the strains of a symphony or the poetry motion of a Russian ballet.

Then comes the joy of rest, of complete physical relaxation after hours of toil. We lie upon the ground and even fall asleep if we want to, quite regardless of conversation or of company. And then, rested and utterly content, we while away an hour or two in talk and the easy laughter that comes when mind and body are equally at ease and content. And as we lie there a picture is imprinting itself upon memory—a blue lake dancing in full sunshine; ragged groups of trees encircling it; high cliff walls streaked with snow; the broken pinnacles of Ragged Peak rising behind; the noble front of Conness just ahead.

We quench the embers of our fire at last, rinse out the teakettle, and start again on our ramble. We circle the peak and strike back

through the woods. Time to saunter along and watch the birds and chipmunks as we go; time to watch the warm afternoon color grow in the trooping clouds, time to lie dreaming along the stream sides if we like; for a party from camp is to join us, and supper will meet us on the way.

We are a little early at the meeting place. The wide sweep of Delaney Meadows is empty of all life except a badger who shambles over to his hole and disappears at our coming. This is the meadow so loved by John Muir when, more than 40 years ago, he camped here with the despised sheep and noted their devastation. We have him to thank that the park is preserved for us in all its fresh and unsullied beauty to-day.

By the time we have chosen a good spot for supper our friends appear leading the sumpter mule.

We have got to cook supper. A dozen cooks busy themselves with it, regardless of the fact that they court proverbial disaster. They slice and butter bread; fry bacon and broil steaks; mash up the soup powder and stir it into the boiling water; delicately manipulate the fire under the rice kettle, so that it shall be cooked dry, and yet not scorched—no tenderfoot's job, the rice! Others get wood and start a fire to warm and light our dining room a little later. The meadows are still glowing with golden light, growing warmer and ruddier until purple shadows begin to close in from the forest edges.

Our fire shines brighter and brighter in the dusk. We gather close about it to finish dinner. There is still light enough down by the stream to wash up by—each man his own dishwasher, of course.

Our labors ended, we return to the camp fire for an hour of songs and stories before we start down through the moonlit woods toward camp. Dew is falling in the forest, covering everything with silvery mist. The low moon is just ahead, and in its light the figures of our companions are glorified by a shining aura. The ground is covered with delicately sparkling silver threads, out of which fairies might weave a fabric of dreams.

So we go down to the meadow again, back to our quiet homes beneath the pines. No words can fully tell what the day has been, what joy there was in the mere living and breathing, what strength of friendship the companionship of the trail has brought, what physical well-being and mental stimulus and spiritual content we carry with us back into the world of work again.

THE PRESIDING OFFICER, MR. MILLS.

Mrs. Parsons has given you a glimpse, a broad glimpse, of the joys that lurk around our camp fires in the national parks. We shall now hear read a report of an interesting and valuable experiment at Mount Rainier.

ANNA LOUISE STRONG, MANAGER OF CAMP SEATTLE, MOUNT RAINIER NATIONAL PARK.

USING A NATIONAL PARK.

We all want to stimulate the use of the national parks. That is why you are here, and why I am taking the time to write you an account of my experiences, while in the rush of preparation for a New Year's snowshoe trip with the mountaineers to Paradise Valley on Mount Rainier-Tacoma. And although my camp experiences have dealt mainly with one park only, yet I am sufficiently acquainted with some other parks to believe that in all of them, as in Rainier National Park, there are large areas unreached by the public, and large groups of the public who do not reach any portions of the park. Consequently, I believe the organization of Camp Seattle offers a suggestion to persons living near and interested in any national park.

Rainier National Park lies about 100 miles from the city of Seattle and 60 miles from Tacoma. One small corner of it is reached by automobile road, and boasts two hotels (until this year one hotel and a camp). To this corner come the vast numbers of tourists, many of them spending only one day in a round trip from Tacoma by automobile, and others remaining a day or more in one of the hotels, taking a side trip to the Paradise Glacier and the Nisqually Glacier, and returning with no conception of the some dozen mountain parks surrounding this gigantic peak. In fact it would take months adequately to explore the slopes and subpeaks of Rainier, and even from one single camping spot in Paradise, it is possible to arrange 10 or more all-day trips, each absolutely different from the others, and each leading into wild splendors.

The rest of the mountain is inaccessible by road, but is reached by numerous trails. In the upper altitudes trails are unnecessary for mountaineers provided with a map, compass, and aneroid, and the method of travel leads across glaciers and rocky ridges into uninhabited wildernesses. There are no stores of provisions available and no shelter except a few huts built by the Government. These other parts of the mountain have been visited only by those hardy explorers who could carry their own provisions and blankets on their backs for several days into the wilderness. An exception to this is occasionally found in parties, like the mountaineers from Seattle, traveling with their own pack train; or in other groups hiring pack animals and guides.

Many of us living in Seattle wanted to help open the mountain to more people. We believed that there were hundreds of persons, teachers, shopgirls, working people and their families, professional

people on small salaries, who could not afford a long stay in a hotel, and who, on the other hand, were not sufficiently well acquainted with mountains to join the mountaineers and provide themselves with the complete outfit of sleeping bag and mosquito net which such a trip entails. The mountaineer trip comes only at one definite date and persons with vacations at other times can not join; moreover the mountaineers reach Rainier only about once in four or five years. We wanted to make it possible for any person willing to dispense with certain hotel comforts for the sake of a longer visit to the mountain, to come for periods ranging from four days to a week at the lowest possible cost.

So we started Camp Seattle a cooperative camp in Rainier National Park. We invested no money; we took practically no financial risks, except the risk of working a few weeks without salary. The cost of staying at the camp was $1.25 per day, and we hope in two years' time to reduce this to about $1 or less. This included army cot, mattress, tent covering, food, alpenstocks, cold cream, grease paint, etc., and leadership of hikes. In fact, any person with no equipment except some old warm clothes, a good pair of hiking boots (and bloomers for the women) could be made comfortable in camp. Some came and enjoyed themselves without the hiking boots and bloomers, but these were really essential to the complete program.

The cost, $1.25 per day, is just half the charge in the hotel camp, and less than one-third the cost of the hotel itself. We were able to reach this rate by eliminating two great expenses, the cost of service and the cost of uncertainty. The hotel camps must maintain a force of servants all week for guests who come mainly for Saturday night. We ran each group from Monday to Monday with a possible change on Friday for those who could not stay the entire week. While this plan failed to meet the needs of those who could only spend a day or two, we felt that it was not our business to care for tourists and transients, and that we had a large field among the men and women with two weeks or a week of vacation, who were quite willing to be convinced that "it takes a week to see Paradise Park." For these we arranged different hikes each day, and it is on record that more than a few of the regular hotel guests, seeing our parties start off to explore some new glacier or peak, were persuaded to believe that there were reasons for waiting over an extra day or two to see the sights.

We began our activities in May, with a scouting trip to the mountain and the publication of a four-page announcement. This was our only outlay and it was paid back before the camp opened. We circulated the folders among the teachers, the summer-school students, the department stores, the Y. M. C. A. and Y. W. C. A., and in other places. We required a deposit of $5 to reserve a place, and the payment of the whole amount before leaving the city. From our de-

posits we planned to buy the tents and camp equipment, reserving enough from each deposit to guarantee the cost of the food to be supplied. We were, however, very fortunate in securing tents and much equipment from the Tacoma Y. M. C. A. and we did not buy our own till nearly the end of the season. We were handicapped by a late season which made it necessary to take all our freight and baggage on pack animals, and which cut the time for opening the camp to five weeks instead of eight, but in spite of these difficulties we were able on the $1.25 per day—with a continuous camp attendance running from 20 to 60 but averaging 40 to 50 and reaching a total of 270 for the season—to run the camp, pay salaries to cook, camp manager, and office manager, but a dozen new tents, 54 cots, two dozen alpenstocks, and some minor equipment, and close with $100 worth of groceries on our hands, which were turned over to the hotel in consideration of a promise to return an equal amount next year.

A study of the camp's accounts shows that each $1.25 received for one day's stay in camp was spent as follows:

Food material	$0.35
Freight, mostly on food	.20
Equipment, tents, etc.	.25
Cook	.10
Other items of camp management, including installation and manager's salary	.15
Promotion, printing, and maintenance of Seattle office	.20
	1.25

Some comments on this table may be in place. The cook, who in winter months is head of the science department in a near-by high school, saved an amount fully equal to his own salary by his understanding of food values and the economy in the cost of food, without, however, causing the slightest criticism concerning either quality or quantity. The freight was unexpectedly high, but will not be reduced in coming seasons, as we plan to go even further from the beaten track. The equipment was not quite all purchased this first year. It could have been purchased on the above allowance if we had been able to run the camp for seven or eight weeks instead of five. The last two items include a salary for a camp manager and an office manager in Seattle. These persons did not receive as much salary as they have received in other work. They were both sufficiently interested in the camp to offer their services free of charge if necessary. It was felt, however, that it would set a wrong precedent if full-time services were accepted without pay, and that if the success of the camp warranted it, these persons should be paid.

It will readily be seen from the above accounts that any educational or recreational body or board, having already on its staff persons who can be assigned to the duties of camp manager and office assistant, can reduce the price of the camp even in the first season to $1 per day, and if this group has enough permanence to be willing to pay gradually for its permanent equipment, the cost can be still further reduced. Municipal park and recreation departments should be able to establish camps of this kind to great advantage. But without any financial backing or guaranteed paid assistance, any individuals interested in developing the national park in their vicinity can doubtless run a camp on the basis I have given above.

As soon as plans for the camp were actually under way, several kinds of assistance were offered. Blankets to the number of 200 were loaned by the city of Seattle. These were of great assistance, and without them the camp would have been limited to those persons who could provide their own blankets, thus eliminating the summer school students and many young women not living at home. The city park department also gave the full time of Maj. Ingraham, a veteran explorer of Rainier, as leader of hikes and recreation. The fact that the camp was managed under the auspices of the Central Council of Social Agencies, a delegate group representing most of the educational, civic, and philanthropic bodies of Seattle, doubtless aided in securing this cooperation.

On every Monday night, with the opening of each new camp, an organizing camp fire was held, and the camp officers elected. We formed a miniature municipality, with five departments. The fire chief chose two assistants and thus formed a fire department to secure wood and build fires. A commissioner of public works was also chosen and allowed two assistants in the tasks of digging garbage holes, draining mosquito pools, staking down tents, etc. The recreation department, with three members, managed the evening camp-fire programs. The board of health, with three members, supervised the general orderliness and sanitation of the camp. All other members, not assigned to any of the above committees, served under the commissary department, and were divided into dish-washing and table-serving squads.

I should like to describe a few of the hikes taken from the camp, but the names are unknown to most of my audience. Our trips were not limited by trails and beaten ways. We were among the glaciers and high ridges where trails can not last from year to year. We explored crevasses, scaled rock pinnacles, and went snow sliding and botanizing at the same time. More perhaps than any other park, Rainier is noted for the variety and profusion of its flowers, thicker than grass grows in eastern meadows. We saw avalanche lilies

piercing through three inches of snow and ready to burst into bloom; we saw every imaginable color and form of blossom. And we lowered ourselves with ropes into deep canyons beside foaming torrents. The trip which remains longest in my mind, however, is an overnight hike to Summerland, a park on the eastern slope of the mountain. With a few brief directions, a map, and an aneroid barometer, seven of us made our way over deep chasms, wide and steep glaciers, and almost perpendicular cliffs, until we came at sundown to a beautiful park from which an entirely new view of the summit was obtainable. We threw our blankets down on the edge of a high cliff, under some scrubby subalpine trees which furnished firewood and protection. Before us the rocky mountain side plunged downward for a thousand feet and then swept up again in the great Frying-Pan Glacier, white and brilliant in the starlight, up to the odd-shaped Little Tahoma, to Liberty Cap, and the summit itself, As we watched, the northern lights began far down on the horizon, gradually spreading upward until they covered the sky. We knew that we were a day's journey from any other human habitation, and the lure of the wild was such that we longed to bring our camp to Summerland next year, to escape the automobilist and the tin cans he leaves in his wake.

Something of this kind is in fact our plan. The camp proved so popular that we had to turn away 100 people during one very crowded week. Our members speak of returning next year, and in all probability the numbers who will wish to come will be at least doubled. But we do not wish to have a camp larger than 50. This is a number that can become acquainted around a camp fire, and in all-day hiking trips. Larger groups are more unwieldy. So we hope, beginning next year with the Paradise Camp, to spread by the third week into two or three other mountain parks on the slopes of Rainier, establishing camps about a day's journey apart. The following year, if all goes well, we may perhaps encircle the mountain, and after that, our equipment once secured, we shall be able to reduce the cost even below the present amount, and reach groups of people who do not yet feel that they can afford the trip.

While it has been impossible to make any real study of the kinds of people coming, we are convinced, on inquiry, that less than 10 per cent of those coming to our camp would have visited the mountain if we had not been organized to assist them. Probably the number is still smaller. So we are in no sense competing with the hotels. In fact we have advertised the park in a way which will ultimately benefit the hotels also, and we have brought in actual freight bills, to the company which handles both transportation and hotels, a larger sum than they would have secured from such possible customers as we may have drawn away. The company is recog-

nizing this fact, and their attitude, which at first was naturally one of some slight suspicion, has changed to that of appreciation.

A cooperative organization has valuable possibilities in a national park, not only in reducing the cost of its members but in opening up new territory. For the hotel company to open new places on the mountain means large outlay on a venture, and possibly years of waiting, before profits justify the project. For a cooperative camp there is no outlay except that already covered (or practically assured) by previous registrations and deposits. Members in a non-profit-making camp will endure the difficulties and hardships incident to meager equipment, and will themselves work to overcome those difficulties, knowing that their work is for the common good and not to add to another person's profits.

The mountaineers with their one-night camps and pack train blaze the trail; the cooperative camp of longer duration, greater flexibility of time and program, and somewhat greater comforts comes next; and the hotel camps for tourists can go most easily and with least risk where these have opened the way. This would suggest that it might be even desirable for the national parks themselves, in addition to granting the mere permissive use of the parks to cooperative camps, to take positive steps in near-by cities toward suggesting and stimulating them.

What time it is in Washington when this paper is read I have no means of knowing; here in Seattle it is 10 at night, and I leave before daylight for the mountain, on the snowshoe trip. The flowers will be gone and many of the well-known landmarks hidden under perhaps 20 feet of snow; but we shall find the old camp site and walk over the spot where the stove and cooking utensils, properly greased, are buried under the white drifts between four trees, awaiting another summer. We shall find the spot where we had the camp fires, and shall sing again some of the songs made up by camp members. Songs some easily in camp, from the funny ones that tell how "old Rainier is freezing in the good old summertime" to the deeper and serious moods—

When we come to the end of a perfect day
  And meet by the open fire,
And our thoughts go back to the winding way
  That was ever climbing higher;
To the cliffs of rock and the slopes of snow
  And the fields of rippling flowers,
Then whatever the world may bring we know
  One perfect day is ours.

THE PRESIDING OFFICER, MR. MILLS.

In dismissing you, let me remind you that in a room upstairs are a number of magnificent pictures of national parks; and this evening a new room will be opened with photographs by Mr. Kiser, unquestionably the greatest outdoor photographer in the world.

(Whereupon, the Thursday morning session of the National Parks Conference was closed.)

THURSDAY, JANUARY 4, AFTERNOON SESSION.

SUBJECT, "WILD ANIMAL LIFE IN THE NATIONAL PARKS."

The Thursday afternoon session was convened with Mr. Robert Sterling Yard, of the Department of the Interior, presiding.

THE PRESIDING OFFICER, MR. YARD.

Before beginning the afternoon session I have one or two announcements to make. At the close of this afternoon's session do not hurry, because we are going to have a treat which is not on the program. Mr. Belmore Brown, artist, explorer, author—a man who gets there—has brought here to Washington some magnificent slides showing Mount McKinley.

Mount McKinley, in Alaska, is 20,300 feet high, as high as many of the Himalayas, in effect higher than the Himalayas. Mount McKinley is looked at from an elevation of 3,000 feet. The man who stands, or the woman who stands, at the foot of Mount McKinley and looks up at it looks upon a mountain rising more than 17,000 feet above the level on which he or she stands. That makes Mount McKinley a greater mountain by far than the loftiest of the Himalayas, which are seen from valleys eight and ten thousand feet in altitude. Mr. Brown has been to McKinley. He has photographed McKinley. Mount McKinley is to be made at this session of Congress, we hope, one of our national parks, and it will be one of the greatest. The pictures which Mr. Brown will show at the end of the session will be very remarkable pictures, the first that any of you have seen. They will be thrown on the screen.

Now, to-night Mr. Stephen R. Capps, of the Geological Survey, will show some pictures of the animals around Mount McKinley, for it is the greatest center, perhaps, in the world for animals. He will show you one picture of 1,500 caribou. Following Mr. Capps will come an autochrome of the Rocky Mountain National Park. An autochrome is a photograph in nature's own colors. These autochromes will be extremely beautiful, and they will be well worth coming out to see.

Now, one more announcement. To-morrow we shall have a question box. Mr. Mather will be on the stand. He will answer questions; any who have questions which they would like to have answered may write them out on paper and leave them right on this table here. Mr. Mather will answer them, or designate some authority in the audience to answer them. To-morrow morning, therefore, will be a specially interesting session.

The presiding officer of this afternoon's session, which is a session of very rare interest because in our national parks we have the only areas in which no shot is ever fired legally at an animal not predatory, will be Mr. John B. Burnham, president of the American Game Protective and Propagation Society. Mr. Burnham has been well known for some years, and his society has been known for some years as one of the most active agencies for the protection of wild animal life in America. Mr. Burnham has succeeded in carrying game-protection laws through the legislatures of many States where they would not have existed for years to come if it had not been for his distinguished efforts and the influence of the society of which he is the president. He is, therefore, the man of men to preside at this session, which considers the wild animal life in the national parks and its preservation. Mr. Burnham.

(Whereupon Mr. John B. Burnham, president of the American Game Protective and Propagation Society, of New York City, assumed the chair.)

The Presiding Officer of the Day, Mr. Burnham.

Mr. Temporary Chairman, ladies, and gentlemen, as I look over this highly interesting program in this most interesting conference, I am more than ever impressed by the importance of the subject of wild life, with which the present session deals.

It was only yesterday, as time goes, that in New England, one of the oldest sections of our country, conservation was unknown. Sport was derided. They said that a man who loved hunting and fishing was too lazy to work, and not smart enough to steal.

Our forefathers who settled New England were against game laws. Some of them had had their noses slit or their ears cropped off for poaching in the old country and we can not blame them for thinking game laws class legislation.

Then, too, wild life, like the forests which clothed the new country, was a nuisance. The deer and squirrels and turkeys ate their crops and the bears the pigs. The settlers used the same energy in exterminating the game they had employed in slashing and burning the forests. Their descendants have been on the job ever since as the vast tracts of gameless country bear silent witness. As a nation we have been cursed by our contempt for conservation.

We never waked up to appreciate the value of our game, of a superabundant wild life with which a generous creator had endowned this country, until it had forever disappeared or was on the verge of extinction, then public opinion changed and a great wave of conservation swept the country, and by conservation I mean just plain common sense. The man who is well does not appreciate the value of health until he is taken sick. Similarly we did not appreciate the blessings of nature till we began to lose them. Then we realized what a shorn and barren place this old world would be without the birds and the wild creatures and how half the charm of life would be gone as well as a large slice of something which can be directly valued in dollars and cents.

To those of us who are on the firing line, this change of sentiment in favor of game conservation is both marvelous and inspiriting. It was pioneered by such men of vision as Frank Forrester, George Bird Grinnell, William Dutcher, and many others, and to all these wise and forceful men, living and dead, I take off my hat. What a splendid thing to have been a pioneer in such a movement.

When as a boy I had my first big game hunt in Wyoming in 1886, there were still wild buffalo to be shot. There were no game laws in the State and I had never heard of closed seasons or any of the other modern safeguards for wild life. An Army officer told me that in the last year of buffalo abundance, 1884 I think, he saw a pile of buffalo hides along the line of the Northern Pacific Railway, west of Medora, N. Dak., half a mile long, and piled as high as men could reach from a wagon, ready for shipment to the eastern markets.

We went about the annihilation of the buffalo in a businesslike way. The hunting parties were well organized. First went the men who shot down the animals; then came the skinners, who took off the hides and threw them in piles, marked with the emblem of the party; after them followed the packers, who loaded the hides into wagons and transported them to the nearest railroad station.

The very next year these organized bands of hunters camped on their usual grounds and waited for the buffalo herd to come. They waited for days and weeks and no buffalo appeared. No one could make those men realize that the year before they had killed the last of the herd. When they finally gave up waiting and returned to their other pursuits, they were of the opinion that the buffalo had migrated to some other country, because in previous years they had not noticed any appreciable diminution in the numbers of the animals. I talked with old buffalo hunters in the Klondike in 1897, whom you could not convince of the fact that they had killed the last of the buffalo in 1885.

It is pleasant to turn from such a picture to the present time, when every State is alive to the value of its wild-life resources and the

Federal Government is using its power to protect the migratory birds.

When George Shiras introduced his first Federal migratory-bird law 13 years ago, the principle of the law was incomprehensible to the country, as well as the necessity for it. To-day only prejudice opposes it. It has overwhelming support in Congress and the backing not only of the Agricultural Department, but of the State Department and the Executive. Time will iron out the difficulties which confront the law, technical difficulties and not fundamental ones. The principle is forever established and the strong arm of Uncle Sam, through the Biological Survey, gives a protection which the States can not give.

But, to come to our program, first we shall hear from Mr. Henry S. Graves, who is at the head of our National Forest Service, and who is not only doing a wonderful work for the conservation of our resources of trees and timber, but who is very keenly alive to the requirements of the wild life in our national forests. It gives me pleasure to introduce a man who has given such practical and lasting evidence of his sincerity in the cause of wild-life conservation, Mr. Graves.

Henry S. Graves, Forester, and Chief Forest Service.

NATIONAL FORESTS AND NATIONAL PARKS IN WILD-LIFE CONSERVATION.

Mr. Chairman, ladies, and gentlemen, I have asked the privilege of speaking first this afternoon, as I have an important engagement a little later to-day. I am going to speak on the subject of the national parks and national forests in wild-life conservation. Our public forests and parks are the natural home of many species of our most interesting game animals. The importance of these public properties in conserving wild life in its natural state is very great to-day, and will become increasingly great as the years go by. We can never reconcile ourselves to the reckless and unwarranted slaughter of game that has all but exterminated some kinds of wild life and which promises to exterminate others unless more successful measures are used than have been employed heretofore. But we must at the same time recognize that the progress of settlement and industry means the human occupation of extensive areas formerly the range of large quantities of wild life. More and more the game has been forced back to less accessible and less used areas, considerable portions of which are now or will be comprised in public forests and parks. In the problem of permanent forest production, we must rely in the long run upon lands not suited to profitable agricultural home building; so also we will be best able

to maintain and develop game life on areas permanently devoted to forest and park purposes or set aside specifically for wild-life preservation.

In game conservation we are passing through very much the same stages as in forest conservation. The only difference is that in the latter we have in many respects made further advances. The time was when forestry was considered a fancy of a few idealists. Not more than 20 years ago so-called practical men considered that forest-fire prevention was an impossibility. It was thought that we had forests in such abundance that there would always be plenty in spite of fires and other destructive agencies. In any case it was thought that the forests would take care of themselves. Nature had planted the existing forests. Nature would continue to plant trees to meet future needs. An average of 50,000,000 acres burned each year with an annual money loss of $50,000,000, soon taught the folly of such a theory and the Nation became convinced that forest protection was really necessary. The reaction against the old public-land abuses, great conflagrations, widespread depredations, and speculation in public timber led to the initiation of a policy of setting aside national forests. But at first these were little more than withdrawals. There was no authority for constructive administration. At the beginning, the thought of forestry in the public minds was almost wholly protective, and it took some six years to secure authority to apply to the public forests the principle of constructive use and development. It took several years more to organize and equip the forests and actually demonstrate that these properties could best be protected, and the many local and national interests could best be secured by their administration as a permanent Federal enterprise, in contrast to parceling them out to private owners.

Now, in game conservation we are still in the protective stage. We constantly use the expression game protection, or when we say game conservation, mean protection. Seldom do we hear of game administration or game development. Protection is, of course, the first necessary step. We have not yet secured adequate protection, but great progress is being made through public education. Game protection is but one step in game conservation, just as forest protection is but a step in forestry. By fire prevention we are securing a very considerable amount of new forest growth. By restrictions on hunting we will secure a considerable amount of game increase, but this alone will not suffice to stock areas that should abound in game and furnish the supply that might exist for legitimate sport and enjoyment by the public.

In many of our national forests, through cooperation with the States, we are already securing fairly good protection of the game; and we have the basis of constructive development of game at various

points. For instance, we have a good many centers where we have increasing herds of elk and mountain sheep, and these animals, simply through protection, are on the increase.

It is essential, in addition, that we make specific provision for stocking areas with game and for building up the herds, through practical application of scientific knowledge of their needs and by providing the range necessary for their support.

Simply by protection in the national forests have we secured a very large amount of regrowth of forest trees on areas which were formerly burned over. I suppose that there are some seven or eight million acres of land formerly covered with fine forests which were destroyed by fire, and which are growing up to young trees simply through protection. There are at least seven or eight million acres more in the national forests on which the forests had been destroyed by forest fires which are not being restored simply through protection, but will require artificial restocking. In the mountains of Colorado last summer I rode many miles through forests burned more than 50 or 60 years ago in which I could not find a single young tree. It may be that in course of time, fifty or a hundred years more, the forests will be restored. But the climatic conditions are critical, and in most of those places to secure the restoration of the forests within a reasonable time artificial restocking must be resorted to; and that is why the Forest Service to-day is carrying on extensive work in replanting critical areas within the national forests, taking first such areas as watersheds, and others which it is most important should be covered with a forest growth in the near future.

Let us take the game situation on the national forests. We have not been able to make the progress in game development as in the case of other natural resources. The reason is that we have been forced by limitations of jurisdiction to confine our efforts chiefly to mere protection. In case of the timber, forage, water power and recreation resources, and so on, the Government has full jurisdiction and these various resources are being safeguarded and developed and constructively utilized. In the case of the game it has been assumed that the States have jurisdiction and the Forest Service has acted with and on behalf of the States. An exception is on the Pisgah Forest in North Carolina, where jurisdiction has been specifically granted to the Government by an act of the legislature; and there are two other national game preserves—one in the Tusayan and Kaibab Forests of Arizona, and one on the Wichita Forest in Oklahoma. Through a cooperative arrangement our forest officers are deputy State game wardens, and they are rendering an excellent service in carrying out State laws. But their efforts are effective only so far as they are supported by the State officers and local sentiment. In many places such support is lacking, and there the Government's

efforts are neutralized, with disastrous consequences to the game. On the constructive side, the service has in many places been able to change local sentiment through educational work, and it has also been able to do a good deal in the way of making plants of game in places where the original stock has disappeared; but that is not game administration.

What impresses me is that there are vast areas where there is now little or no game, areas that can easily support abundant wild stock, and that without preventing the right use and development of other resources. By a constructive administration of the game these various areas could be made to support abundant wild life. But this requires a consistent application of farseeing plans, the establishment of chains of game sanctuaries, the planting of game where needed, the development of game herds of a size adapted to the extent of available summer and winter feed, the use of the increase beyond that number by hunting or otherwise, all based upon a technical knowledge of the requirements of the game, and correlated with the use and development of the forests for their various other purposes. It is simply a problem of technical administration.

The effort to secure these results by merely State laws is futile, just as ineffective as an effort to secure the application of forestry by prescribing the technical methods in a Federal statute, and will not be successful. We have examples of such efforts to-day that are likely to prove disastrous. In several instances State game preserves have been superimposed upon the national forests, or blanket laws passed restricting hunting, without reference to the possible increase of the protected animals beyond the available feed, and without reference to the various problems of forest administration. All goes well until the numbers increase beyond the capacity of the land to support them, and then the animals suffer or actually die of starvation. And I fear very much that in the case of our splendid elk herd in the Olympic Mountains that unless the principles of technical game administration are applied there, ultimately that herd will suffer, because it may increase to a point beyond what the feeding grounds will supply to the animals, and then the animals will begin to starve or otherwise suffer. It is just as unintelligent and just as cruel to overstock a range with wild stock as with cattle. Furthermore, game preserves established by legislative action will not meet the requirements of real game development. This applies to their location, their boundaries, and the changes that may be needed from time to time. There is an inevitable tendency when game gets scarce to ask for a preserve, and then as soon as the game has begun to become plentiful to demand that it be abolished, so as to have a lot of hunting. Meantime the game is apt to become tame, and when protection is withdrawn is soon wiped out.

A legislative body can not be expected to act effectively in such a technical matter. Rather, the executive responsible for the game administration should be given the authority to make sanctuaries where and when essential, and the regulations regarding the number of animals to be used should be based upon the special conditions prevailing from year to year. This is the way it is done in Europe and is the reason why game has been plentifully maintained in the public forests there.

These considerations lie at the basis of the proposal to secure authority to set aside game sanctuaries within the National forests. Their establishment, their location, their boundaries, and their revocation should, however, be an executive matter and not submit in each case to legislative reference. Unfortunately, the present game sanctuary bill in Congress requires the sanction of State legislatures before the President could establish any sanctuary. Such a measure is not essentially different from the present custom of superimposing State game preserves upon national forests, and would be no substantial gain. In such a form I am opposed to the measure. But even with authority to make game preserves, or sanctuaries, the situation is only partially met. The actual administration of the game on the Federal properties should be delegated to the organizations handling them. In the national forests the responsibility for administering the game should rest with the forest service, and there should be authority not only for protecting the animals but to take such measures as may be necessary for building up and maintaining the herds. This could be done without sacrifice of any sovereign power of the individual States. The whole advantage of game conservation would go to the States, which would reap the benefits of the license fees, and the certain increased local expenditures by visitors who would be attracted to the localities by reason of the existence of abundant game. It is simply a measure of efficient handling of the game resource under a single direction, and by the organization already handling all the other resources on the property.

Any plan of game development on the public properties must include both forests and parks, and I am referring to the Federal properties only. Far-reaching plans should be worked out covering the whole field. The Yellowstone elk problem will never be solved except by applying a plan that includes the entire region, both the park and the surrounding forests. With such a plan and with adequate authority, the respective responsibilities may be distributed and the necessary activities coordinated for effective results. The whole talent and resources of the Government should be used in preparing and carrying out these plans. This would apply to redistributing animals, making plants in depleted areas,

killing predatory animals, feeding when necessary, and actual field administration.

In a similar way I want to see a more effective coordination of other plans as between the forests and parks. A good deal is being done in correlated fire protection. Fire-working plans should be still further coordinated between adjacent parks and forests, including the development of lookouts and telephone equipment that would serve both, harmonized protective trail systems, mutual assistance in fire-fighting reserves, and so on. The same applies to the development of roads, both in the matter of primary systems of communication and secondary lines to points of special attraction in the forests between parks.

I have been discussing what I regard as essentials of conserving the game resources with special reference to the forests over which I preside. To achieve these ends there is required the cooperation of the States. I hope that as we secure further facts to support my contentions we may be able to persuade the States that regardless of any legal theories of constitutional rights, a coordinated administration under a single direction is the only practical plan to achieve the ends desired both by the States and the Nation. We have in many instances worked out such a practical plan of administration in the protection of State forest lands from fire, and with cities in handling watersheds. I have faith that we can make the same principle effective in game conservation. In any event we need to bring the Federal and State agencies closer together in sympathy and practical field cooperation. To crystallize this expression of need into a specific plan, I wish to repeat the suggestion which I made to the informal game conference held in New York last fall, at which various Federal agencies, representatives of local organizations interested in game, were present; that at some time during the coming year the Forest Service and National Park Service jointly call a conference of game officials from the forest and park States to meet at a convenient point in the West and discuss practical ways and means for uniting in the adoption of such specific measures as may lead to an effective solution of the problem of wild-life development in the public forest and park regions.

I have confined my remarks to-day to a rather technical problem of administration. It is a very practical problem and one that we have got to face. It will require our best thought and joint efforts before we will be able adequately to meet this problem of game and wild-life conservation on our public properties.

I thank you.

THE PRESIDING OFFICER, MR. BURNHAM.

There is before Congress at the present time a measure to make a national park of the tallest mountain in North America—Mount McKinley, Alaska. The originator of this project will be our next speaker. Mr. Charles Sheldon has spent a great deal of time in the wilder sections of our country, and I have no doubt quite a few years in Alaska. Since 1905 he has wintered on Mount McKinley. He knows his subject as few can know it. Ladies and gentlemen, I take pleasure in presenting Mr. Sheldon, who is a sportsman, a naturalist, and an author. Mr. Sheldon.

MR. CHARLES SHELDON, CHAIRMAN GAME PRESERVATION COMMITTEE, BOONE AND CROCKETT CLUB.

MOUNT M'KINLEY.

Mr. Chairman, ladies and gentlemen, it is a matter of very great regret that so few of those who are here have seen the region to be embraced in the proposed national park, which will be called, and I regret it very much also, the McKinley National Park. I should have preferred that wonderful Indian name, Denali National Park—"Denali," the Indian word meaning "the great one," so appropriate to that magnificent mountain; but, in common with many others, I recognize that rigid rules must be established by our geographical board which determines such names, and Mount McKinley, according to those rules, may remain.

In a large portion of the sessions of this conference which I have so far attended, I have found obtruding time and again a region which is not yet a national park—the Grand Canyon of the Colorado. Strange as it may seem to you here, the region in America which is an absolute and complete contrast to the Grand Canyon, the only region which evokes similar emotions, emotions of spirituality and of reverence, is this region surrounding Mount McKinley. I will, in a moment, tell you why.

The bill before Congress embraces as its central feature Mount McKinley, the most magnificent mountain, by far, I say without reserve, on this continent; and I fully believe that, when it is known by some who have seen the high mountains of South America and the Himalayas, it will prove to be the most magnificent and stupendous mountain sight in the world. On this mountain there is a snow jacket of 16,000 feet, which remains there all the year around. Below it are bare ridges, from 5,000 to 6,000 feet high. There are parallel ranges of sharp and jagged peaks and serried crests containing rocks of various colors stretching away outside of them as far as you can

see. This gives contrasts to the stupendous grandeur of the snow ranges behind them.

On the south side of this range (the lines of the proposed park extend on the south side of this range) is a glaciated region of rock and ice of stupendous grandeur, but inhospitable; it will not be a pleasure ground for people in general because of its inhospitable character and difficulty of access for years to come; but the lines of the park are so drawn that it includes the northern features that are necessary to make a successful national park. On the north side of the range the line extends 75 miles, approximately, east and west of McKinley, 150 miles in all, from 20 to 40 miles wide. The north side is a region mostly timberless, and yet with tongues of timber extending up the rivers. Outside of the rough ranges are gently rolling hills, hundreds of little straggling lakes, a region which, when roads are once established in there, and conveniences for tourists, you can ride all over it with horses. It is accessible in every part, and the game of the region will be constantly in sight, a thing which is not true of most of the regions of our other national parks.

When, four years ago, at the noon hour, I was sitting down in a side canyon of the Grand Canyon of the Colorado, on a slope distant enough from the main river, so that no sound or suggestion of it would be heard, I felt a very strange sensation; at first—I had been in the wilderness a good many years at different periods—at first I did not understand it, and when I thought it over a moment, and heard my heart beating—actually heard my heart beating—I realized for the first time in my life around me the environment was one of complete and absolute silence. There was not a breath of air; there was not a sound of an insect; no birds were around; everything was completely and absolutely silent. Then, in the midst of such silence, when I looked around and saw the stupendous architecture of nature, I felt that here this work was completed. I knew that it was not completed, but there was nothing that could be conceived by the senses to indicate that the forces of nature were at work, still continuing to carve the landscape before me. That, in itself, produces this feeling which in this conference you have heard so often expressed, of reverence and awe—man's insignificance in such surroundings; and when I sat on the edge of the Grand Canyon, I realized the feeling that so many of you have experienced, an indescribable feeling of reverence and awe that almost suspended one's breathing by the tremendous vision of the chasm reaching away down into the earth before me.

When I first climbed the ridge just north of the Alaska Range in 1906, and suddenly coming over the top I looked ahead, and saw this tremendous upheaval of mountains, this range before me with McKinley rising in the center, and the stupendous grandeur of it,

my impressions were exactly the same as those given me by looking down into the Grand Canyon. One was nature carved down into the surface of the earth, and the other was the most magnificent upheaval of nature above it. Later, when I went up the slopes of Mount McKinley, and sat there a few moments, I saw, felt, or heard from time to time avalanches crashing down the mountain around me. I saw the glacial rivers rushing; I saw rocks sliding down their cliffs; I saw the mountains rapidly being denuded; I felt myself in a state where all the dynamic forces that carve the earth are still active, more active than any other part of this continent than I have been familiar with. I felt just exactly the impression that I had when I was alone in the Grand Canyon, that feeling of reverence and awe produced by grandeur. Exactly the same feeling was produced by the realization of the dynamic forces of nature around me actively at work carving the landscape. At such times man feels his atomic insignificance in this universe.

The region is one which, by virtue of its very wonder and magnificence, is bound to become a national park. It has been said that the mountains would remain there, that the region would always remain there, but it was not accessible at present. Why make it a national park now? The reason for that, and the principal reason for doing it immediately, is to save the magnificent herds of game which exist within this area to be laid aside, herds of game which are now threatened, because in a short time the railroad will be constructed close to it; and during that construction thousands of head of game will be slaughtered for meat of those constructing the railroad; and that will be in a better measure prevented when it is realized that it is to be protected by the National Government under national park administration.

I have been asked to speak to you of the game to be seen within this region. Its abundance is very much greater than any region within the United States, and I believe its abundance is greater within this area than within any region of the continent. The caribou—we will never have much of an opportunity to see caribou in abundance in our national parks, and I doubt if we can see caribou abundantly in Canada, unless it is in Newfoundland or the barren grounds, such as they exist in those regions. The moment our pack train went down the ridge, across the enormous channels of the Glacier River, flowing from the glacier, the great glacier which falls between the domed summits of Mount McKinley, caribou were visible on all sides.

The caribou is not the barren ground caribou. Its specific status has not yet been determined. Its habits and size indicate that it is simply a woodland caribou, and possibly closely related to the caribou which already exist and exist doubtfully in very small num-

bers now on the Kenai Peninsula. These caribou, of the McKinley region, in the summer were everywhere. They were on the flats and along the Glacier River, on all the ridges. They penetrated all the canyons of the mountains. They were high on the slopes of the mountains, and in the region adjacent to Mount McKinley the caribou were on the very tops of the mountains, some of them even about where the mountain sheep were continually feeding. They existed in small bands, bands of 10, 30, sometimes 40, often in much larger bands. The large bulls were more often seen well up within the ranges, sometimes two or three, or more, the largest bulls mostly alone.

From immediately in front of Mount McKinley I started eastward along the range 70 or 75 miles. While traveling along there, these caribou surrounded me like cattle on a cattle ranch. They kept coming up to the pack train in evident curiosity, often trotting toward us and stampeding the horses. Always when they approached within a certain distance, circulating to sniff the wind, when they received the scent, they would put up their tails and run off. I do not recall one occasion where caribou stayed very long after they received the scent of our pack train. These caribou do not band up and travel as those of the barren grounds. They remain in that locality, or very close to it, the whole year. Throughout the summer they are constantly in sight above timber, and throughout the region on the north side of this range when October comes, the eastern herds of caribou, those to the east of the Muldrow Glacier, pass outside of the ranges, and there they spend the winter. Then they have a tendency to band up. They do not band up in enormous bands, but they gather in bands from 20 to 200 or 300. The bands stick very closely together, and yet they are independent, and they dig out the snow to feed, and travel around a circuit to the same place, about a hundred miles, I should say, every 9 or 10 days.

I went outside of the ranges during the winter to make a special investigation of them, and at different periods sometimes there were no caribou at all, but I could see their trails, and at the ends of these stated intervals the bands began to come in, following each other rapidly, spreading around and digging down into the snow, eating the lichen moss, which is their particular food, and remaining 2 or 3 days, then passing on and completing the circle. The lines of the park take in most of the area outside of the ranges where these caribou roam.

The lines of the park have been so drawn also as to include a vast strip of moose country. The moose exists on the north side of Mount McKinley throughout the forested areas, below—down the rivers entering the Yukon—the Tanana, some of them very close to the Tanana River; but they exist in great abundance toward the head-

waters of the rivers, and great care has been taken to include an area which will be a vast preserve for these interesting animals, looking more like prehistoric beasts than almost any animal we have. One constantly sees the moose feeding up in the willows, and on the side hills, well up above the timber line.

The next animal, and the one which in the future, will excite, I think, more interest among visitors and tourists than any other, is the mountain sheep. The mountain sheep exists in this region in countless thousands. Nobody could make an estimate of their numbers, without remaining in the region a very long time, and thoroughly traversing it from end to end. On one day's travel, about 15 miles, my journals record, that I counted at least a thousand mountain sheep on the hillsides. They are apparently pure white animals. A year later I went over the same trip casually and the same numbers were visible. In almost any direction in which you go among the mountains, with the exception of small areas immediately close to Mount McKinley, mountain sheep are visible on all sides.

I have often wondered, in reading mountain literature, and I have at times reveled in listening to descriptions of emotions evoked by the scenery of our national parks in this conference, why it was that animals are not more mentioned as an adornment to the landscape. The most interesting book on mountains here in this last year was by Mr. Van Dyke. His wonderful analysis and ecstatic views of mountain scenery merely records the animals which inhabit the mountains, but in spite of his subtle analysis he does not say a word about the addition to the scenery, the emotions which are evoked by the sight of animals in the mountains. Who could, when looking into the Grand Canyon—those of you who are familiar with it and who realize all the feelings and emotions that that stupendous picture of nature arouses within you—suppose in the midst of it a mountain ram steps up on a crag, his color, his horns, his attitude wholly in unison with his surroundings, does not that make the feeling of your emotions more complete and more profound? It must.

In more civilized countries, on mountains and hills that have been stamped with civilization for centuries, the adornments, the little castle with its spires, the Moorish castles in Spain—they enhance the landscape. Painters put them in as adornments on paintings of landscape. Well, it's just exactly the same way in the wilderness. Does not, like some little touch like the little spire in the civilized landscape, a wild animal, the product of that environment, so adorn it that we feel that it is complete? That feeling, that completeness of all your feelings aroused by such wild scenery will in this region be constantly gratified to the uttermost.

The geologists, the men of science who go into the country, they feel emotions there from an understanding of the spirit of the rocks,

of what the rocks reveal, and of the history of the formation of the earth. In just the same way the individual must feel additional emotion there when he sees these animals around which are records of the survivals of the animals of the past, when this earth was carved. They exist there as a link connecting this life with the life of the past ages just as the records in the rocks show the records of the past ages there before you.

Grizzly bears are abundant there, and smaller fur animals are abundant. They are all exposed to sight above the timber.

Now, it is to save game, to keep those regions as they existed in a primitive state, that this region should be laid aside as a national park. Nor is it very distant of access. When the railroad is completed it will not be so distant as the Yellowstone Park was when it was created. Thousands of people are going up the coast of Alaska every year, a coast which surpasses in beauty a trip to the North Cape, which has been popular for so long. When the railroad has been completed, it will be but a short trip. When roads are built into this region, it is but a short trip from the railroad. It will take but one day or a part of a day on a railroad, and the next day go in over the roads to this park.

The park is necessary. I dislike to speak of the material aspects of anything, and yet they are very necessary. The park is necessary as a financial asset to the people of this country, who are providing, through taxation, the money, the large amount of money, it will cost to build the railroad. The Norhern Pacific makes a feature of the Yellowstone Park, the Great Northern Road, a feature of the Glacier Park, the Atchison Road, of the Grand Canyon; the Southern Pacific Road, a feature of the Yosemite Park. All of them are tremendous financial assets to the railroads. In the same way this park, when finally developed, will be a financial asset to a railroad which is owned in common by all the people of this country, rather than by a private company. Again, near the park directly outside the line, directly north of Mount McKinley, there are mineral developments; there are possibilities of mining development—not placer mining, but mining of a character which may afford large bodies of ore. Should this possibility be realized, it will surely induce a branch of this railroad, which will go almost within sight, and right to the gates leading to Mount McKinley. That will make the region very easily accessible.

Again, the interior of Alaska needs people, needs people to develop it. Such a region as this, holding our inducements to the tourists who now go up the coasts of Alaska, will bring people into the interior. As a result of that, investments will be made. All of those things are sure to follow.

The people of Alaska themselves realize the significance of this national park—this proposed national park. I say "national park" because I believe we are going to get it. It is receiving most conscientious consideration by the committee in Congress, and I believe we are going to get it at this session of Congress. The people of Alaska realize it and support it. It will be a region, as I say, comparable with the Grand Canyon.

The animal life will surely, in addition to the stupendous scenery, be one of the leading features which will induce tourists to go there. This is not the time or the occasion to go into detail about the interesting features of animal life and their habits. I have not time here more than to mention it generally.

I wish to take the occasion here to mention the enthusiasm of Mr. Mather, who is leading this national-parks movement, and also the enthusiasm of the men in his office. It really is an inspiration to come into contact with men of such quality.

Likewise I find the same enthusiasm among other departments in the Government, other departments perhaps more concerned with material than esthetic development. All are enthusiastically supporting this national parks movement; and I have been equally inspired to find some of the leaders in Congress in thorough appreciation of the esthetic values and all the other values that this movement is bringing to the country. I feel very sure that in the future, when this national park is established and easily accessible, we will look upon it as a priceless possession of the people, just as we look upon the Yellowstone Park, the Grand Canyon that will be a national park, the Yosmite, and all the others.

THE PRESIDING OFFICER, MR. BURNHAM.

William Bay Merchon says of the days of their abundance that the wild pigeons flying over Saginaw, Mich., knocked the hats off of pedestrians on the streets. John James Andolm tells of a flock of wild pigeons which he estimated to contain a billion and a half in numbers, somewhat exceeding the human population of the world. A recent writer in Scribner's had an interesting comparison, to give some concrete idea of what the population of the world meant. He said that the entire living population of the world could be put on the surface of Lake Champlain when that lake was frozen over, and have plenty of elbow room. I live on the shore of Lake Champlain, and that interests me. It is a lake about 120 miles long and from 12 to 15 miles wide in its widest portion. If the old people and the babies sat down around the shores, the rest of the population would have plenty of room to skate on the lake. The entire billion and a half would have a square yard of surface for each person.

But think of a flock of birds that would cover that area, 120 miles long and probably an average width of 3 or 4 miles! And to-day there isn't a single specimen left.

Now, if the Weeks-McLain law had been in effect in the fifties, at the time the Legislature of Ohio refused to pass a resolution to protect the wild pigeon, because they said they existed in such countless numbers that it was useless and unnecessary to try to pass any laws to protect them—if that Weeks-McLain law had been in existence, we would have had plenty of wild pigeons to-day. The law would have stopped the slaughter. That will, I believe, insure our birds for all time. Our larger game animals must be provided for in some other way. In the West in particular the only practical way at the present time appears to be these game refuges. The Yellowstone National Park furnishes a splendid example. It has in its confines most of our big game, and that game exists in very considerable numbers.

Mr. E. W. Nelson, the Chief of the Biological Survey, will tell you about the elk problem in the Yellowstone National Park. Mr. Nelson is the man in whose hands, beyond any other man, the safety of our big game and the safety of our birds in this country under Federal protection depends. Through him Uncle Sam's long arm is stretched out to see that these wild creatures are preserved for future generations. Mr. Nelson.

E. W. Nelson, Chief of the Biological Survey.

THE YELLOWSTONE AND THE GAME SUPPLY.

Mr. Chairman, ladies and gentlemen, before I start with my talk, I will put a map up here for you to look at. (Mr. Nelson thereupon explained the map in question, after which he read the following address:)

It is difficult for those who have not personally known the West during the last 40 years to realize the rapidity of the changes that have taken place there in conditions affecting wild life. This may be instanced by the fact that in 1884, only 32 years ago, the Apache Indians raided close by my ranch in the White Mountains of Arizona, killing one of my friends and other people in Arizona and New Mexico. Women were sent from outlying ranches to the villages and no one left his cabin without his rifle in the regular old frontier style.

At this time elk and antelope still existed in large numbers at many points in the Rocky Mountains from near the Mexican to the Canadian border. We killed antelope, deer, or elk for ranch use throughout the year without a thought that the supply was not perpetual.

The increasing occupation of the West continued and, as we all know, the elk have been exterminated over nearly all their range and antelope are closely following. Now, with transcontinental automobile highways in existence the frontier within our borders is a matter of history, primitive conditions are everywhere rapidly disappearing or are gone forever, leaving a sorry remnant of the wonderful abundance of wild life which once occupied all parts of our land.

Fortunately, before it was too late, a few far-sighted men foresaw the impending changes and recognized the desirability of saving some part of the wilderness and its habitants for future generations. One of the best and most far-reaching results of this prescience is evidenced by the Yellowstone National Park, which was established in 1872. At that time the Yellowstone region was a primitive wilderness, marvelous for its scenic beauties and natural wonders. Here the Government took over a tract about 54 by 63 miles to create the noblest of our parks.

The slopes of its splendid mountains were clothed in forests, broken by lovely open parks and valleys, where many buffalo, moose, elk, black-tailed deer, antelope, and mountain sheep roamed unmolested except by such natural enemies as the wolves, bears, and mountain lions. During the early years of its existence the park was poorly guarded and the game threatened with extermination. The buffalo numbering some hundreds were killed by poachers until in 1901 only 25 remained. Later a few buffalo were brought in and a more efficient guardianship since then has resulted in the growth of the herds until now there are approximately 350 of them in the park. These are in two herds, the original one and the introduced animals or their descendants.

As is well known, at the time of the colonization of this country buffalo existed by millions and ranged from Pennsylvania and Virginia west to beyond the Rocky Mountains. With the progress of settlement they were rapidly exterminated and to-day the only herd of buffalo which has continued to occupy its primitive home in the United States is in the Yellowstone. This herd is doing well and is considered to contain the most virile stock of this splendid animal remaining within our territory.

The prong-horned antelope is another notable American game animal which is making one of its last stands in the Yellowstone. These animals have either gone or are rapidly disappearing from their former range on the arid plans, both in Mexico and the United States, and it is hoped that the herd of several hundred animals in this park may perpetuate the stock well into the future. In the wilder recesses of the Yellowstone about the head of the lake and along the river are large numbers of a form of moose peculiar to this region.

Several years ago George Shires, 3d, found these moose abundant at the head of the Yellowstone Lake, and estimated there were about 1,500 of them in the park. A few of these moose occur outside the park, mainly in Wyoming, but the preservation of this magnificent animal in this region depends mainly on the protection given it in the park. The moose is one of the largest and most picturesque game animals of America, and its presence in considerable numbers in the Yellowstone forms one of the many valuable assets of that wonderland.

The great herds of elk which make their home in the Yellowstone Park, however, are its most notable and valuable game asset. The elk of the Yellowstone are divided into two herds, the northern and the southern, which are mainly distinguished by their wintering ground, the southern herd wintering largely in the Jackson Hole region of Wyoming, the northern herd in and near the northern part of the park. These two herds have been variously estimated to contain from 40,000 to more than 60,000 animals. During summer the herds meet in the higher parts of the park near its southern border, so there is an interchange of animals between the two groups, the separation occurring when the winter snows drive them down to lower altitudes.

In summer great areas on the mountains still afford good grazing for a much greater number of elk than now exist, but the lower country about the base of the mountains, which formerly served as the winter home of the elk, has been so occupied by farms and stock that both range and forage have steadily decreased. In consequence, during hard winters in the past few years many of these superb animals have died of starvation. Conditions are especially severe in the Jackson Hole district in Wyoming, where a Federal game refuge has been established under the direction of the Biological Survey, and hundreds of tons of hay are being put up annually to feed the elk when they are forced down from the mountains by heavy winter storms. Until recently the northern herd has had, in addition to the valleys of the park, a considerable area of available outside winter range where it has usually succeeded in passing the severest seasons with comparatively small losses. Owing to the many small herds into which the elk are ordinarily separated, it has been extremely difficult to learn their actual numbers, and many conflicting opinions have been expressed as to the total number of elk in the park and as to the availability of the park to support them. In has even been proposed that thousands of these elk be killed in order to stop the supposed overstocking of the range and attendant wholesale starvation of the animals during the first severe season. This idea was due to an erroneous belief as to the total number of elk in the park and as to their rate of increase.

In addition to the destructive inroads made by the wolves and other predatory animals on the young, the northern herd of Yellowstone elk have, at times, been subjected to heavy slaughter when they drifted outside the park limits. On one of these occasions it is reported that about 1,500 were killed along the northern border within a few days. In addition, tusk hunters have killed great numbers, solely for the two canine teeth, which are made into watch charms, and the carcasses left on the ground to rot. Last winter about 500 animals were killed for htis purpose, 17 being shot down in a single mountain pasture where they had strayed. Fortunately, effective measures are now being taken to protect the elk from such conscienceless destruction.

Even the lower parts of the Yellowstone Park are so high above sea level that the winters are severe, and in exceptional seasons the snowfall is so deep that a large proportion of the animals are forced to seek grazing outside the park limits.

The park is surrounded by four national forests—the Absaroka, Shoshone, Teton, and Gallatin—in which grazing leases are issued by the Forest Service, either for sheep or cattle. Demands for such grazing privileges are rapidly increasing and would soon result in the use of all available feed up to the park boundaries. The disastrous effect of such a situation on the elk has attracted the attention of the Forest Service, which is deeply interested in the conservation of game as one of the valuable assets of the national forests.

Last year the Forester invited the Biological Survey to cooperate in a study of the conditions about the Yellowstone Park with a view to securing information to serve as a basis for determining what areas in the national forests bordering the Yellowstone are needed to supply adequate winter grazing for the present Yellowstone herds and a reasonable increase. A representative of the Forest Service and one from the Biological Survey made an extended visit to the park and the surrounding forest during the summer of 1915, to learn the summer conditions in relation to the game in and out of the park, and another trip was made last winter to observe the condition at that season.

Accurate information as to the approximate number of elk in and about the park for which winter grazing must be provided is a necessary basis for the determination of the area of winter grazing to be reserved for them. During the past winter both the representatives of the Forest Service and the Biological Survey and those of the National Park Service made a count of the elk in the northern herd, both in and out of the park. These counts were made at different periods and the results vary so widely that it appears necessary to have another count made. It is planned to have

this done the present season by cooperation between the Departments of the Interior and Agriculture, aided by a representative sportsman from the Boone and Crockett Club. With the information thus secured and the available knowledge of the range conditions, the Forest Service can formulate its plans for the allotment of the necessary winter grazing areas for these splendid game animals.

It is evident that a critical situation has developed requiring wise action of the National Park Service of the Interior Department and cooperation by the Forest Service to avoid disastrous losses in the near future among the last great herds of elk in America.

The comparatively recent abundance of large game throughout a large part of the West renders it difficult for the present generation to fully appreciate the tremendous interest with which the Yellowstone Park and its varied big-game animals will be regarded in the near future. There our successors will find an epitome of wilderness conditions which once existed in many parts of the continent.

In addition to the educational and recreational value of the wild life in the Yellowstone Park it has a very definite relationship to the perpetuation of the game resources of the entire country. This is strikingly evidenced by the fact that since 1912 more than 1,700 head of elk have been distributed from the Yellowstone Park to game preserves and parks in various parts of 20 States. As is well known, the elk once ranged from New York State to California, but has practically disappeared throughout almost all of this enormous territory. By the distribution of animals from the Yellowstone they are being reestablished in many of their former haunts. In addition to being placed in many Western States small herds have been brought to New York, Pennsylvania, and Alabama, thus returning them to the eastern part of the former home of the species. As the other species of game in the park increase in numbers they can be utilized in the same way.

In conclusion I wish to express my satisfaction in the recent organization of the National Park Service, which means a tremendous increase in the development and use of these national playgrounds and in the conservation of their wild life. The people of the United States are to be congratulated in having at this critical period the public-spirited services of Mr. Mather and his assistants, whose efforts to secure the cooperation of the public and of all governmental agencies in developing the usefulness of the national parks will bring large results. The Biological Survey will consider it a privilege to cooperate in whatever way it can to advance this work.

THE PRESIDING OFFICER, MR. BURNHAM.

You people here this afternoon are hearing the last word in the game conservation problem. Perhaps it would be better to call them the first words of a new era. In 1886, in central Wyoming, I saw a bunch of antelope, between three and four thousand. There are hardly more than that in the whole of the United States to-day. Dr. Nelson has just told of antelope in the Yellowstone Park—a few hundred.

Dr. E. Lester Jones, Chief of the United States Coast and Geodetic Survey, a good sportsman who has made some interesting trips and investigations in connection with big game, and last summer looked over and photographed probably the largest remaining herd of antelopes in the United States—certainly the largest one in an unprotected area. This new era on which we are entering—I think we have entered on it—derives its hopefulness from laws which are being effectively administered.

This movement here looks not only to the safeguarding of our present parks but the arousing of interest in future parks. It makes for everyone taking an intelligent interest in these properties which belong to all of us. Now, I have often thought that if the people of the State, or the people of the whole country, thoroughly understood that they had an equal undivided interest in every game animal and every game bird, there would not be much poaching or shooting out of season. It is a fact that people do not understand the game belongs to them as American citizens; that it is their personal property. If this game were divided up and each man, woman, and child given their pro rata share—so many partridges, so many wild ducks, so many deer, etc.—do you suppose they would go to work and exterminate those wild animals. They would try to increase that stock for the benefit of themselves and children. Now, that is what this movement that we have embarked on to-day is doing; it is looking out for the benefit of the whole people. It is waking them up to the fact that the big game animals, the national refuges, and national parks are the big opportunities.

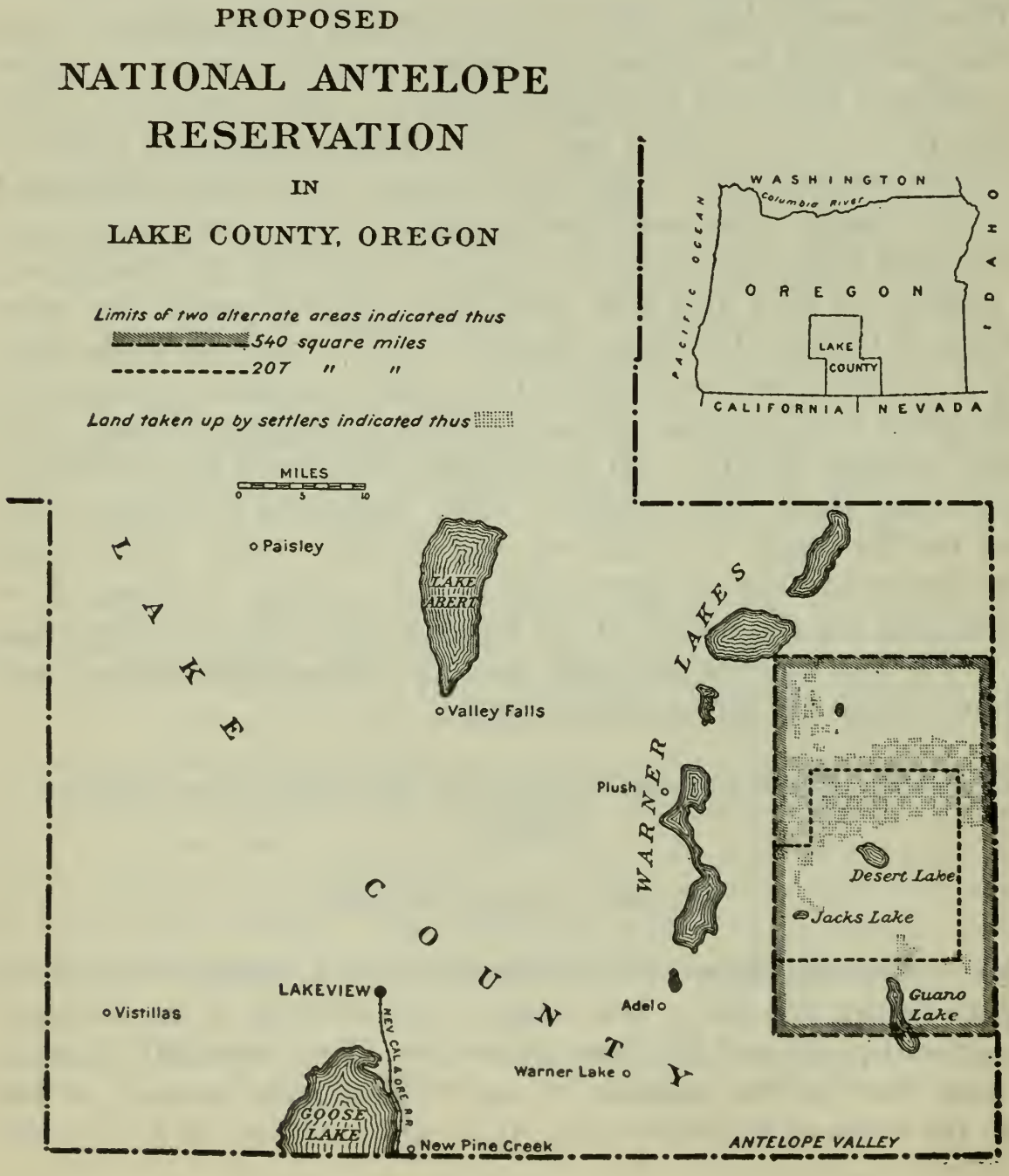
E. LESTER JONES, SUPERINTENDENT OF THE COAST AND GEODETIC SURVEY.

FUTURE OF THE ANTELOPE.

Mr. Chairman, ladies, and gentlemen, it is a pleasure for me to appear before you for a few minutes this evening as an advocate of national parks and big-game protection. I am especially pleased to come here in the interests of our wildest game animal, which is on the verge of extermination. It is sure to follow, in a very few

years, a worse doom than that which befell the bison. Dr. Nelson has just said there are 350 bison doing well in Yellowstone Park, and while this noble animal adapts itself to a certain form of domestication, it is quite different with the antelope, and we won't be able to say in a few years that the antelope, like the bison, is well cared for in inclosures. Unfortunately, it is an animal that does not do well under fence. In the line of my official duties this past season I had the good fortune to fulfill a long-felt desire to visit the last large band of antelope in the United States. It impressed on me two things: The great need of Federal protection if we are to save the antelope; and that same protection for all the species of big game in the United States.

I am certainly opposed to State protection of our big game animals, as well as game birds, simply because in most States they get little protection, and in a few, *none*. And this was so forcibly brought back to me this year on several occasions when I saw the



most flagrant violations by the very men who are sworn to protect the wild life by enforcing the laws that control the killing of these animals and birds.

The few slides that I have to show you this evening are more to bring out one point, and that is the absolute need of a Federal park to cover the area in which this herd of antelope now roams. Unless this is done at once, all the antelope outside of the Yellowstone Park are certainly doomed.

In Arizona, Wyoming, Nevada, and California I say truthfully there is left a mere handful of these noble animals. The antelope is not only beautiful but most graceful, and they can travel at fast speed. They are very timid, but they have one fatal weakness and that is curiosity. Let me first cite an evidence of their timidity, then show what their one weakness has done for them. I remember on one occasion going out on a ridge or rim and observing below me, scattered in a basin which was surrounded by this rim, some 200 perhaps or 300 of these magnificent animals. The nearest one was three or four hundred yards from me, the others being scattered over an area covering a mile square. Their eyesight is marvelous. It almost seemed to me sometimes that they could look out of the back of their heads. It wasn't many minutes before they were disturbed by my presence and moved rapidly away by their loping gait. Now, the other point. The next day, by the construction of a small blind from sagebrush and by lying flat so I could look through the little holes in the brush that inclosed me without being seen, perhaps 100 of these animals came within 10 feet of me to investigate the meaning of the blind. Now, you can readily appreciate how easy it will be to exterminate these animals if anyone wishes to do so.

I am now going to show you slides indicating the locality (Lake County, Oreg.) in which this last remaining herd roams, and what I advocate as the certain means for protecting this herd. If we can all get together and get the support of Congress and do something before it is too late, our efforts will mean the perpetuation of this beautiful animal.

(Whereupon Dr. Jones showed a number of interesting views of the antelope described above and plans for the national park or national reservation.)

The plan of the reservation or park will be found on the opposite page.

THE PRESIDING OFFICER, MR. BURNHAM.

There is no one in this country who knows more of his subject—game protection and game preservation—than our next speaker, who will tell you of national monuments as wild-animal sanctuaries. Dr. T. S. Palmer.

T. S. Palmer, Expert in Game Conservation, Biological Survey.

NATIONAL MONUMENTS AS WILD-LIFE SANCTUARIES.

Much has been written and many photographs have been published illustrating the wild life in the national parks. The bears, the buffalo, and the elk of the Yellowstone are as closely associated with this park as are the hot springs or geysers. The mountain sheep is almost as closely associated with the Rocky Mountain Park or the mountain goat with the Mount Rainier or the Glacier Park as are waterfalls with Yosemite or the big trees with the Sequoia Park. Of national parks there are now 16 and of national monuments 21 in charge of the National Park Service of the Department of the Interior. In addition, there are 11 national monuments on national forests in charge of the Forest Service of the Department of Agriculture, and 2 national monuments under the jurisdiction of the War Department. Of these 50 reservations, the 34 monuments have a combined area of about 1,900 square miles, or a little more than one-fourth the area of the national parks and a little less than that of the State of Delaware.

Comparatively little has been published on the wild life of the national monuments and even the existence of some of the most interesting reservations is scarcely known to the public. Much less has the tourist or casual visitor a clear idea of what constitutes a national monument, of the diverse character of monuments, or of the distinction between a national monument and a national park. This, perhaps, is not surprising when it is recalled that only a few years ago a former Cabinet officer to whom was submitted a recommendation for the establishment of one of the larger national monuments inquired, "What kind of a monument do you propose to build?" And upon being assured that it was not the intention to build any monument, but merely to preserve some objects of unusual scientific interest under the national monuments act, remarked, "Well, I don't know what you are going to do, but if Mr. ——— says it is all right I will approve the recommendation." And within a few days the monument became an accomplished fact.

From time immemorial man has been accustomed to erect monuments in honor of celebrated men or to commemorate important events in history by monuments, and these monuments, many of them unfortunately now in ruins, are carefully preserved as examples of his work or mementos of his accomplishments. Similarly nature has carved rocks, has hollowed out caverns, and has developed remarkable types of plant and animal life adapted for peculiar conditions. The fact that such objects are properly monuments was recognized nearly a hundred years ago by the celebrated traveler Alexander von Humboldt who, in describing some of the marvelous

trees he had found in his travels in the Tropics referred to them as "natural monuments." Recently the term "natural monuments" has been adopted abroad to denote any natural object of scientific interest, whether geological, botanical, or zoological, and the importance of preserving such monuments is now recognized both in Europe and America.

MOVEMENT FOR PRESERVATION OF NATURAL MONUMENTS SIMULTANEOUS IN EUROPE AND AMERICA.

It is interesting to note that the policy of preserving under the care of the Government objects of historic or scientific interest for the benefit of the public was adopted almost simultaneously in Germany and in the United States. In Prussia the movement took the form in 1906 of a provision for the appointment of a special officer known as the State commissioner for the care of natural monuments, who, under the supervision of the minister of education, was charged with the duty of locating, protecting, and making known the various objects of scientific interest worthy of preservation. No funds were provided for the purchase of sites of such monuments, but it was the duty of the commissioner to locate and mark them, and to interest the owners, whether State, municipal, or private, in their preservation. These natural monuments are of various kinds and may include an historic tree, an unusually fine specimen of some shrub, a group of rare plants, a bog containing northern plants or animals, a breeding colony of birds, a curiously carved rock or a glacial bowlder—in short, almost any object of scientific interest.

In the United States the movement took a somewhat different form, but in the same year resulted in the passage of an act of Congress providing for preservation under national auspices not only of natural objects of scientific interest, but also of historic landmarks and historic structures. This act, approved June 8, 1906, entitled "An act for the preservation of American antiquities," and commonly known as the national monuments act, authorizes the President of the United States to declare by public proclamation as national monuments, historic landmarks, historic and prehistoric structures, and other "objects of historic or scientific interest situated on lands owned or controlled by the Government of the United States." No appropriation was made for carrying the law into effect or providing for the care of the monuments which might be created in this way. Not until 1910 was any general circular of information regarding the monuments available for general distribution, and not until 1916 was any specific appropriation made for their protection or any provision made for a comprehensive plan of administration.

Looking back over the past 10 years, it is interesting to observe that both in Prussia and in the United States the attainment of essentially the same object has been sought in different ways, but primarily by a campaign of education. In Prussia attention has been concentrated on educating the public as to the importance of preserving these natural treasures, whether under the care of State authorities or private individuals. In the United States attention has been concentrated on setting apart the more important natural monuments and historic landmarks on public lands as national monuments and preserving them by proclamations and warning notices.

THREE KINDS OF MONUMENTS—HISTORIC LANDMARKS, HISTORIC MONUMENTS, AND NATURAL MONUMENTS.

The national monument act practically contemplates the establishment of monuments of three different kinds:

(1) Landmarks, or places of purely historic interest, include such reservations as the Cabrillo Monument in California, which marks the point where Juan Rodriguez Cabrillo first sighted the coast of California in 1542; and the Big Hole Battlefield in Montana where a superior force of Nez Perce Indians was defeated by United States States troops on August 9, 1877. These monuments mark spots closely connected with the history of the West, but contain no prehistoric structures or objects of scientific interest.

(2) Historic structures, or monuments proper, comprise such ruins as Montezuma Castle, the Gila Cliff Dwellings, the ruins in Chaco and Walnut Canyons, and the old Spanish Missions of Gran Quivira in New Mexico and Tumacacori in Arizona.

(3) Natural monuments include a variety of objects of scientific interest, ranging from the stupendous gorge of the Colorado River in Arizona and the glacier covered summits of the Olympic Mountains in Washington to the wind-swept rocks of the Wheeler Monument in Colorado, the natural bridges in Utah, the Lewis and Clark Cave in Montana, the fossils of the Dinosaur Monument in Utah, the petrified forests in Arizona, the redwood trees of the Muir Woods in California, and the giant cactuses in the Papago Saguaro Monument in Arizona. In this group are found the monuments which are most important as wild life sanctuaries.

It could scarcely be expected that the historic, the archæological or the paleontological reservations would contain much that is remarkable in flora or fauna, but it is interesting to note that 8 or nearly 25 per cent of the 34 monuments, including most of the larger ones, are of considerable interest in connection with the preservation of wild life. These eight monuments in the order of their creation are: (1) El Morro, in New Mexico; (2) the Muir

Woods, in California; (3) the Grand Canyon, in Arizona; (4) the Pinnacles, in California; (5) the Colorado, near Grand Junction, Colo.; (6) Mount Olympus, in Washington; (7) Papago Saguaro, in Arizona; and (8) Sieur de Monts, in Maine. Two of them—Muir Woods and Papago Saguaro—are primarily botanical; three others—the Grand Canyon, Mount Olympus, and the Pinnacles—are essentially geological; while the Sieur de Monts combines historical, geological, botanical, and zoological attractions. Two are located in Arizona, two in California, and one each in Colorado, Maine, New Mexico, and Washington. With the exception of El Morro and the Muir Woods, each has an area of more than 1,000 acres—Mount Olympus, including some 300,000, and the Grand Canyon, more than 800,000 acres. Their combined area includes more than a million acres—a territory larger than the area of Glacier National Park, and more than half the size of the Yellowstone.

JURISDICTION.

At this point it is pertinent to consider the nature of the protection accorded the birds, game, or other objects of scientific interest in a monument under the care of the General Government. It has been said that the principal difference between a national monument and a national park is that a monument has merely been made safe from private encroachment, while a park has been similarly protected but in addition is in process of development so as to become a convenient resort for the people. From a legal standpoint, theoretically at least, a broader distinction exists in the matter of jurisdiction. In some of the national parks in which the necessary legislation has been enacted the jurisdiction of the Federal Government is complete and exclusive, and all cases involving violations of the law or regulations are tried in the United States courts. In the national monuments, on the contrary, State laws are still in force, as there has been no cession of State authority and jurisdiction is exercised as it were through cooperation between the Nation and the State. Whether a case is tried in the Federal or State courts depends on the nature of the offense or the question at issue. The Federal Government, as proprietor of a national monument, is in much the same position as a landowner, who has the right to protect his property against all forms of trespass, but who does not always exercise it, and who relies on the State for general protection. Stated more specifically by way of illustration the conditions are somewhat as follows: A person charged with killing game, cutting timber, or with having committed any ordinary misdemeanor in the Yellowstone National Park would be tried in the Federal court, whereas

one charged with the commission of any of those offenses on a national monument would be tried in the Federal court for cutting timber or for carrying firearms in violation of departmental regulations, but he might be tried in the State courts for killing game or committing some other misdemeanor prohibited by State law.

Under existing conditions the question is rather more complex. In 7 of the 16 national parks the Federal Government now exercises jurisdiction in the Yellowstone and Platt Parks through provisions in the acts of Congress admitting the States of Wyoming and Oklahoma to the Union; in the Hot Springs Reservation and in the Glacier, Mount Rainier, and Crater Lake Parks through the acceptance by Congress of the jurisdiction ceded by the States of Arkansas, Montana, Washington, and Oregon; and in the Hawaii Park by virtue of the jurisdiction over a Territory exercised by the General Government.[1]

In the case of the national monuments protection is afforded by a number of Federal laws and regulations. Under the monuments act (34 Stat., 225) the land is withdrawn from all forms of entry, and the injury, destruction, or unauthorized appropriation of any prehistoric ruin or object of antiquity is prohibited under heavy penalties. Under the Criminal Code (35 Stat., 1088), cutting timber is punishable by a fine of $500 or imprisonment not more than one year, or both (sec. 50); setting on fire any timber, underbrush, or grass (sec. 52), building fires in or near any timber without totally extinguishing them before leaving (sec. 53), or breaking down fences inclosing lands reserved for public use, or permitting any stock to destroy grass or trees on such lands (sec. 56), are punishable by similar or even more severe penalties.

Under the Lacey Act, now incorporated in the Criminal Code (35 Stat., 1137), the incentive to kill game for market or for hides is removed by the provision prohibiting interstate shipment of birds or game killed in violation of State laws. Under the Federal migratory-bird law (37 Stat., 847) and the treaty with Great Britain for the protection of migratory birds in the United States and Canada, migratory birds are protected throughout the year, and the band-tailed pigeon, the largest of the native pigeons, and still common in some parts of the West, is protected at all seasons for several years. (U. S. Dept. Agri.; Farmers' Bull. 774, pp. 18–20, 1916.)

Under the Grand Canyon Game Preserve act (34 Stat., 607), special protection is given the game in that part of the Grand Canyon

[1] Recommendations have been made with a view of securing cession of State jurisdiction over the General Grant, Lassen, Sequoia, and Yosemite Parks, in California, and the Mesa Verde and Rocky Mountain Parks, in Colorado. Thus the Casa Grande Ruins, Wind Cave, and Sullys Hill Parks are the only ones in which no such action has been taken. Special protection of the Sullys Hill Park, in the matter of hunting and trapping, has recently been provided by the State of North Dakota.

Monument overlapping the game preserve along the north rim of the canyon. Under the National Park Service act (39 Stat., 535), the Secretary of the Interior is authorized to dispose of dead or diseased timber, to provide for the destruction of injurious species of animals or plants, and to regulate grazing. Regulations for the government of the monuments promulgated by the Department of the Interior in 1910 prohibit building fires, using firearms, fishing, picking flowers, ferns, or shrubs, polluting the water, or leaving vehicles or horses, except at designated places. (Report on Sullys Hill Park, Muir Woods, etc., Department of the Interior, 1915, p. 8.)

It is possible for a State to supplement the protection provided by the Government either directly or indirectly and even to prohibit all hunting on a monument as has actually been done in the case of the Pinnacles Monument. Some of the States have manifested a deep interest in the reservations and a spirit of hearty cooperation in their maintenance by enacting laws which have added materially to the protection of the wild life. The State law of Washington protecting elk, which was recently extended, that passed in Colorado in 1913 suspending deer hunting, and that protecting mountain sheep in Arizona are effective adjuncts in the preservation of the big game on the Mount Olympus, the Colorado, and the Grand Canyon Monuments. California made the Pinnacles Monument a State game preserve by act of 1909 (ch. 428) and more recently has defined it as game and fish district No. 25 in which all hunting is prohibited (Laws 1915, ch. 379). Oregon has made it unlawful to hunt or trap wild animals or birds within the boundaries of any watershed reservation set aside for the Government, or on lands in any national bird or game reservation or in a national park (Laws 1913, ch. 232, sec. 20), and North Dakota has made it unlawful to hunt or trap on the national game refuge in Sullys Hill National Park or in any other national reserve or game refuge that has been or may hereafter be established within the State (Laws 1915, ch. 161, sec. 60).

SOME OF THE MORE IMPORTANT NATIONAL MONUMENTS.

Having considered the nature of a monument and the protection accorded the wild life which it contains it is in order to mention briefly the characteristics of the individual monuments and the species which may be preserved on them. First in importance may be considered the two largest monuments, the Grand Canyon and Mount Olympus, which will ultimately in all probability be made national parks.

GRAND CANYON NATIONAL MONUMENT.

The Grand Canyon National Monument, established January 11, 1908, comprises an area of about 800,000 acres and includes within

its boundaries the great chasm formed by the river together with a narrow strip along the north and south rims of the plateau. The wonders of the canyon itself with its marvelous coloring and fantastic formations so engross the attention of the visitor that little thought is usually given to anything else than scenery on this reservation. Whether maintained as a monument or made a national park it has, and will continue to have, certain features which render it important as a refuge for some kinds of big game and also for birds and other forms of wild life. The inaccessibility of many parts of the canyon walls furnish a safe retreat for mountain sheep which exist here in greater numbers than is generally realized. In 1912 Mr. Charles Sheldon, who has devoted much time and study in the field to the distribution and range of mountain sheep in the Yukon region in Alaska, and in the southwest, visited the canyon for the purpose of investigating the condition of the sheep. In his report to the Boone and Crockett Club he says:

> For the purpose of investigating the sheep two members of the game committee made in November last a special trip to the Grand Canyon of the Colorado in Arizona. They were surprised to find that with the exception of an area of 20 miles on the north side of the river directly east of Kaibab Canyon, sheep are fairly abundant in the canyon on both sides of the river, throughout the entire length of the Grand Canyon. The most conservative estimate that could be allowed places the number of sheep in the Grand Canyon at 1,000. There are probably many more. These sheep range in most places well within the inner canyon. Most of the territory where they feed is quite inaccessible to hunters.

Even if this estimate is rather high it indicates that there are more mountain sheep in the Grand Canyon than in any one of the national parks.

The scarcity of water along the south rim of the canyon makes this area unfavorable for the presence of deer in any considerable numbers, but on the north rim on the Kaibab Plateau, partly within the area of the monument but mainly in the adjoining Grand Canyon Game Preserve, mule deer are abundant. The number at present is probably several thousand, but even the most conservative estimate indicates that this is probably the largest number of mule deer within the limits of any Government reservation.

The smaller mammals and the birds also find here a safe refuge from all except their natural enemies, as the rugged canyon walls naturally discourage and prevent pursuit. Very little is known of the possibilities of the canyon as a bird sanctuary. In fact, no complete list of the birds of this reservation has yet been published, notwithstanding the fact that since the completion of the branch railroad from Williams to Grand Canyon Station in 1902 hundreds of thousands of persons have visited the spot and a number of ornithologists have stopped here at different times, but none of them

has remained long enough to prepare a list which can be considered even approximately complete. The canyon offers unusual advantages for studying the effect of altitude on the distribution of animal and plant life and in this respect affords exceptional educational advantages. On the trip down the Bright Angel Trail from El Tovar to the river the visitor descends from an elevation of 7,000 to 1,000 feet, passing in rapid succession the various forms of life found between the pine-covered plateau of northern Arizona and the fauna of the hot deserts in the southern part of the State. Although animal life does not seem abundant, opportunity is afforded for glimpses of many interesting forms, including Aberts' squirrels, chipmunks, crested and Woodhouse's jays, mountain chickadees, and tiny humming birds, while the wonderful notes of the rock and canyon wrens and several characteristic western birds may be heard. In few of the parks are the effects of the influence of elevation on distribution of wild life more clearly forced upon the attention of even the casual observer. In referring to the wonderful opportunity for studying these problems, Dr. C. Hart Merriam says:

> The complex and interacting effects of radiation and refraction, of aridity and humidity, of marked difference in temperature at places of equal altitude on opposite sides of the canyon, of every possible angle of slope exposure, and of exposure to and protection from winds and storms, produce a diversity of climatic conditions, the effect of which on the animal and vegetable life of the canyon has been to bring into close proximity species characteristic of widely separated regions and to crowd the several life zones into narrow parallel bands along the sides of the canyon—bands which expand and contract in conforming to the ever-changing surface. * * * In short, the Grand Canyon of the Colorado is a world in itself, and a great fund of knowledge is in store for the philosophic biologist whose privilege it is to study exhaustively the problems there presented. (Biol. Survey, U. S. Dept. Agr., N. A. Fauna No. 3, p. 37, 1890.)

MOUNT OLYMPUS NATIONAL MONUMENT.

Second in size only to the Grand Canyon is the Mount Olympus Monument, which occupies the summits of the Olympic Mountains in northwestern Washington. It contains many objects of unusual scientific interest, including numerous glaciers and also the summer home and breeding grounds of the Olympic elk, a species peculiar to this region. As originally established, on March 2, 1909, it contained approximately 608,640 acres. In 1912 a tract of 160 acres was eliminated, and by the proclamation of May 11, 1915, the size of the reservation was reduced 50 per cent, so that the area at present is 299,370 acres. During the last 12 years elk hunting has been suspended in the State, and this protection in connection with the protection of their breeding grounds has resulted in a gratifying increase in the number of elk. In 1905, when the close season was

first established, it was estimated that the elk in the Olympic region numbered 2,000 or less. Late in 1910, nearly two years after the creation of the monument, a careful estimate made by the forest ranger at Port Angeles, Wash., placed the total number at 3,000 or 3,500, of which about 2,000 were on the Olympic National Forest, within which the monument is located. The largest bands were found on the watersheds of the Bogachiel, Elwah, Hoh, Queetz, and Soleduck Rivers. The number of deer was estimated at 3,000 or 4,000. It is impossible to say even approximately how many elk are found within the present boundaries of the reservation. The total number in the Olympics may perhaps be conservatively estimated at about 4,000, notwithstanding some losses which have recently occurred in severe winters. This is at least double the number estimated in the herds at the beginning of the period of protection. So long as hunting is suspended the monument practically forms a national game preserve.

EL MORRO NATIONAL MONUMENT.

The El Morro National Monument, better known by its local name of "Inscription Rock," is a small reservation of 160 acres 35 miles due east of the Zuñi Pueblos, New Mexico. It was established by proclamation of December 8, 1906, for the purpose of preserving the sandstone cliffs some 200 feet in height, bearing inscriptions made by early Spanish explorers in the sixteenth and seventeenth centuries. The monument is too small to serve as a very important wild-life refuge, but it is associated with the discovery of one of the most characteristic birds of the Southwest, and as an actual record of the history of exploration of New Mexico it is probably unique. To the historian Inscription Rock is interesting chiefly on account of its association with the name of Juan de Onate, founder of Santa Fe, who, on his return from an expedition to the head of the Gulf of California, visited this point in 1606. To the ornithologist the rock recalls the visits of two eminent ornithologists, Dr. S. W. Woodhouse and Dr. Elliott Coues, and the discovery of the white-throated swift which occupies the rock as one of its breeding places. In 1851 the Government expedition from the Zuñi to the Colorado Rivers in command of Capt. Lorenzo Sitgreaves was encamped at this point and Dr. Woodhouse, naturalist and surgeon of the expedition, saw for the first time a new species of swift, which he named *Acanthylis saxatilis*. In his report he says:

> This beautiful swift I saw whilst encamped at Inscription Rock, N. Mex. Being on the top of this high rock at the time without my gun I was unable to procure specimens. I had a fair view of the birds at this time, as they flew close to me. I descended immediately and procured my gun; but the birds this

time flew too high for me to be able to procure a shot at them. They were breeding in the rocks. (Sitgreaves, Report Expedition down Zuni and Colorado Rivers, p. 64, 1853.)

A few years after Woodhouse's visit Dr. Coues camped at Inscription Rock and records an experience with the swifts very much like that of Dr. Woodhouse. He says:

While encamped at Inscription Rock (the original locality of *saxatilis*) I saw great numbers of these swifts; but as I had been obliged to leave my gun behind, to accomplish the difficult and rather dangerous ascent of the cliffs, I failed to secure specimens, though the birds occasionally flew almost in my face, so that I could positively identify them. * * *. From Inscription Rock, which lies a day's march west of Whipples Pass, between this and Zuni, to the San Francisco Mountains, I saw the swifts almost daily—always when we passed the peculiar cliffs they frequent. * * *. They generally fly very high—far out of gunshot-range, and with extraordinary rapidity. I shall never forget my disappointment when, on this account, I failed to secure specimens under the most advantageous circumstances I could reasonably expect. (Birds of the Northwest, p. 266.)

In the absence of actual specimens, Dr. Woodhouse described the new swift as best he could as having the head and rump white; the back, tail, wings, and sides black; and as being white beneath. Three years later, in 1854, a specimen of the white-throated swift was collected near San Francisco Mountain, Ariz., and examined by Prof. Baird, who described it under the specific name *melanoleucus*. For many years the bird was known by the original name given by Woodhouse; but in recent years, chiefly because the white-throated swift has no white rump and no white-rumped swift has yet been found within the borders of the United States, this name has been replaced by that proposed by Baird, based on a more accurate description and an actual specimen. The white-throated swift is now known as *Aeronautes melanoleucus*, but Inscription Rock still marks the spot where the species was first seen by an ornithologist and recalls the peculiar circumstances under which the bird was introduced to the scientific world.

MUIR WOODS NATIONAL MONUMENT.

Seven miles north of San Francisco, nestled near the foot of Mount Tamalpais, is a tract of 295 acres known as the Muir Woods. This area, formerly in private hands, was deeded to the United States December 31, 1907, by William and Elizabeth Thatcher Kent for the purpose of preserving a grove of magnificent redwoods growing in the canyon within its boundaries. The reservation is interesting not only as a monument to the species for which it was established, but also to the public spirit of the donors and the memory of the eminent Californian, John Muir, whose name it now bears.

Easily accessible from San Francisco, in an hour's trip by ferry, trolley, and steam railway, Muir Woods is visited by thousands of people every year. Many who are unable, through lack of time or means, to visit the giant sequoias on the slopes of the Sierras in the General Grant, Sequoia, and Yosemite National Parks may here become acquainted with its nearly related species, the redwood. Travelers from distant regions often find Muir Woods the most accessible point at which to observe the tree amid it natural surroundings. Great as may be the interest in the California redwood, this species is only one of a number of dominant types characteristic of an important natural-life zone in the humid coast area of California. Growing among the redwoods may be found a number of equally characteristic trees, shrubs, plants, and ferns, more or less strictly limited in their distribution to the so-called redwood belt. Here also may be found certain forms of birds, such as the crested coast jay (*Cyanocitta stelleri carbonacea*), the chestnut-backed chickadee (*Penthestes rufescens neglectus*), and numerous other forms of animal life peculiar to the coast region farther north. Here may be studied the complex relationships between the flora and fauna of the redwood belt and the more open regions in the central parts of the State. The value of Muir Woods as a wild life refuge lies not only in the preservation of the redwood trees, but in the preservation of all those species of plants, birds, and other animals which find their native habitat in the peculiar conditions under which the redwood thrives. In order to develop the reservation along these lines complete lists of the plants, animals, and birds should be published in a form accessible to the general public. Through cooperation of the California Academy of Sciences, the Cooper Club, and other organizations, local botanists, ornithologists, and zoologists should be encouraged to visit the reservation frequently and study it closely for the purpose of noting any changes in the native fauna or flora or the occurrence of rare species. When the more salient facts have been made as accessible as have been the characteristics of the geysers of the Yellowstone or the waterfalls of the Yosemite, visitors who annually go through the reservation will be stimulated to check up the observations and perchance add to the records of the occurrence of rare species.

PINNACLES NATIONAL MONUMENT.

The Pinnacles National Monument, so named on account of the spire-like formations which rise from 600 to 1,000 feet above the floor of the canyon, includes about 2,000 acres of land in San Benito and Monterey Counties, Cal. Aside from its geological and scenic interest, it is important as one of the last strongholds and breeding

places of the California condor, the largest and one of the most characteristic birds of the State. This bird is protected at all times by a provision relating to nongame birds in the State game law. Not far from this monument is the type locality (or place from which the first specimen was obtained) of the peculiar form of blacktailed deer described as *Odocoileus columbianus scaphiotus* by Dr. C. Hart Merriam in 1898. The monument was created on January 16, 1908, and a year later it was made a game preserve by act of the State legislature (Laws 1909, ch. 428). Recently it has been made a separate game district by the game law of 1915 (ch. 379, sec. 26) which provides that "Game district 25 shall consist of and include those certain lands within the counties of San Benito and Monterey embraced within the Pinnacles National Monument," etc. Thus not only is this interesting area reserved from entry and occupation, but the bird and animal life of all kinds is now protected by special provisions in the State game law.

COLORADO NATIONAL MONUMENT.

In western Colorado near Grand Junction is a little known monument which has been in existence since May 24, 1911, containing a canyon which is described as "more beautiful and picturesque than the region of the Garden of the Gods at Colorado Springs." This is one of the larger monuments, comprising 13,883 acres, and is supplied with a number of fine springs. During the cold weather hundreds of mule deer come down into the park to spend the winter. The Colorado monument is capable of being developed into an important game refuge not only for the mule deer but also for antelope, elk, buffalo, and other species characteristic of western Colorado and the Great Basin. It is better adapted for the purpose than either the Rocky Mountain or the Mesa Verde National Park, and can probably be made one of the most attractive wild-life centers in the whole Rocky Mountain region. Under present State laws the hunting of buffalo, elk, antelope, and deer is prohibited at all seasons, and with proper provision for fencing and the introduction of small nucleus herds the area could readily be stocked with big game.

PAPAGO SAGUARO NATIONAL MONUMENT.

Nine miles east of Phoenix, Ariz., and not far from Tempe is located the Papago Saguaro National Monument, including about 2,050 acres of desert land in Maricopa County. This reservation was established by proclamation on January 31, 1914, and has been in existence only about three years. A ridge of low hills rising from the desert to a height of 150 or 200 feet extends through the center of the tract, and among the rocks are prehistoric pictographs which

add to the ethnological interest of the monument. On account of its easy accessibility by automobile or team on the highway between Phoenix and Tempe, the monument is utilized largely as a picnic ground and is visited by several thousand people each year. It was created primarily for the preservation of the giant cactus (*Saguaro*) and other species of cactuses,[1] yuccas, candle bushes, and the peculiar desert flora characteristic of this region. The giant cactus is a favorite nesting place of the elf owl (*Micropallas whitneyi*) and the gilded flicker (*Colaptes chrysoides mearnsi*), while the clumps of other cactuses are the favorite breeding places of the cactus wren (*Heleodytes brunneicapillus couesi*). Other birds peculiar to this region are the curious curve-billed thrashers—Bendire's thrasher (*Toxostoma bendirei*) and the crissal thrasher (*T. crissale*), and the Arizona woodpecker (*Dryobates arizonæ*). Thus the preservation of the flora naturally attracts and preserves an aggregation of desert birds which find among the shrubs and plants suitable nesting places and an abundance of food.

Immediately west of Tucson the Carnegie Institution established, in 1903, the desert laboratory of its department of botanical research for the investigation of problems connected with the study of desert plant life. At Phoenix the Government has now established a reservation for the protection on a larger scale of some of the desert species which are the subject of study at Tucson. Three years after the establishment of the desert laboratory the grounds were inclosed by a wire fence, and within a few months after the completion of this fence a marked difference was reported between the vegetation within and without the inclosure, and also a marked increase in the number of the smaller animals. This fact is significant in showing the importance of preventing grazing animals from having free access to the monument. Apparently no complete list of the plants has yet been made, but lists both of the plants and birds should be prepared for the purpose of noting changes in the flora and fauna and for interesting the general public in the true purpose of the reservation. While the giant cactus and the yuccas may be the most conspicuous species, they are not necessarily the most interesting, and the full value of the reservation can only be developed by furnishing information to the general public in concise and popular form as to the effect which these dominant types have on other forms of life and in the whole group of species which characterizes the plant and animal life of the desert.

SIEUR DE MONTS NATIONAL MONUMENT.

Mount Desert Island, a unique and striking landmark on the Maine coast, was the first land along the coast to be described and named by

[1] Probably at least one-half of all the species native to Arizona grow within the limits of the reservation.

the French explorer Champlain. Recently 5,000 acres adjacent to Bar Harbor, including the most rugged parts of the island, have, through the generosity and public spirit of the Hancock County trustees, been dedicated forever to free public use and the purposes of wild-life conservation. The historical associations of the locality are preserved in the name of Sieur de Monts, under whose orders Champlain sailed when he discovered the island in 1604. The geological objects of interest are preserved in the bold granite cliffs which form the only mountainous tract thrust prominently out into the sea along this part of the coast. The botanical importance of the region is shown by the fact that hills and mountains support on their slopes and in their valleys a diversity of plant life which is said to be greater than can be found in any area of equal size in New England or in the Eastern States. Mount Desert lies in the highway of bird migration along the Maine coast, and here converge the lines of migrants from the north and east on their way south. Birds from four distinct life zones visit the island at some time during the year. Denizens of the Arctic and of the Hudsonian zone in Ungava and southern Labrador visit it in winter; species of the Canadian life zone, which breed in southern Canada and northern New England, nest here in summer; and in addition some species from the more southern Transition or Alleghenian fauna straggle in from the west and south. Such are some of the historic and scientific objects of interest preserved in this new monument created by proclamation on July 8, 1916. Here are preserved under most favorable circumstances a unique collection of native animals, birds, and plants, which can be enjoyed and studied amid their natural surroundings.

The plans of the founders of the reservation contemplate not merely the protection of the wild life of the area, but also its development under natural conditions, so that some forms now rare may become more abundant and the reservation thus be made more attractive. Here it may be possible to develop a bird sanctuary and feeding stations for birds on the lines of those which have proved so successful in Europe. By cultivating native shrubs and plants which furnish food for birds and thus making the sanctuary more attractive to certain birds which are now rare or which linger only a short time during migration it may be possible to induce them to tarry longer and perchance breed within the boundaries of the monument. In accessibility, opportunity for experimental work, and as a field for botanical or zoological study Sieur de Monts is unexcelled by any of the other monuments.

From the foregoing it may be seen that the much misunderstood term "monument" has a distinctive place and is in reality descriptive of certain kinds of reservations. One has only to consider the Muir

Woods and Sieur de Monts monuments as sanctuaries established on the Pacific and Atlantic coasts for the preservation of redwoods and the northern coniferous trees, respectively, to realize that in reality these two reservations are at least monuments of the public spirit of private citizens who have dedicated these wonderful tracts of wild land to the Government for the benefit of all the people.

It is apparent also that there are ample means of protecting the natural monuments which have been nationalized by proclamation and placed under the care of the Government, and that on some of the reservations are some highly interesting species which deserve the protection which can only be afforded by a wild-life sanctuary. Some kinds of big game occur in even larger numbers than in some of the national parks. Thus in the case of elk, the Mount Olympus National Monument during the breeding season harbors most of the Olympic elk in existence. Nowhere else, not even in the Mount Rainier Park in the same State, is any considerable herd of these elk to be found. The number at the present time, probably about 4,000, is larger than that of any herd of elk outside of the Yellowstone Park region.

In the case of mountain sheep, the records show about 220 sheep in the Yellowstone Park, about 400 in the Rocky Mountain Park, and a few hundred in the Glacier Park, while about 1,000 have been reported in the Grand Canyon of the Colorado. Thus the Grand Canyon Monument at present not only has more sheep than any one of the national parks, but possibly as many as there are in all of the national parks combined.

No species of big game except the antelope is in greater need of protection than the mule deer. Although several of the parks and reservations, including the Yellowstone, the Rocky Mountain, the Glacier, the Wind Cave, and Sullys Hill National Parks, and the National Bison Range, the Wichita game preserve, and the Niobrara Reservation are well adapted for this species, yet not one of these refuges has a large number of mule deer at the present time. The number in the Yellowstone Park in 1914 was estimated to be about 1,100; there are a few hundred in the Rocky Mountain Park, some in the Glacier Park, and practically none in the other reservations. In the Grand Canyon game preserve, which overlaps the Grand Canyon National Monument, there are said to be several thousand and many mule deer come down in the winter to the Colorado National Monument. While the exact number of these deer in the monuments is unknown, it is perhaps not too much to say that the Grand Canyon game preserve, the Grand Canyon Monument, and the Colorado Monument are better stocked than any other reservations with this interesting species of deer which is so characteristic of the West.

In the administration of the national parks, much attention has been devoted to rendering the parks accessible and much emphasis is laid on the number of visitors. In comparison with the expenditure on some of the parks, the amount expended in improving the accessibility of the national monuments has thus far been insignificant, but, notwithstanding this fact, four of the monuments above mentioned—the Grand Canyon, Muir Woods, Papago Saguaro, and Sieur de Monts—are readily accessible and are visited annually by thousands of sight-seers.

The first three of these reservations are open throughout the year and Muir Woods, Papago Saguaro, and Sieur de Monts are within easy reach of near-by cities. It does not require a million acres, a million dollars, or a group of attractions like those in the Yosemite and the Yellowstone to attract a large number of visitors. Muir Woods, with its 300 acres and a grove of redwoods, has as many visitors, in some years, as any of the larger parks, not even excepting the Yellowstone, with its 3,000,000 acres, its famous canyon, its falls, and its many geysers and hot springs. The number of visitors at the Grand Canyon in 1915 was estimated at 100,000, or three times as many as have ever visited the Yosemite or Mount Rainier and twice as many as have ever visited the Yellowstone in a single season. Even the Papago Saguaro has more visitors than such parks as the Casa Grande Ruins, Sullys Hill, or the Mesa Verde. People will find objects of interest and means of enjoyment in any of the reservations which are within easy reach, and since some of the monuments may be made more accessible than some of the parks, and at less expense, it seems important to develop at once the resources of these reservations for the benefit of the public.

PUBLICITY.

More attention should be given to publicity both within and without the reservations—within, by making the points attractive, by marking the less prominent objects of interest, not merely with names and signs but with descriptive labels somewhat after the type of museum labels; without, by bringing the monument home to the individual who can not be brought to the monument. In addition to the usual methods of publicity employed in popularizing the national parks, such as illustrated publications, magazine articles, news notes, photographs, moving pictures, railroad advertising, etc., certain other methods are necessary to disseminate and popularize the information regarding some of the smaller and more remote reservations. In comparison with the geological work which has been done in some of the parks and the ethnological work which has been undertaken on some of the ruins in the Southwest, the amount of natural

history work actually done in the parks and monuments is pitifully meager. Such work whether done by the various bureaus of the Government or by private enterprise should be encouraged in every possible way. We can hardly know too much about the natural resources of these various recreation grounds. There should be many more publications like those on the flora of Mount Rainier, the fishes of the Yellowstone, the forests of Crater Lake, of the Yosemite, and of the Sequoia Parks. Lists of the birds and mammals, such as are now published in the circulars of information of the Yellowstone and Yosemite, but with brief notes, should be prepared for each of the monuments which form important wild-life sanctuaries. Efforts should be made not merely to add to the volume of current and ephemeral literature, chiefly useful in attracting visitors, but to encourage the preparation of more permanent publications in the form of local lists, special papers, and monographs which may find a place in the proceedings of scientific societies and later utilized in the preparation of textbooks and standard works of reference.

Public museums, especially those which are now devoting attention to the installation of so-called habitat groups or the exhibition of animals, birds, and plants in groups amid natural surroundings, should be encouraged to obtain material and install groups representing the wild life of these reservations. Such groups illustrating the Muir Woods, the Sieur de Monts, the Grand Canyon of the Colorado, the Pinnacles, and the Papago Saguaro installed in the museums of San Francisco, Los Angeles, Denver, Chicago, and New York would be viewed by thousands of visitors and prove of high educational value. Local students interested in particular problems in distribution of wild life should be encouraged to make the monuments and the parks the field of their investigations. Notes on the wild life should be furnished regularly to such organizations as the American Game Protective and Propagation Association, the National Association of Audubon Societies, the Mazamas, the Sierra Club, and local associations which are interested primarily in problems of conservation and education so that their members may assist in the work of disseminating information and popularizing the reservations.

ADMINISTRATION.

The proper administration of some of the smaller national monuments differs greatly from that of the larger reservations or of the national parks. A national monument may be allowed to lie dormant for years, practically unknown and undeveloped; it may be left without a custodian only to be injured or destroyed by vandals so that eventually it accomplishes nothing more than if it had never been established; or it may be cared for and developed so as to pro-

duce a rich return to the people for whose benefit it was created. Such a monument as the Devils Tower, which can not be carried away or seriously defaced except by painting signs and advertisements on the rocks at its base, may require little beside publicity and warning notices to make it properly known and provide for its protection. Monuments like the Montezuma Castle or the Navajo, which contain cliff dwellings, require not only publicity to make their wonders known, but also custodians to protect their ruins from injury. But a monument established for the preservation of wild life requires more than either of the types of reservations just mentioned. It needs publicity of a peculiar kind to set forth clearly and in simple language the facts (often obscure to the casual visitor) regarding the nature and life history of its treasures. It requires the services of a resident official, who should be something more than a mere custodian, who should be intelligent, and in sympathy with the objects of the reservation in order that he may act as guardian, guide, and instructor to the public and impart authentic information while answering the numerous questions regarding the objects under his charge. It also requires constant observation and careful study by specialists. A reservation like the Muir Woods is undergoing constant changes, many of which are apparently only upon close examination. Species now abundant may become scarce, others now rare may increase in abundance, and still others now absent may appear. The dates of arrival and departure of the birds, the times of their meeting, the dates of flowering and fruiting of the plants all vary from season to season. These and other similar facts should be observed, recorded, and made public. Much of this work can not be performed by a regular custodian and can be done, if at all, only through the cooperation of special students or observers. A national monument maintained as a sanctuary for wild life should become practically a natural outdoor laboratory or observatory. It is in reality a property of all the people which can only be administered successfully for the people, when utilized fully and studied carefully by the people themselves.

The Presiding Officer, Mr. Burnham.

As an added feature, and closing the afternoon's program, Mr. Belmore Browne, one of the leaders of the Parker-Browne expedition, will tell us of the conquest of McKinley. Mr. Browne.

Mr. Belmore Browne.

THE CONQUEST OF MOUNT MCKINLEY.

Mr. Chairman, ladies and gentlemen, I have a very few minutes in which to show you a little bit about the Mount McKinley country.

I have taken out half of my slides, and so, as I can not take out the rest here at this time, I will ask the operator to go right straight ahead and push the pictures through as quickly as he can until we get to the Mount McKinley country. Before we get to the Mount McKinley country I will give you a little bit of an idea of the route we are going to cover to-night. It has been my good fortune to put in about three seasons exploring around the base of Mount McKinley with the idea of trying to climb the big mountain.

(Whereupon the pictures were shown on the screen.)

THURSDAY, JANUARY 4, EVENING SESSION.

The Thursday evening session consisted of an illustrated lecture on Mount McKinley, by Stephen R. Capps, Geologist, United States Geological Survey, Washington, D. C.

Mr. Stephen R. Capps,

Geologist, United States Geological Survey, Washington, D. C.

THE MOUNT MCKINLEY NATIONAL PARK.

In the spring of 1916 a bill was presented to Congress to establish in Alaska the Mount McKinley National Park. This bill was passed by the Senate during the summer, and its final enactment into law now requires favorable action by the House and the President. Before this article is published the necessary legislation may have been completed and the dream of this new park have become a reality, but in any event every one of us who loves outdoor life should realize what a wonderful country—a country of impressive mountain scenery and big game—we have in that northern territory, and how seriously the wild life of that region is menaced.

My own interest in the general area in which the proposed park lies began in the summer of 1910, when as a member of a United States Geological Survey party, I spent several months on the north side of the Alaska Range, east of Nenana River. To extend that earlier survey westward two parties were sent out in 1916, one, in charge of C. E. Giffin, to make a topographic survey, and the other, in my charge, to study the geology and the mining industry.

We sailed from Seattle June 2, with pack horses, camp equipment, and provisions for three months, and after four delightful days of travel along the famous "Inside Passage" landing at Skagway. A daytime journey up the mountains, through White Pass, and down the opposite slope, brought us to Whitehorse, where we boarded a river steamer, which brought us to Nenana, at the mouth of Nenana River, on June 16, just two weeks out of Seattle. Under other cir-

cumstances the fledgeling town of Nenana would have held our interest for awhile, for there the work of building the new Government railroad to interior Alaska was just starting, but the urgent demand of our season's work was pulling hard on us, and our hands were full in getting our outfits ready for the trail.

The 55-mile trip over a little-used trail up Nenana River was eventful enough. We had only a badly damaged and leaky boat to cross that swollen and turbulent stream, and for the better part of a day the horses refused to swim the icy torrent. Then, too, in the forested lowlands the mosquitoes surrounded us in clouds. We could protect ourselves with gloves and head nets, but the horses were constantly covered with the insects so that all of them—white, bay, and black—took on the dirty-gray color of the mosquitoes themselves.

We began our surveys at Nenana River, east of the park, and extended them westward over several thousand square miles. The area surveyed includes practically all that part of the park which lies east of Mount McKinley. The part lying west of Mount McKinley we saw only from a distance, but we knew the general character of the country from reports of earlier explorers. Fortunately for the needs of this article, Mr. Giffin was employing the photographic method of topographic mapping, and his equipment included a splendid panoramic camera, with which he took all the panoramas here shown. My own camera, though much smaller, was valuable on account of the speed with which it could be made ready for use in this country, where at any moment a fine chance for a picture showing game might present itself. Our duties as members of the Geological Survey occupied nearly all our energies, so that we had little time to get photographs of game, those which we took being merely snapped incidentally in the course of our work. Certainly we had no better opportunity for game photography than can be found by any other traveler in the same area.

We had spent only a short time in the field when we discovered that the park had been laid out in a most admirable way. It is true that there is fairly abundant big game and much country of great scenic beauty outside the boundaries, but we entered a game paradise and a land of unrivaled scenery when we crossed the park line. Singularly enough, too, when we were once within the high mountains of the park we left behind us most of the mosquitoes, and for a month were almost free from the exasperating attacks of these annoying pests.

When, in the spring, we had first learned of the proposal to establish this park and had plotted its outline on the map we wondered at its curious shape. Once we were on the ground the reason for this shape became evident. The long dimension follows the general course of the Alaska Range from Mount Russell to

Muldrow Glacier, the park including all the main range from its northwest face to and beyond the summit. East of Muldrow Glacier the range widens toward the north and consists of a number of parallel mountain ridges separated by broad, open basins. There, at the headwaters of Toklat and Teklanika Rivers, sheep and caribou range in greatest abundance, and the northern part of the park includes the best of the game country. The reentrant angle in the park line north of Muldrow Glacier was so placed as to exclude the Kantishna mining district and the hunting ground from which the miners obtain their supply of meat. The total area of this great playground is about 2,200 square miles.

In scenic grandeur the stupendous mass of which Mount McKinley is the culminating peak has no rival. The snow line here lies at about 7,000 feet, and above that elevation only a few sharp crags and seemingly perpendicular cliffs are free from the glistening white mantle. From the valley of McKinley Fork, which is at the north base of the mountain and stands at an elevation of only 1,500 feet, the bare rocks of the lower mountains extend upward for about 5,500 feet, and above them Mount McKinley rises in majestic whiteness to a height of 20,000 feet—the loftiest peak on the continent. The upper 13,000 feet of the mountain is clad in glaciers and perpetual snows, thus offering to the mountaineer the highest climb above snow line in the world. The rise of 18,000 feet from the lower end of Peters Glacier, north of the mountain, to the highest peak is made in a distance of only 13 miles. In no other mountain mass did we find so great a vertical ascent in so short a distance. The peaks of the Colorado Rockies, though wonderful, rise from a high plateau, so that at most points from which they can be seen they stand only 7,000, or, at most, 8,000 feet above the observer. Mount St. Elias, an 18,000-foot mountain, may be seen from sea level, but the peak stands 35 miles from the coast, and so loses in height to the eye by the distance from which it must be viewed. Similarly, the high volcanic peaks of Mexico and South America and the world's loftiest mountains in the Himalayas rise from high plateaus which diminish by their own elevation the visible magnitude and towering height of their culminating peaks.

Southwest of Mount McKinley, 15 miles away from it, stands Mount Foraker, only 3,300 feet lower and almost equally imposing. If it stood alone, Mount Foraker would be famous in its own right as a mighty peak, having few equals, but in the presence of its giant neighbor it is reduced to secondary rank. These two dominating peaks, standing side by side and known to the interior natives as Denali and Denali's Wife, far outrank the flanking mountains to the northeast and southwest, among which, however, there are a score

of other peaks that rise to heights between 7,000 and 14,000 feet, well above snow line, and that are the gathering ground for many glaciers.

If the park had been chosen especially for its glaciers, its southeastern boundary would have been placed far enough below the summit line to include the great glaciers that are tributary to the Chulitna and Yentna Rivers. As it is, the park includes only the heads of those magnificent ice streams. There is a striking discrepancy in size between the glaciers of the Mount McKinley district that lie on the Pacific slope and those that drain to Bering Sea. This discrepancy is due in part to the greater width of the range, from summit down to snow line, on its southeastern slope, so that the area from which the glaciers are nourished is much larger on that slope than on the other. This discrepancy is increased by the heavier precipitation on the southeastern slope. Records of the rainfall in the park are not available, but the southeastern slope receives abundant rain and snow, and the climate on the northern slope is comparatively dry.

Of the glaciers that the tourist will visit in the park, the largest and most accessible is Muldrow Glacier. Fed by a number of ice tongues, one of which comes directly from the summit of Mount McKinley, it sweeps northeastward for 27 miles down a deep, well-hidden valley. Twelve miles above its terminus it bends sharply to the north, at a point where it first appears to a traveler along the mountain front. The total length of this glacier is about 39 miles, and its range in elevation is from over 20,000 feet, at the top of McKinley, to about 2,500 feet at its terminus. It is along the upper reaches of Muldrow Glacier that the successful mountain-climbing expeditions have toiled to reach the summit of America's highest mountain.

Southwest of Muldrow Glacier there are at least five ice tongues that reach a length from 10 to 20 miles, and all of them are easily accessible and plainly visible from the Piedmont Plain. Each of the larger valley heads east of Muldrow Glacier harbors a small ice field, and all the rivers that drain the main range within the park are glacier fed and carry large amounts of glacial débris during the summer, when the long, warm days send down floods from the melting ice fields.

Not the least impressive feature of this part of the Alaska Range is the tremendous scale upon which the foundations of the earth are exposed to view. Especially in the valley heads, where vegetation is sparse or lacking, the high mountain ridges, cut by deep valleys, offer impressive sections for the study of the earth's structure. Here great lava flows and volcanic intrusions, in vivid shades of red, purple, brown, and green, will tax the color box of the artist. Masses of sedimentary rocks, first deposited as flat-lying beds, but now

standing vertical or twisted into giant folds, give a hint of the Titan forces that built a mountain range. And near the eastern border of the park, at the Nenana coal field, the traveler can see how nature by her generous placing and preservation of coal within the rocks, makes possible the industrial prosperity of our Nation by furnishing the fuel needed for its manufactures.

The Mount McKinley region now offers a last chance for the people of the United States to preserve, untouched by civilization, a great primeval park in its natural beauty. Historically, this country is new. It was not until 1897 that W. A. Dickey, after having explored in the upper Susitna Basin the previous summer, published a description of Mount McKinley, made his remarkably accurate estimate of 20,000 feet as the height of the mountain, and gave it the name it now bears. In 1898 the first actual survey in the neighborhood of the park was made by George H. Eldridge and Robert Muldrow, of the United States Geological Survey. In 1899 an Army expedition in charge of Joseph S. Herron explored a part of the area near the southwestern boundary of the park. In 1902 the first surveying party that actually reached the vicinity of Mount McKinley was conducted by A. H. Brooks and D. L. Raeburn of the Geological Survey. This party entered the park at its southwest border and traversed it from end to end, bringing out the first authentic information in regard to an unexplored area of many thousand square miles and determining the position, height, and best route of approach to the base of Mount McKinley.

Inspired by the information furnished by the Brooks party, the first attempt to climb this great mountain was made in the summer of 1903 by James Wickersham, now Delegate to Congress from Alaska and sponsor for the pending bill to create this great national park. Judge Wickersham's party succeeded in reaching an elevation of 10,000 feet, but a lack of proper equipment and sufficient provisions prevented them from climbing to the summit. During that same year Dr. Frederick A. Cook, following the route already traversed by Brooks, made two attempts to scale the mountain from the northwest and in one of them succeeded in ascending to a height of about 11,000 feet, to be turned back by impassable cliffs. In 1906 Cook headed a second expedition in an attempt to reach the summit from the Susitna Basin side but apparently failed again to reach the top.

By 1910 the interest in the scaling of this mountain had become so strong that several expeditions were organized for that purpose. The one first on the ground consisted of four Alaskan pioneers and miners—Thomas Lloyd, William Taylor, Pete Anderson, and Charles McGonagall. These men were accustomed to the

hardships of travel in low temperatures but had had little or no experience in alpine work. Ignoring the elaborate preparations and precedents of earlier expeditions, they sledded with dog teams to the base of the mountain in the early spring, and after back-packing provisions for several weeks to successively higher camps, two of them—Anderson and Taylor—gained the summit of the northeast peak and placed a flag there. They chose the northeast peak, although it is a few hundred feet lower than the southwest peak, because they thought a flag on that point would be more plainly visible from the lowland to the north. The ascent of the highest peak was not attempted, although the route to it was said to present no difficulties. So the ultimate goal was still unattained.

That same year two attempts were made to scale the mountain from its south slope, one by C. E. Rust, and the other by a party organized by Prof. Herschel Parker and Belmore Browne. Neither of these expeditions succeeded in finding a practicable route to the summit. A second Parker-Browne expedition was started in 1912 for the purpose of making the climb from the north slope. The party left Seward in January and for many weeks was sledding supplies across the mountain range to a base camp near Muldrow Glacier. They went to the Kantishna mining camp for supplies and did not actually begin their climb until early in June. When they were within a few hundred feet of the top of the mountain a blizzard caused them to retreat. They made a second attempt on July 1, but their progress was barred by cloud and fog and as their food was now gone they were forced to abandon their aim after having so nearly achieved it.

The highest peak remained unconquered until 1913, when on March 17, Archdeacon Hudson Stuck and three companions left the mouth of Nenana River, traveled by the dog sled to the Kantishan district to pick up supplies landed there by boat in the fall of 1912, and proceeded to the basin of Clearwater Fork, at the north base of Mount McKinley. After preparing their own pemmican from wild meat obtained near camp, they began the actual ascent about the middle of April and reached the peak on June 7, 1913. Thus the mountain summit was scaled 17 years after its first adequate description was published.

The history of our existing national parks shows that almost without exception their establishment for the benefit of the public as a whole has resulted in inconvenience to at least a few people who had settled within the park areas, and as a consequence the Federal Government has indemnified the occupants for the loss they sustained. The establishment of this proposed Alaskan park will involve no such expense or inconvenience. To my certain knowledge

there is no permanent habitation in the part of the park that lies east of Mount McKinley. A few log cabins have been built by hunters or trappers, but all these were unoccupied during the summer of 1916. Some of them, however, contained traps and hunting equipment to show that the owners intended to return. If the park is set aside a few trappers may be forced to find new hunting grounds, but the market hunter, who kills game wholesale, in violation of the law, deserves no consideration. So far as could be learned, the whole of the proposed park is thus uninhabited. Even the Indians of the Tanana Valley seldom go to the high mountains to hunt, as they prefer to obtain their meat supply nearer the settlements. Curiously also, there is, so far as I know, not one mining claim within the prescribed area, and what prospecting has been done there seems to hold out rather faint hope to the miner. Just north of Mount McKinley lies the Kantishna mining district, in which active gold placer mining has been carried on continuously since 1905. This district also contains promising though little-developed lodes that carry gold, silver, lead, zinc, and antimony. When gold was discovered in this camp a large number of prospectors came to the region, and many of them carried their search for gold into the park area, yet they discovered no encouraging amounts of the precious metals. The park lines were wisely drawn to exclude the Kantishna mining district, and although the bill for establishing the park allows prospecting and mining within its boundaries, there is no immediate likelihood that active mining will be developed. So far as I could learn, this vast area has no permanent residents.

Between June 25 and July 30 the two Geological Survey parties traversed every important valley in the eastern half of the park, yet in that time we saw not a single human being, white or native, nor any signs that would indicate the recent presence of anyone there. The southwest end of the park is still more remote from any settlements, and it is unlikely that we would have met anyone if we had continued our journey to the southwest line.

As a game refuge the new park includes an area that is unique in this continent, and few regions in the world can vie with it. Many parts of Alaska are famous for big game, and hunters have come half around the world to that territory to obtain trophies of their skill. It has been my good fortune to visit several of the choicest game ranges in Alaska, notably that east of Nenana River, adjacent to the Mount McKinley district, and the much praised White River country. Both these regions are well stocked with game, but for abundant sheep, caribou, and moose over wide areas, neither of them compares with the area within the limits of the new game preserve. The mountains at the head of Toklat and Teklanika Rivers literally swarm with the magnificent white bighorn sheep, which are else-

where extremely wary and difficult to approach, but which in summer are here so little disturbed that they move off only when one comes to close range. A day's travel along one of these valleys will usually afford the casual traveler a view of many bands of sheep. The sheep range on the lower slopes of the mountains, especially in the upper reaches of the streams, near the glaciers at the valley heads, or even in the valley bottoms. I have counted over 300 in a single day's journey of 10 miles along the river bars, and doubtless as many more were unobserved in the tributary valleys beyond my view. From a single point at my tent door one evening I counted nine bands of sheep, containing in all 171 animals. The bighorn sheep prefers the slopes of high, rough mountains for its range, and may be found only in the mountains, within easy reach of rugged crags to which it may retreat for safety from its enemies. Its range, therefore, lies between timber line and the level of perpetual snow. It is difficult to make an accurate estimate of the number of sheep within the new park, but in the part that we visited there are easily 5,000 sheep, and their range extends westward throughout the mountainous portion of the park.

Caribou may be found both in the rolling lowlands and in the higher and rougher ranges, with the sheep; there are, indeed, few places within the park that are not occasionally visited by caribou. We saw old bulls, singly or in twos or threes, as far east as Nenana River. As we traveled westward we found caribou more numerous, and in the headward basins of the forks of Teklanika River few days passed in which we failed to see them, but still only in small bands. On reaching the headwaters of the Toklat we came to the great summer caribou range, from which the animals we had already seen were stragglers.

I remember well my first big day for caribou. The pack train had gone ahead to pitch camp at a prearranged spot near the last spruce timber on the main Toklat, and I was examining the rocks a few miles east of the camping place. Herds of sheep were scattered along the ridges, some feeding on the tender grasses, some sleeping in the sun. I was far above timber line and my view was unobstructed for miles in all directions. With my glass I had already counted half a dozen solitary caribou, all young bulls, grazing among the stunted willows of the stream flats. Soon my attention was attracted by a sight unusual in this district—a frightened caribou bull, which was running from the direction in which my pack train had gone. Soon two yearlings came rushing from the same quarter; then a cow and a young calf in full flight, the cow with tongue out and sides heaving and the calf following closely but in no apparent distress. Then more came, singly or in twos and threes. Soon a lone calf, lost from its mother, passed close to me,

uttering plaintive grunts. As I approached the main river valley from which the frightened animals came, I met the main herd, 25 or more, walking slowly up a narrow gulch a hundred yards from me, and apparently unworried by the presence of strangers on their range. During the next few days I saw more caribou than I dreamed existed in any one locality, including a herd of 200 which was viewed at close range on the Toklat bars.

In the pass between Toklat and Stony Rivers, the two pack trains and eight men stood in the midst of a vast herd, scattered for miles in all directions. We counted with the naked eye over a thousand within half a mile of us, and hundreds of others could be seen too far away for accurate count. In order not to exaggerate, even to ourselves, we estimated the number in sight at one time at 1,500, and I believe that this is an underestimate of the number actually there. Most of them were cows and calves, or yearlings, but there were a few old bulls, conspicuous for their towering horns. During the following week we constantly saw herds of caribou, some of them numbering hundreds. Most of these herds were on the bare gravel bars, where the strong winds afford some relief from the attacks by flies and mosquitoes. Other herds were high on rugged mountain ridges, and several large droves were observed far up on the glaciers, well toward snow line, seeking a little respite from insect pests.

In other parts of Alaska caribou at times appear in huge droves as they migrate from place to place, but they stay only a short time in any one locality. In the Toklat Basin and in the vicinity of Muldrow Glacier, however, the caribou are at home, and they remain there throughout the summer to rear their young. There is abundant indication that this is a permanent range. Deeply worn trails form a veritable labyrinth along the stream flats, and bedding grounds, old and new, occur everywhere. The miners from the Kantishna report that caribou may always be seen in great numbers on this range.

There is a striking difference between the actions of caribou and those of the bighorn sheep when surprised by man. A sheep, once aroused, knows exactly where he wants to go and usually starts, without a moment's hesitation, on the shortest route to some rugged mountain mass. He may stop to look around and appraise the danger, but he is sure to follow the route he first chose. By contrast, the caribou appears a foolish animal; he seems at a loss to decide whether it is necessary to run away at all. Then, when convinced that danger threatens, he has difficulty in making up his mind which way to run. He has sharp eyes for any moving object, but evidently refuses to trust his sight until his nose confirms his sense of danger. I have many times seen a caribou, after he has discovered me at a distance of no more than 100 yards, stand and look, snort, lower his

head half a dozen times, then run wildly off for a short distance, turn back toward me, repeat the same maneuvers, and make several false, zigzag sprints, all within easy gunshot, before he finally ran to leeward, got the man scent, and started off for good in great panic. In this region, with proper caution and a favoring wind, one can almost always approach within 200 yards or less of a band of caribou, even in the open, before they take alarm and move away.

Moose are very plentiful in certain parts of the new park, but are not so commonly seen as sheep and caribou. As their food supply consists of willow and birch twigs and leaves and the succulent roots of water plants, they stay much of the time in timbered and brushy areas, where they are inconspicuous. By nature, too, the moose is a wary animal and permits much less familiarity than the caribou. The best moose country in this region lies in the lowlands north of the main Alaska Range, outside of the boundaries of the proposed park, but some moose were seen within the park lines, and doubtless more of them will take refuge in this game preserve when they are more vigorously hunted in the neighboring regions. It is said that there is an excellent moose range within the park in the area southwest of that which we visited.

There are some black, brown, and grizzly bears in this district, but the bear hunter has a much better chance of obtaining a hide in other parts of Alaska than he has here. All told, only eight bears were seen by the members of the two survey parties during the last summer, and bear sign was so little noted in this region that it can not be considered an especially good bear country.

The park contains good trapping grounds for the fur hunter, and a number of trappers spend part of each winter there. Foxes are plentiful, and an unusually large proportion of the pelts taken are of silver gray or black fox. One trapper told me that in Toklat Basin the winter's catch for a number of years has yielded one silver-gray fox skin for every eight foxes caught, and of the remaining seven several are likely to be good cross fox. We saw a good many foxes and found two dens around which young ones were playing. Lynx are also plentiful, and numerous mink, marten, and ermine have been taken. Beaver were seen in the park, but are exceptionally abundant in the marshy lowlands north of it. On our trip down Bearpaw River, in the fall, while we were on our way to Tanana, we saw everywhere along the banks signs of beaver. Freshly cut cottonwood and willow trees lie along the shores, and the trails used by the beaver to bring sections of trees down the banks were seen at short intervals. Night after night we would hear the sharp splash of the swimming animals as they whacked their tails upon the surface of the stream. Beaver are protected by law until 1920, and under this protection have greatly increased in numbers. In the low-

lands they have so much obstructed all the smaller streams with their dams that foot travel overland is impossible until ice forms.

In order to give the reader an idea of the abundance and variety of game to be seen by the traveler in the Mount McKinley Park, I am showing here a photograph of a page taken from my diary, in which I each day made record of the big game animals I saw. In making my count I was perhaps overmoderate, for if in a trip up a valley I saw 90 sheep, and on my return by the same route I saw the same number I added nothing to my count, presuming that the sheep last seen were the same as those counted earlier in the day. Thus while traveling among herds of animals that were in constant movement from one feeding ground to another I may have failed to make record of many new herds that came into sight because I was not sure they were new herds. The same practice was followed in counting caribou. An examination of that diary or record, which was made from day to day in the field, shows how wisely the park lines were established so as to include the best game ranges. Until July 8 we were outside the park, and although we were in a good game country we saw comparatively few animals on any one day, and on some days none. Our crossing of the park line was coincident with a remarkable increase in the number of animals seen, and afterwards there was a steady succession of days in which game was sighted. The decrease in numbers on July 26, 27, and 28 was due not to a paucity of game in that part of the park but to a violent rainstorm that kept us in camp. Even then we had only one gameless day, for our record was kept almost unbroken by caribou that passed close to our tents on two of the three bad days.

The record also shows to some extent the distribution of moose in this general district. We saw a few in the lowlands outside the northeast corner of the park and some after we had left the reserve, but I myself saw not a single moose while I was within the park lines. I did see a good deal of fresh sign, however, and other members of the survey parties saw moose, but certainly they are less abundant within the park, at least east of Muldrow Glacier than they are in the lowlands between the Alaska Range and the Tanana River.

I have tried to make plain the fact that the area within the proposed national park is a game country without rival in America. That is certainly true to-day, but unless this game refuge is reserved a few years may see these great herds destroyed beyond hope of reestablishment. Even to-day the encroachments of the market hunter are serious. True there are game laws in Alaska, but they are poorly enforced, and many sled loads of wild meat are carried into the towns during the winter. The town of Fairbanks, the largest settlement in the interior, is the destination of most of the

wild meat killed on the north side of the Alaska Range. The mountains just south of Fairbanks and east of Nenana River offered a convenient field for the market hunter, and for years large numbers of mountain sheep were killed there for the Fairbanks market.

Within the last few years, however, the sheep herds in the nearer mountains have become so depleted that the hunter has been forced to go constantly farther from his market, and now finds the most satisfactory hunting ground within the limits of the proposed reserve. I talked with several men who take sheep meat to Fairbanks for sale and one of them estimated that each winter for the last three years from 1,500 to 2,000 sheep have been taken from the basin of Toklat and Teklanika Rivers. Only a part of these reach Fairbanks, for the sled dogs must be fed during the hunt and on the trail, and some hunters leave behind all but the choicest hind quarters. It can be readily seen that slaughter on such a scale can last only a short time until the game here, too, has been nearly exterminated. The sheep, being of choicest flavor, are taken first, but the moose and caribou will not escape after the sheep become harder to get.

Such are the conditions to-day, even in a region so difficult of access. How much more rapidly will the game disappear when the railroad is completed to a point within 15 miles of this game paradise. The establishment of a town at Nenana, where the railroad crosses Tanana River, has even now brought a market for game some 50 miles narer the sheep hills of the Toklet. Already homesteads have been taken up along the railroad, and in a few years this untouched wilderness will hear the sound of the mower and the clatter of railroad trains. If the park is established now, the game can be saved and will remain for other generations to enjoy. If action is postponed a few years, the market hunter and sportsman will have done their work and the game will have gone forever.

Most of the larger streams of the park, heading as they do in glaciers, are heavily charged with glacial débris; they are so muddy that fish will not live in them. All of the smaller tributary creeks that carry clear water, however, are stocked with grayling, and furnish excellent fishing. The grayling, a relative of the trout, is a game fish, rises well to the fly, and affords excellent sport. In texture and flavor it compares well with the trout, and is a welcome addition to the menu of the camper.

As will be seen from the photographs, the new park lies almost entirely above timber line. Trees grow along the valleys of the main streams to an elevation of about 3,000 feet above sea level, but the timbered areas comprise only a small fraction of the whole. The only trees of importance are the spruce, birch, and cottonwood, and none of these are large. The best patches of trees afford logs big enough for making log cabins, but there is no merchantable timber

in the park. Willow brush and some alders grow somewhat farther up the valleys than the trees, and enable the camper to find fuel for his fire in some areas where trees are lacking.

The new park is now difficult to reach. Under the most favorable conditions, after traveling from Seattle by way of Skagway, Whitehorse, and the Yukon and Tanana Rivers, one can start on the trail by pack train two weeks out from Seattle, and, with good luck, can cover the necessary 80 miles of trail to the edge of the park in five days more. By way of Cook Inlet the trip would take equally long and would require a greater number of days of travel by pack train. Either of these routes demands a long trip and elaborate preparation for the pack-train journey and involves an expenditure too great for any but the man of means. Even for a small party with modest equipment—a half dozen horses and the requisite number of camp hands—a trip from Seattle for a month in the park would now cost between $2,000 and $3,000. On the completion of the new Government railroad, now under construction, the park will immediately become accessible. The railroad line runs within 15 miles of the east park line. On leaving Seattle one can then plan to reach Seward or Anchorage within a week, spend a single day on the railroad to the park station, and in another day or two, by saddle horse, penetrate well into the park and into the midst of its game herds.

From the railroad a main artery of travel through the park will surely extend westward beyond the foot of Muldrow Glacier to a point from which the view of Mount McKinley and its associated peaks is unobstructed. A study of the drainage map and the fact that most of the park lies in rugged mountains might suggest that such a route, across all the larger streams and the intervening ridges, would offer great difficulties to the road builder. Our surveys this last summer show, however, that nature has obviated these difficulties in a truly remarkable way. Beginning near Nenana River, a series of low mountain passes, lying in a nearly straight line, extends through the mountains all the way to Mount McKinley. There are nine of these passes each leading from one north-south valley through a mountain ridge to the next basin. The ranges between the streams are high and rugged, but by following this natural route one may pass from valley to valley with intervening climbs of only 250 to 1,000 feet and by gentle gradients. No man-made trails are to be found in this uninhabited region, but the caribou and moose have for ages followed these obvious gateways from one feeding ground to another and have made deeply worn game trails which make travel through them easy. Furthermore, for much of the distance the route lies along the hard, gravelly stream flats and over the river terraces, with safe and agreeable footing for horses. A wagon or automobile road could

thus be constructed from the railroad to the foot of McKinley at comparatively small cost. The solid gravel bars and benches afford a sound roadbed, and over considerable stretches the surface is now in such condition that little or no grading will be necessary. Timber is sparse or entirely lacking, so that little cutting will be required. The passes offer favorable grades and low climbs to the road builder, and at certain crossing places all the streams can be forded by horse or automobile except at periods of unusually high water. For our pack trains we found, ready made, a splendid route straight through the eastern half of the park. With a completed wagon road built from the railway it should be an easy half day's journey of 80 miles by automobile from the railroad to the center of the park, the whole route traversing mountains of wonderful scenic beauty and teeming with big game.

At the western terminus of the wagon road there will some day be a hotel for the accommodation of tourists and mountain climbers. There, below the terminus of Muldrow Glacier, in constant view of the mighty snow-clad monarchs to the south, one will be able to find complete rest in the grandest of natural surroundings, or will have close at hand tasks of mountain climbing that will tax the resources of the sturdiest. Few regions offer the inducements to the mountaineer that can be found here. The highest point of Mount McKinley, the lord of the range, has been scaled but once, and only one route on that vast ice dome has been explored. Scarcely less credit will be given to other intrepid climbers who complete the exploration of this mountain than to the party that first reached the peak. For those to whom only first ascents offer sufficient lure there still remain great numbers of unscaled and even unnamed peaks of the first magnitude. Mount Foraker, only less majestic than McKinley and 17,000 feet in elevation, is still unconquered, and associated with Foraker and McKinley there are many peaks that rise from 4,000 to 8,000 feet above the line of perpetual snow. All this great group of noble mountains, until now so remote as to be impossible of attack except by elaborately prepared expeditions, will be easily accessible to even the modestly equipped explorer. This region is peculiar in that its grandest peaks lie close to the northern flank of the range. The main highway of travel through the park will pass within 20 or 30 miles of the highest mountains. Thus that bugbear of the climber in so many regions—the task of getting within striking distance of his chosen peak—is here a matter of no great difficulty.

So much for the park itself, its marvelous advantages as a national reserve, its unequaled scenic beauty, and its abundance of big game. I have tried to tell something of what is there for the

people of the United States, to be had merely for the taking. The question may be asked, "How necessary is it that this park should be reserved immediately, rather than at some indefinite date in the future? Is there any danger that the park will not keep, even if not reserved?" The answer is plain and admits of no argument. The scenery will keep indefinitely, but the game will not, and it must be protected soon or it will have been destroyed. The Government railroad from Seward, on the coast, to Fairbanks, in the interior, will be completed in three or four years. The abundance of game in the Mount McKinley region may be attributed to the naturally favorable conditions existing there and the remoteness of the region from large settlements. Let me repeat that already the market hunters have depleted the game on the nearer mountains and now journey to this country every winter to obtain meat for the people of Fairbanks. They have already made inroads on the abundant supply of game in parts of this area, and the effects of their slaughter will be cumulative even if they can find no other market. With the extension of railroad travel to a point only 15 miles from the park lines, however, the beginning of the end for the big game herds will be in sight.

The agricultural possibilities of the fertile valleys in this region will bring to it great numbers of settlers, all of whom will need meat. The development of mines in the great Nenana coal fields will establish an industrial center and a good market for game within a day's walk of the proposed park. Big game hunters in all parts of the world only await the day when the railroad shall have placed this great hunting ground within their easy reach. Unless the park is established it will not be five years after the first train passes along Nenana Valley before the district will have lost a great part of its value as a game refuge in which the people can study the great droves of sheep and caribou in their undisturbed, natural environment. The flocks of sheep will be greatly thinned, and the survivors, frightened and suspicious of man, will have retreated to rugged and inaccessible crags where few will care to follow them. And the caribou, now unafraid and frankly curious of man, will hurry out of sight at the first hint of the presence of his archenemy. If this area is to be made a park, why postpone action until it is too late? Never was there a more obvious necessity for an imperative "Do it now."

Considered as a purely business measure, without taking account of the æsthetic value of such a permanent national reserve in its influence on the development of the American people, the Mount McKinley National Park will be a tremendous financial asset to the Territory of Alaska and to the United States as a whole. Prodigal as nature has been in endowing us with unrivaled scenery, we have

until recent years been blind to the money value of this resource. Other nations not so blessed with fertile soils, vast forests, and mines of almost fabulous value have widely advertised their natural beauties in a way to attract the tourist, so that for years American travelers have spent abroad millions of dollars that might have yielded them no less pleasure if they had spent it in seeing America first. The good roads, well-equipped hotels, and beautiful mountains of the Swiss and Italian Alps attract the traveler like a magnet. Even our nearer neighbor on the North, by judicious advertising and careful attention to the comfort of the traveler, attracts great numbers of our people to her western mountains. If the United States wishes to share in the profits of the tourist business it may readily do so, for any well-chosen expenditure made in building good roads and hotels in our national parks will return large dividends, not only in dollars and cents, but in the health, enjoyment, and education of our people. And the traveling public will soon learn that one of the grandest of our parks, one of those most worth visiting, is that which, let us hope, is soon to be established in the Mount McKinley region.

If I were asked to plan a trip for a friend who wished to learn at first hand in a vacation of a few weeks as much as possible about our Alaskan possessions I would not hesitate to suggest the following route, assuming that the new Government railroad had been completed and the new national park established and made available for tourists by the construction of the necessary roads and hotels. Starting at one of the cities on Puget Sound the traveler will go by ocean steamship northwestward along the smooth and matchless "Inside Passage" to Skagway, stopping on the way to see the thriving town of Ketchikan, the totem poles and native houses at Wrangell and Old Kasaan, the picturesque village of Sitka, and the wonderful mines at Juneau and on Douglas Island. From Skagway to Whitehorse an eight-hour trip by rail takes the traveler across the summit of the coastal mountains to the head of river navigation in the Yukon Basin. There comfortable river steamers start on the 1,360-mile trip to Nenana, down Lewes and Yukon Rivers, in the Canadian northwest, past Dawson, the scene of the famous Klondike gold rush, and through the frontier settlements of Circle, Eagle, Fort Yukon, and Rampart.

At the town of Tanana the route leaves the Yukon to ascend its largest tributary, the Tanana, to Nenana, where the new railroad will cross Nenana River on its way to Fairbanks. A side trip, either by rail or river, to Fairbanks, the center of a great gold-mining industry, will well repay the traveler. From Fairbanks or Nenana only a short railroad journey will be necessary to reach the Mount McKinley National Park, where the traveler may profitably spend

as much time as he can spare. On leaving the park he takes the railroad through Broad Pass and down Chulitna and Susitna Rivers to Cook Inlet, a route always within sight of snow-clad mountain ranges and passing through an area of great agricultural promise. On arriving at Anchorage, on Cook Inlet, he has another choice of routes. He may go either by water down the inlet or by rail through the Kenai Mountains to Seward, there to take ship along the coast and through Prince William Sound, with stops at Valdez and Cordova, past the wonderful glaciers and peaks of the coastal range and within sight of Mount St. Elias and Mount Fairweather, to sail again into the smooth waters of the "Inside Passage" at Icy Straits and return over the outgoing route to Seattle or Tacoma. Can you think of any more delightful way in which to spend your summer vacation?

FRIDAY, JANUARY 5, MORNING SESSION.

THE QUESTION BOX.

The Friday morning session was convened at 9.30 o'clock, with Hon. Stephen P. Mather, Assistant to the Secretary of the Interior, presiding.

THE PRESIDING OFFICER, MR. MATHER.

I see we have not a very large attendance this morning, possibly due to weather conditions, and of course this morning the talks are to be more or less of a desultory nature. A number of interesting questions have come in, answers to which I shall probably call for from a number who are particularly posted on the various points that have been raised.

I see a question here in regard to the Glacier National Park—"When will the west side of the Glacier National Park be opened up?" I presume that question is an outcome of the fact that most of the development has been on the east side. All the great development by the Great Northern Railroad has been upon the east side of the park. All the St. Mary Lake country, Lake McDermott, Two Medicine Lake, and the interesting points that can be reached from those lakes have been pretty fairly developed. Probably the best of the whole system has been worked out on the east side.

At the same time there is a wonderful possibility on the west side of Glacier Park. Lake McDonald lies just a few miles from Belton, which is the western gateway of the park, and our own administrative village is on the shores of Lake McDonald. Lake McDonald is a very beautiful body of water, some 10 miles long, and is at the present time very accessible. The Government has a good road

for a short distance from Belton to the foot of the lake, and there motor boats take the passengers to the upper end of the lake, where the hotel is located, a very comfortable hostelry from which trips can be made over to the east side by way of the Sperry Glacier and Gunsight Pass or by way of McDonald Valley and Swiftcurrent Pass.

But that does not begin to touch the real west side of Glacier Park. Bowman Lake, Kintla Lake, and a number of other beautiful lakes are located in the northwest section of the park, and all of them are practically inaccessible at the present time. We have a number of plans in the department to make at least a beginning on the west. One of the first steps in that direction is to have a suitable bridge across the Flathead River, just opposite Belton, and then to move our administrative village down to the point just across the river from Belton. We have had some interesting plans prepared for this village—the administrative building, the supervisor's residence and the other necessary structures, as well as an attractive entrance gateway.

One trouble in connection with the immediate development at the entrance has been the fact that the land has been almost entirely in private holdings; but we have assurances of receiving some 320 acres of the land that lies directly on the park side of the river, besides a strip of the timber along the road that follows this strip of land, so that the Government will come into control practically of all the land between the Flathead River and the foot of Lake McDonald. With that as an opening step, if Congress thinks it advisable to give us the funds for this administrative village and the construction of the bridge, I think we will have the beginning of a very interesting development on that side of Glacier Park.

To show the interest that is being taken by the local communities, I would say that the county commissioners of that particular county have contributed $10,000 toward the construction of the bridge, and the citizens of Kalispell have contributed another $5,000; so that Congress, when it comes to consider the appropriations for Glacier Park, at least will see that the local people are willing to back up their sentimental interests with dollars and cents.

We have a plan to construct a road along the shore of Lake McDonald to the upper end of the lake that should be the beginning of a road ultimately up to the northern end of the park and to the international boundary line, which should put us in touch directly with the Canadian national park which is located just opposite the Glacier Park. It would thus be the means of opening up a very large portion of Glacier Park. I feel sure it will come later on. We are bound to have that interesting country on the west side opened up.

I find a question here as to whether we could not have a national park near Washington. Mr. Quick touched on that to a moderate

extent the other day, and I noticed that it met with an immediate response. There is a gentleman here with us who has thought considerably upon the possibility of a national park near Washington; possibly not in the section that Mr. Quick referred to, between Baltimore and Washington, for I think his ideas are in connection with a park up the Potomac River. I am going to ask Mr. A. B. Casselman, of the city of Washington, to say something to us from his standpoint.

Mr. Amos B. Casselman.

The Government of the United States for some years past has been planning to develop the water power of the Great Falls of the Potomac, and in connection therewith to provide increase in the water supply of the city; coupling together these two projects, of water supply and water power; and it is recognized that some plan for the purpose must be adopted before many years. Development of water power, for the use of the city, and Government, is not an urgent or immediate necessity, and might be long postponed, or dispensed with. But increase in the water supply of the city will become necessary in the near future. So, it is evident that the present is a proper time to consider the subject as one of deep interest to the people of this city, and especially in its relation to the subject of park extension, for the National Capital, for it has an obvious relation to that subject.

A few years ago I gave some study to questions that have some relation to this subject—questions arising from the act of retrocession of 1846, by which the United States gave back to Virginia the whole of Alexandria County; and the feasibility of regaining some part of that territory to the United States, or embracing it in a riverside park, and heretofore I have made the suggestion that in connection with this necessary work that is being planned by the Government there ought to be created a national riverside park, extending from this city to the Great Falls, and embracing both banks of the Potomac; and no doubt all will agree that such a park is much to be desired; especially in view of the Government's interests and property rights, in this region, as part owner of the Great Falls, owner of the Conduit Road, leading from this city to the Great Falls, and the recognized necessity of acquiring additional riverside territory in connection with the proposed water power development.

There are many reasons that might be urged in favor of such a park—reasons unnecessary to elaborate at length. President Taft at one time sought to secure legislation that would restore to the District of Columbia some part of Alexandria County. He gave that up; but in his annual message to Congress, in 1910, he recom-

mended creating a palisades park on the Virginia side of the Potomac, extending from the railroad bridge to the county line at the Little Falls. Ambassador Bryce also, in a notable address on the subject of Washington City, made some suggestions, and among others that there ought to be a roadway along the crest of the Virginia hills that border and overlook the Potomac, with steps for the preservation of the forest growth that covers these neighboring hills. My suggestion goes further than the recommendation of President Taft. If there is to be a park on the riverside it ought not to stop at the Little Falls. It ought to be a national park, extending to the Great Falls and including territory on both sides of the river.

The river region from this city to the Great Falls is one of unusual scenic features which make it peculiarly suited to become a great natural park, located as it is in such proximity to the National Capital. It would be difficult to find a counterpart for this picturesque region. There is nothing like it in proximity to any other great American city. Ambassador Bryce, in his address, said: "No European city has so noble a cataract in its vicinity as the Great Falls of the Potomac," and that it "would be almost an ingratitude to Providence and to history and to the men who planted the city here if you did not use the advantages that you here enjoy." And since the Government in the near future will be compelled to enter upon some plan of developing the water power or water supply of the river, at great expense, an expense of $15,000,000, according to the estimates of the engineers, it ought to include in its plans the preservation of the scenic features of this picturesque region and create here at the Capital a national riverside park.

The latest plan of the engineers provides for a lake above the city, to be created by the construction of a high dam at the Little Falls, the lake thus created extending a distance of 9 or 10 miles to the foot of the Great Falls, and submerging an area of about 3,000 acres, to be acquired by the Government at an estimated cost of $1,500,000.

The Government is not committed to the plan for a lake or to any of the several plans that have been suggested. Opinions may differ as to the advisability of the plan for a great artificial lake and dam just above the city. But whatever plan may be adopted it should include provision for the preservation of the scenic features of that region and its inclusion in the parking system of the Capital.

In any plan for a park at the Great Falls, a necessary feature would be a bridge spanning the river at that point. There ought to be a bridge there in any event, to accommodate the many visitors and sight-seers who are attracted to the place by its scenic and historic character. There are electric railroads from this city to the

Falls, on both sides of the river. But there is no means of crossing except in a rowboat, when the stage of the water will permit of that method of crossing. If there were a bridge at the falls connecting with the Conduit Road on this side, and the Leesburg Pike on the opposite side of the river, the route from this city soon would become a popular and famous driveway for automobiles; every automobile tourist, visiting the city from distant points, would include the Great Falls as one of the points of interest to be visited. The bridge and connecting boulevards would bring the falls into closer relations with this city, as well as with Mount Vernon with which it is united in historic association. The great man who lies buried at Mount Vernon is associated in history with the Great Falls, by his having engineered the cutting of the canals around the Great and Little Falls, the first canals ever dug in the United States. They give to the place an historic interest. Gen. Washington, I believe, manifested a deeper interest in this project to circumnavigate the falls by means of a canal, and thus make the upper Potomac an important waterway than in any other civic enterprise, except only the location and planning of the National Capital.

The plans of the engineers for developing water power have in view only a practical commercial object. It is no part of their plans to provide for a park in connection with the power development. That is beyond the scope of their instructions. Whether there is to be a great riverside national park, as a feature of this proposed development, will depend on the degree of public interest manifested. For if there is a lack of public interest or of public desire for such a park it can not be expected that Congress will originate measures and make the large appropriations necessary for the purpose.

Some of the great parks of this country owe their existence to private initiative and private philanthropy. Many instances could be cited. Shaw's Garden at St. Louis, one of the beautiful parks of that city, is, I believe, the gift of a gentleman whose name it bears. A great and beautiful park within the city of Cleveland is the gift of Mr. Rockefeller. In the New York Times of January 7 it is stated that John D. Rockefeller, jr., will soon present to New York City a tract of 57 acres within that city to form a part of the second largest park in the city, and for which he paid $5,000,000.

A recent and notable instance of a great park created in part by private philanthropy in cooperation with the State is that of the Interstate Palisades Park on the Hudson above New York City, embracing territory in the two States of New York and New Jersey. Many unsuccessful efforts had been made to secure cooperative action and legislation by the two States to create a riverside park that would preserve the palisades that were being defaced by the opera-

tion of the quarries. But it required private initiative and private philanthropy to inaugurate a successful movement for the purpose. Pierpont Morgan was the first to make a donation of $125,000, afterwards increasing it to $500,000, for the purpose. It was proposed, finally, that the wealthy men and women interested should raise a fund of $2,500,000, on condition that the State of New York should appropriate a like sum and the State of New Jersey a proportionate sum for the purpose, and this was done. Mrs. Harriman contributed a million dollars and 10,000 acres of land, Mr. Rockefeller $500,000, and a number of others $50,000 each, including Mrs. Russell Sage, Mr. Munsey, Mr. George W. Perkins, and others. The creation of such a park was of course the work of several years. A joint park commission was created by the two States in 1900, and the park was formally opened to the public nine years later—in 1909.

In an editorial in the New York Sun, just before the late election, urging an affirmative vote on a proposed appropriation of $10,000,000 for park purposes in the State, allusion is made especially to the Palisades Park and its great benefits to the people of New York. In this editorial it is stated that during the summer of 1916, a million and half persons visited the park, and that at once place 5,000 boy scouts enjoyed the camping privileges of the park.

It will be seen readily why I allude especially to this Palisades Park, on the Hudson, and to the methods that were adopted as necessary to secure it, by enlisting the aid and support of wealthy philanthropists of New York and New Jersey.

It is because the conditions here, not very unlike those at New York, invite similar methods and similar appeals to philanthropy to secure a national riverside park here on the Potomac, embracing territory in the neighboring States of Virginia and Maryland, embracing the rare scenery of the Great Falls; a park that in the years to come, when fully developed, will add to the fame and beauty of the parking system of the capital.

In recent years there has developed a growing interest in Washington City as a beautiful capital and a desire and purpose to make it one of the most beautiful in the world; and this interest is not merely local. It is felt and manifested throughout the country and finds expression almost daily on the part of citizens and societies representing all sections of the country; and there is no reason to doubt that the methods that were adopted, and that enlisted the support of wealthy philanthropists in securing the Palisades Park at New York could be adopted here with equal success. What was accomplished there in a large way could be repeated here in a smaller way, for no great or large philanthropy would be necessary for the purpose here—nothing like the great amount secured at New York.

One specific suggestion I have made is that funds might be contributed to put a bridge at the Great Falls. That would seem an appropriate and effective means of inaugurating a movement for the purpose. A bridge there, with connecting boulevards and driveways and bridle paths would reveal and familiarize and make accessible many of the hidden beauties of that picturesque region that are now virtually inaccessible. I make this suggestion only because as a comparatively small philanthropy it would seem the most appropriate means of centering and crystallizing popular and official sentiment in favor of a park.

The suggestion for philanthropic initiative to secure a national park here at the capital is made because it is evident that a successful movement for the purpose can not be inaugurated in any other way.

The purpose of the Government some day, in some way, to develop the water power of the river has been under discussion, intermittently, for many years. As long ago as 1898 a Senate committee recommended the immediate acquisition of the sole ownership of the Great Falls. Ten years later, in 1908, plans of development were suggested by the officials under instructions of the District Commissioners. In 1913 Congress directed surveys and a report which were made by Col. Langfitt, who recommended the plans, already referred to, for a high dam and lake above the Little Falls. Within the past few months a board of Army engineers, designated by Secretary Baker, has given a qualified approval to the Langfitt plans, but recommended that the matter should be made the subject of further thorough study. So nothing has been decided, and the one thing that is clear is that the Government is not ready at this time to take any important action or adopt or commit itself to any definite plan of development.

And hence the conclusion that if there is to be any action in the near future toward securing a national park here, as suggested, it must be from individual effort on the part of the people who are interested in the welfare of the city, and not from any initiative that can be expected from the Government.

There are in this city, and elsewhere among those who are interested in its growth and development, social and financial leaders who, if they would consent to actively interest themselves in a movement for the purpose, could quickly secure the voluntary contribution of funds necessary; and with such initiative there is no doubt the Government would respond and cooperate and hasten its plans in the adoption of measures necessary for the purpose.

There is no better way, and perhaps no other way, to enlist the support of the Government and hasten its plans than through private philanthropy on the part of those who are capable of initiating a movement in that manner. There is a rare opportunity for a

comparatively small philanthropy to inaugurate a great movement, one that will enlist both popular and governmental support and result in creating a great park for the Capital.

Summarizing briefly my suggestions, the main proposition, that there ought to be here a national riverside park embracing the beautiful and picturesque scenery of the Great Falls and the riverside, would seem to require no argument. To those who are familiar with this region it makes its own eloquent appeal.

So the question is not whether we should have such a park, but whether there is any feasible plan by which it can be secured. It can not be secured by waiting and relying on Congress to provide for it. The people of Washington have been waiting 25 years for the proposed memorial bridge, and must still wait no one knows how many years longer.

I do not say this in criticism of the Government or of Congress. Everyone knows how impossible it is for Congress to do all that its Members would like to do or feel ought to be done. Appropriations for urgent and necessary purposes and for improvements more or less necessary throughout the wide domain of the United States pile up and exceed the revenues, and it is said that at this time the Government is confronted or threatened with a deficit of $300,000,000, and I suppose Congress is studying to devise new methods of taxation to meet this deficit. Under these conditions it would be idle to ask or expect any large appropriation for a bridge or a park.

But there are some things that can be done by the people here without waiting on Congress. Put a bridge at the Great Falls, or inaugurate some other philanthropy designed to initiate a movement for a great national park and Congress will follow that lead, and by this means you can enlist the support of the Government. An association formed for the purpose, a Great Falls national park association, could do many things. It could cause surveys to be made with maps and illustrations showing the area and outlines of the territory available and suitable for the purpose. It could, I have no doubt, secure from Congress an appropriation of the small amount sufficient for such survey. It could, above all, insure united effort and enlist the support of all who are interested, which would mean all the people of Washington, and a great many elsewhere.

Aside from other considerations, the parking system of the capital ought to extend to the Virginia side of the river, opposite the city, and embrace territory in what was intended to be and was originally a part of the seat of Government. Incidentally, it is interesting to note that there is an area of at least five or six hundred acres of shallow river bed between this city and Alexandria, on the Virginia side, beyond the deep channel, that can be and probably at some future time will be reclaimed, filled in, and included in the parking system

of the city. As part of the river bed, it belongs to the United States. A portion now between Analostan Island and the railroad bridge is being partitioned off by a wall that separates it from the deep channel and will be filled in and reclaimed from the river bed. A much larger area that can be thus reclaimed lies below the bridge, on the Virginia side.

The growth and transformation of this city since Alexandria County was given back to Virginia in 1846 have been marvelous and wholly beyond the conception of the men of that day. No doubt the developments of the next 70 years will be equally great—perhaps beyond what we of to-day could anticipate.

It will not be very many decades until the city will have a million population, when it will be too late to acquire territory for a riverside park or preserve the forest growth that now covers and beautifies these neighboring Virginia hills. The time to do that is now, when the Government is planning to acquire territory necessary for water-power purposes. Nor is there much time for delay, for that portion of Virginia immediately opposite the city is being built up and utilized rapidly for residential and other private uses. And if the people of this day have that regard which each generation should have for those who are to come after they will initiate measures that ultimately will secure for this capital a great park, national in character, embracing and preserving the rare natural scenery of the riverside and the Great Falls, a park for the recreation of the teeming millions of future generations, with boathouses and bridges and ferries, bridle paths and camping grounds, a park for the multitude worthy of a great capital.

Mr. Horace M. Albright, Assistant Attorney of the Department of the Interior, had assumed the chair.

THE PRESIDING OFFICER, MR. ALBRIGHT.

We will pass on to another question: "Can tourists reach the Waterwheel Falls in the Tuolumne Canyon?" I will ask Mr. W. B. Lewis, the supervisor of the Yosemite, to answer that question, if he is here. Mr. Lewis.

MR. W. B. LEWIS, SUPERVISOR OF THE YOSEMITE NATIONAL PARK.

Mr. Chairman, ladies, and gentlemen: I am glad this question has been asked, because one of the speakers—I have forgotten now just which one, but I believe he was Mr. Gleason—the other day made the remark that up to the present time it was impossible to reach the Waterwheel Falls of the Tuolumne River Canyon. That was true probably at the time Mr. Gleason was in the park and took those beautiful pictures, but during the past season we have built a trail

some 4 miles in length from the White Cascades in the Tuolumne Canyon to the top of the Waterwheel Falls. Unfortunately, we ran out of funds and were unable to continue the trail down the canyon past the Waterwheel Falls to Return Creek, which marks the lower end of the long cascades of which the Waterwheel Falls form a part. This will undoubtedly be done in the near future.

As to the question in general of the Waterwheel Falls, I would like to add that among the possible developments in the Yosemite National Park is the construction of a trail through the entire Tuolumne Canyon. This will connect Soda Springs, Tenaya Lake, and the White Cascades through the entire Tuolumne Canyon with Hetch Hetchy. It will open up a part of the park which heretofore has been practically inaccessible.

The Tuolumne Canyon, I think, has been brought to the attention of the public more through the efforts of the Sierra Club than any other agency. In their many sojourns in the park they have noted the wonders of the canyon and have passed the news to the world. It is a canyon, as has already been said I believe by Mr. Gleason, from 4,000 to 5,000 feet in depth, with a width of 4 to 5 miles. In a sense it rivals the Grand Canyon of the Colorado. It, however, lacks the wonderful color of the canyon of the Colorado, but nevertheless presents a ruggedness that is almost incomparable in mountain scenery.

So the question is answered as to the accessibility of the Waterwheel Falls of the Tuolumne Canyon. They can be reached, and on horseback, and a very delightful trip it is. The falls are accessible either from Tenaya Lake or from the Soda Springs. In either case it is a distance of about 12 miles.

Just one or two words more regarding conditions in the Yosemite in general and its future prospects. I believe I can say with accuracy that the Yosemite this year is the only one of the large western national parks the travel to which has shown an increase over the previous year. In 1914 the travel to the Yosemite was between 15,000 and 16,000. In 1915 it reached 31,600. It was to the exposition at San Francisco that this great increase in travel was attributed. However, in 1916 the travel rose to a little over 33,000 people, an increase of nearly 2,000 over that of 1915.

Now, this is important because it shows that the popularity of the Yosemite is increasing and increasing in the minds of the local people. Nearly 15,000 of these people who came in during the season of 1916, in other words about 45 per cent of the total travel to the Yosemite, came in private automobiles—and those who have been in the Yosemite know something of what this means at the present time. Over 4,000 cars came in over roads that could not be called boulevards.

The topography of the park necessarily divides it into two regions, the northern part and the southern part. The southern part includes the famous Yosemite Valley, which nearly everybody knows, and is accessible by the two main roads coming into the park, the Big Oak Flat Road and the Wanona Road, which reach altitudes of 7,200 feet and 6,300 feet respectively. These roads were at one time merely wagon trails, but they have been gradually improved to such an extent that automobiles can pass over them with comparative safety.

The northern part of the park is accessible from the Tioga Road, which was opened in the season of 1915. There also some money has been expended, and the road is passable. It is not particularly good, but the scenery, I think, fully warrants the trip. We hope in the coming year to have sufficient money to put on that road to make it more of an automobile road than it now is, and to make the trip even more enjoyable than it is at the present time. In about two years we expect to see a State highway into Yosemite, the extension of the road already under construction. From the San Joaquin Valley to Mariposa the road has been practically completed and will be extended within the next two years to connect with our road at El Portal. The highest point on this road outside of the park will be only 2,900 feet, thus giving to the park an all-year route, one on which snow will rarely fall.

I do not think I am overoptimistic in saying that we can expect, after the opening of that road, from fifteen to twenty thousand automobiles a year, which would mean from fifty to sixty thousand people a year from automobiles alone. It will put the Yosemite within about three or four hours of the San Joaquin Valley, and about eight hours by motor from San Francisco; so that the plans already in view—and we have every assurance that these propositions will be carried out—make the outlook for Yosemite very bright in the near future.

Another detail is the construction or rather reconstruction of the El Portal Road, which extends from the valley to El Portal, the terminus of the railroad, about a mile outside of the park. This road is now under construction, and some $30,000 is being spent on it this year. We are putting there a 20-foot highway with a maximum of 6 per cent grade. It is will be a very inviting road to automobiles. The Government is also building a power plant with a capacity of 2,000 kilowatts. This will furnish electricity for power, light, and heat to the various hotels and camps in the valley, as well as to the Government for its own work. As you all realize, accommodations are probably the primary thing in handling the visitors to any park. A hotel has already been constructed at Glacier Point of some 75 rooms, a beautiful hostelry which I am sure will attract the attention of everybody who comes to the Yosemite. On the floor of

the valley the foundations are laid for a new hotel of about 125 rooms which will cost, furnished and complete, about $150,000.

So, as I say, the outlook for Yosemite seems bright. I thank you.

THE PRESIDING OFFICER, MR. ALBRIGHT.

Returning to the questions, the following has been submitted: "How can we best interest the East in the Far Western national parks?"

I do not know of anyone better qualified to discuss that question than Mr. Allen Chamberlain, of Boston. Mr. Chamberlain is one of the most devoted of our national parks friends. He has been for years interested in the parks, and has always been ready to lend a helping hand where he could. He has written about them; he has talked about them; and he is always thinking about them. I will introduce Mr. Allen Chamberlain to you. He has been here every day during the session. I do not know of anyone who has been more faithful in his attendance. And he is here this morning. Mr. Chamberlain, will you give us a few words, please?

MR. ALLEN CHAMBERLAIN.

Mr. Chairman, ladies and gentlemen, it will not take many words to answer that question so far as I am concerned. My answer, however, can not be expected to furnish a full solution of what is a very real problem. The easterner wants to see the national parks just as keenly as does the man from any other part of the country. But "money talks" in this as in so many other matters of general interest and importance. The cost factor is the kill-joy for the easterner who looks parkward. If I may indulge in a bit of free advertising, which, I believe, is supposed to be a feature of the science of "conventioneering," at least so far as that science is applicable to the conduct of delegates to conventions, I will suggest that those easterners who are really desirous of enjoying a trip to the national parks this summer, should get into contact with the Massachusetts Forestry Association, with which I am associated. That association is arranging a two months' public tour of the national parks, and of some of the national forests, that will be very comprehensive. A still more personal reference, and a closer application of that science of "conventioneering" would lead me to suggest that easterners read this week's Saturday issue of the Boston Evening Transcript, a whole page of which will be devoted to national parks, indicating a number of possible trips for independent touring. Thanks to the generosity of Mr. Mather and the National Park Service, that article will be illustrated by a number of extremely beautiful pictures for the entertainment and education of those who do not have time to

read two or three columns of text. Here, then, are two ways in which one part of the East is doing its best to develop the touring traffic from that section to the national parks.

It should not be overlooked, however, that the East has some pretty good scenery of its own that can be reached without the extreme expenditure of cash which is necessary when we go across the continent. The New England States, for example, at the present time, are trying, through the agency of certain organizations, such as walking clubs and mountaineering and forestry societies, to organize and coordinate those bits of reserved scenery that the several States in that group possess to-day. Those public playgrounds amount to several thousand acres at the present time, including the nucleus of a growing national forest in the White Mountains, several State scenic reservations and State forests, scattered through Maine, New Hampshire, Vermont, Massachusetts, and Connecticut. The aim is to develop a trail system that will connect the major portions of those bits of reserved scenery and of economic forests, by a trail system that will lead, eventually, we trust, from the interstate park system of New Jersey and New York across the highlands of New England to Mount Katahdin in central Maine. It would begin in the Palisades of the Hudson, cross eastern New York by way of the Fishkill Mountains, lead through the highlands of northwestern Connecticut into the Taconic Range and the Berkshire Hills of Massachusetts, thence into Vermont, where it would join an existing trail, which runs for the better part of 300 miles (fully half of which has already been improved and marked), along the ridge of the Green Mountains to the Canadian border. In various parts of New Hampshire there are many miles of most attractive and well-marked trails, with camps attached, all constructed for the benefit of the tramping element of the touring public. New England is trying very hard to develop its own scenery, and in such a manner that it will be accessible to those who, for one reason or another, may not cross the continent to the national parks. To that extent one eastern section may be regarded as competing with the national parks for tourist travel. We admit that the national parks are bigger and finer, but we are not jealous of them. We are proud to think that the country has been wise enough to create them.

The factor of railroad rates is, of course, a controlling one with many, and if the national parks are to be seen in the future by a great number of people from the Eastern States, some arrangement must be made with the transportation companies for special rates. The prejudice of the public in favor of standard sleeping cars is sometimes difficult to understand. If people really want to see great things and are willing to go at some small sacrifice of luxury, though

at no hardship, why will they not patronize the less expensive accommodations which are even now available? I believe that it is because they are not encouraged to use the economical facilities. When the transportation companies want to increase the summer travel to the national parks from the East they will stimulate an interest in tourist sleeping cars, with their somewhat reduced rates, and the possibility for provisioning one's self en route.

Other things which can be done to stimulate an interest in the East for the western national parks have been alluded to in earlier sessions of this conference, particularly by Mr. Yard in his plea for further funds to enable the Park Service to advertise the properties under its jurisdiction. Collections of the most seductive photographs have been organized by the Park Service and sent on a round of public libraries all over the country. I think, Mr. Chairman, that we ought to be persistent in that campaign of publicity, showing constantly from city to city, and not omitting smaller places, all these superb photographs which will help to advertise the parks. The publicity that the papers are bound to give to such exhibitions will help. The films which it is hoped the Government will be able to provide will also help tremendously. It might well be regarded as a duty that the Government owes to those who can not visit the parks to give them at least the enjoyment that comes through viewing these pictorial reproductions.

The East is much interested in the parks, although they are so very far away, and few of us can ever hope to get to them. But I am still earnestly in hopes that between the Government and the transportation companies we shall in the near future make it possible for a greater number to go there, through concessions in transportation charges. I have been surprised oftentimes, in the course of my own visits to the western parks, to note the really considerable number of easterners met upon the trails or on the railroads headed toward one or another of the parks. It seems to me that easterners have not been slow in showing their appreciation of the national parks. We hope that more of our people will visit the parks, that they may be inspired with enthusiasm, on going home, to help in developing the recreational possibilities of our competing scenery in the East.

THE PRESIDING OFFICER, MR. ALBRIGHT.

Mr. Chamberlain has answered the question very fully and completely, but I want to emphasize again that one who is helping us as much as anyone in the advertising of the parks through the newspapers is Mr. Chamberlain himself. We appreciate thoroughly all that he is doing.

I have before me a question concerning the creation of a national park to include Pikes Peak, Colo. As that proposition, when it develops, will come to the Department of the Interior through Congress, I shall ask Hon. Charles B. Timberlake, Congressman from Colorado and member of the Public Lands Committee to speak on the subject.

Representative Charles B. Timberlake of Colorado.

THE PROPOSED PIKES PEAK NATIONAL PARK.

The proposal to create a Pikes Peak national park is merely a proposal to give governmental sanction to the popular verdict that the Pikes Peak region is "America's scenic playground." Pikes Peak is beyond doubt America's most famous mountain; its name is indelibly woven into romance, history, and development of the West. and for more than a century since its discovery in 1806 by Lieut. Zebulon Montgomery Pike it has stood as the "Sentinel of the Rockies"—nature's fitting monument to mark the meeting of mountain and plain.

Within a radius of a dozen miles of the summit of Pikes Peak is a greater variety of wonderful scenery, more easily accessible, than in any other equal area on the American continent. This statement, oft repeated, has never met with successful contradiction. Granite gorges, waterfalls, caves, curiously shaped rocks, mountain streams, sequestered glens, canyons, parks, and points of vantage that offer wonderful panoramic views are readily accessible to the sight-seer. Here nature has built on a massive scale. The majesty of the mountains, the glory of the canyons, the expanse of the vistas appeal even to the seasoned globe-trotter.

For nearly half a century the Pikes Peak region has been a point of pilgrimage for the tourist, the student, and the sight-seer. Now it is proposed that Pikes Peak and its environs be set aside as a national park. The tentative boundaries, as suggested by the Colorado Springs Chamber of Commerce, embrace an area of about 250 square miles, including most of the Rampart Range extending from a point about 10 miles south of the summit of Pikes Peak to a point some 20 miles north of the summit, with an average width of 8 to 10 miles. These boundaries are, however, subject to revision upon further study of the area involved.

Should the Pikes Peak national park be created, it would be the most easily reached and visited of all the national parks. Six trunk lines serve Colorado Springs, the metropolitan city of 35,000 population, which lies within 5 miles of the eastern boundary of the park as now outlined. The Pikes Peak Ocean-to-Ocean Highway traverses

the proposed area, which is reached also by the Colorado-to-Gulf Highway, by an official branch of the National Old Trails, by the Midland Trail, and by good connections with the other main east-and-west and north-and-south routes. Within the last year there has been opened a splendid automobile road to the very summit of Pikes Peak—the world's highest highway. Between 150,000 and 200,000 tourists annually visit the Pikes Peak region; and the reports of the Forestry Service show that more than 400,000 passengers traveled by rail, motor, horseback, or afoot through or into the Pike National Forest this last year. It is a journey of 26 hours or less from Chicago or all intermediate territory to the foot of Pikes Peak; and only 50 hours from New York City, Galveston, New Orleans, or San Francisco. No existing national park can be reached as quickly or as easily; nor can the points of interest within any park be visited with as little inconvenience or expense as would be the case in the Pikes Peak national park.

This national park, if created, would be accessible the year round, excepting, of course, those portions at altitudes above timber line. The majority of present parks are open only during the summer months. The favorable geographic and climatic conditions make the Pikes Peak region especially desirable as a place for all-year residence; and throughout the mild winters the trails and roads into the proposed national park area are now in constant use.

In the park-to-park highway system, by which it is proposed to join together the national parks and more prominent national monuments, the Pikes Peak national park would become an important link. It would be the easternmost of all units, and as it is even now the hub of good roads and a center of tourist attractions, would in itself attract many to travel over the great circle route connecting the Nation's playgrounds.

The designation of the Pikes Peak national park would be particularly appropriate because the city of Colorado Springs is already doing, as a municipality, what the United States is doing nationally to preserve and protect for the benefit of the public the places of unusual scenic interest. Its park system is perhaps the most unique in the possession of any American municipality. It comprises 2,700 acres and includes the world-famous Garden of the Gods, North Cheyenne Canyon, Palmer Park, Monument Valley Park, with miles of roads and trails.

The Pikes Peak region is preeminently a locality of more than ordinary scenic value. It has been selected by the people of the United States as one of their favorite recreation places. It is, therefore, fitting that it should be included in the chain of national parks under the jurisdiction of the United States Government, for the use and enjoyment of the people of the United States.

THE PRESIDING OFFICER, MR. ALBRIGHT.

Another proposition for a national park, one of great interest, is also the subject of a question and the man to enlighten us is Representative A. T. Smith, of Idaho, also a member of the House Committee on Public Lands.

ADDISON T. SMITH, REPRESENTATIVE FROM IDAHO.

PROPOSED SAWTOOTH NATIONAL PARK IN IDAHO.

Every argument which has been advanced in favor of the maintenance of existing national parks and the establishment of proposed parks applies with equal force to the proposed national park in central Idaho. There is no section in the entire Rocky Mountain or Pacific Coast States which possesses more magnificent mountain scenery and picturesque lakes. It is on almost a direct line of travel between the Yellowstone National Park and Portland to the northwest, and to San Francisco on the southwest, and although the roads leading into the locality of the proposed park are unimproved the fame of the scenic attractions have brought thousands of travelers by automobile and stage who are seeking the unusual in Nature's handiwork. With the improvement of the highways, the convenient location of hotels, camps, etc., the proposed park will become one of the most popular playgrounds in the entire West.

In all the vast section between the Yellowstone National Park and the Glacier National Park to the north, the Crater National Park to the west, and the Yosemite to the south there is no national park and there is no other section possessing the scenic attractions as the Sawtooth Mountains in Idaho.

A memorial unanimously adopted by the Idaho Legislature urging Congress to create this region into a national park well states numerous excellent arguments in support of the proposition which I will enumerate:

First. There are very few, if any, private holdings of property within the boundaries of the proposed park.

Second. The proposed park is continguous to a State game preserve embracing some 220,000 acres of land, which, combined, will constitute a game refuge of great value and importance to the State.

Third. The area proposed to be set aside and dedicated to park purposes, constitutes the most scenic section not only of the State of Idaho, but is without a rival in all of the intermountain West in the grandeur, magnificence, natural beauty, and extent of its mountain and lake scenery, having been discriminatingly described by scores of persons conversant with European scenery as the "Switzerland of America."

Fourth. The picturesque lakes with their pine-clad borders, nestling at the bases of the jagged, snow-capped mountain peaks contain a rare species of fish known as "Red-fish," which give their name to the entire region, and are not to be found in any other part of the United States, and which can not well be afforded the adequate protection by the fish and game laws of the State which the rarity of the species justifies.

Fifth. The proposed park can be easily made accessible over excellent mountain roads and through a surpassingly beautiful mountain country, being within three hours' drive by automobile and less than a day's drive by stage from a railroad terminal.

Sixth. The permanent protection of the timber within the area which it is proposed to incorporate into a natural park is economically valuable to the State in that the proposed park area constitutes a portion of the watershed of those important rivers of the State, whose waters are required for the irrigation of large bodies of land, and the flow of which in undiminished volume is dependent largely upon the preservation of the forests in the vicinity of their sources.

Seventh. The creation of the park would assure the proper protection and preservation of the unusual flora and abundant fauna of the region and provide a national recreation ground not only for the present generation of Americans, but for future generations as well.

Eighth. The creation of the park will be of great value to the State of Idaho in serving to attract people from all parts of the country into her borders, and thus enable them to become conversant with the vast resources of the State.

The natural attractions of this section are well described by Miss Lena J. Shoup, of Salmon, Idaho, who has traveled extensively in this country and abroad, as follows:

How familiar we are with the advertisement, "See America first," and how few of us realize what there is to see in America. Often some of the most wonderful of all nature's landmarks are to be seen at our very door, and we travel to distant lands to see a bit that is much wider known but often proves far less enjoyable. I would modify that expression to "See Idaho first," for within her borders we have some of the finest and most beautiful scenery in the world. A delightful trip I want to mention is from Salmon City along the great Salmon River to the Wood River country. We left Salmon early in the morning of an October day after the frosts had tinted the cottonwood, the willows, and the quaking aspen to wonderful shades of red and gold. This coloring, with the deep green of the evergreen and the gray of the sage, gave an added charm to the beauties of the Salmon River.

The road follows the river for many miles, a splendid turbulent stream, so full of surprises, each turn of the road giving magnificent glimpses of mountain peaks, tumbling rapids or fantastic formations. The deep narrow canyons give one a feeling of great awe and we were all just a little bit more cheerful when we were over the narrow places, often only room for the road and river; the canyon walls, truly superb, rising hundreds of feet, gorgeous in their changing

lights of shade and shadow, the drive continues across the fertile Pahsimaroi Valley, through the pretty little town of Challis and Custer's prosperous ranches, the upper Salmon River, with its fine forests and rugged mountain roads full of beauty and interest.

The first glimpse of the magnificent Sawtooth Mountains is one never to be forgotten. A sharp turn in the road brings the first view—you see them as through a vista—this noble range so truly named and so stately with its sharp, snow-capped peaks. At the little village of Stanley one finds a warm welcome and after a refreshing rest we again start on our journey, a journey still of interest but so unlike our river trip. The arrival at Campers Park and Redfish Lakes again brings keen delight, for this is truly a glorious wonderland. The exquisite settling of the Redfish Lakes is quite beyond description, the great trees towering over these emerald ports and the lofty mountains forming a most fitting background of this art work of nature. A few hours more of driving brings us to the pass in the Sawtooth Range between Salmon River and Wood River, called Galena Summit. It seemed we saw worlds during our two days' drive; think what could be seen in a 10 days' outing there.

Bills have been introduced in three successive Congresses for the establishment of the proposed park which have been earnestly supported by commercial clubs and the women's clubs in the State, who recognize the advantages which will accrue to the State by reason of the establishment of a national park in this section. It is a singular fact that until in recent years the western States have not attempted to capitalize the scenic resources of the Rocky Mountain and Pacific coast country.

Canada, by reason of extensive advertising, has attracted thousands of tourists from the East to the West, and it is stated on good authority that 75 per cent of the people who visited the San Francisco and San Diego Exposition during the last two years were routed over the Canadian railroad systems either going or returning, this regardless of the fact that we have four transcontinental lines. It is easy to imagine the great amount of money spent by American tourists in traveling Canada which would have been spent in our own country had we spent a few dollars in publicity and acquainted the people with our wonderful scenic attractions, which, of course, are equal to those in Canada.

Prior to the European war it is estimated that Switzerland's annual revenue from tourists amounted to $150,000,000, France $600,000,000, and Italy $100,000,000, a large proportion of which was spent by Americans traveling abroad. The pine woods of Maine, it is estimated, bring to the people of that State over $40,000,000 annually, and the attractions in Florida and California enrich these States in an untold degree. Idaho, with her beautiful lakes and mountains, wonderful waterfalls, and delightful climate, will attract each succeeding year increasing numbers of tourists if we make the proper arrangements for their reception and comfort by the construction of good roads and hotels in the scenic portions of the State. While

these people may come for pleasure, they will doubtless be impressed with the favorable opportunity for investments and home building and many of them conclude to become permanent residents and help to develop and build up the resources of the State.

THE PRESIDING OFFICER, MR. ALBRIGHT.

In Mr. Chamberlain's last sentences he mentioned competing scenery in the East. We have a man with us this morning who can tell us something about competing scenery in the North. He was to have spoken on the first day of the program, but owing to the exigencies of the war and the pressing duties that came upon him as well as all other officers of the Dominion Government, he was unable to get here; but he is here this morning, and I take great pleasure in introducing to you Mr. J. B. Harkin, commissioner of dominion parks of the department of interior of Canada.

J. B. HARKIN, IN CHARGE OF NATIONAL PARKS, DOMINION OF CANADA.

CANADIAN NATIONAL PARKS.

Mr. Chairman, ladies, and gentlemen, I really did not come here prepared to tell you of the competing scenery of the north. I think while nothing would give me more pleasure than telling you of what our scenery is, and why we think it is in its way, as yours is in a different way, in a class superior to all others, I would rather speak simply of the general question of national parks.

There is one thing I must say at the outset, and that is that I very much appreciate the action of your parks department in inviting me to attend this conference. I know, sir, from what I heard here yesterday and to-day and from what the program for to-morrow promises that I shall return to Ottawa with a fund of useful information and suggestions and ideas and, what is perhaps best of all, renewed inspiration with respect to the work we are all engaged in.

If there is one thing in regard to which I envy your parks organization more than another, it is in regard to the enthusiastic and very efficient help which you receive from various public-spirited organizations. I have in mind the American Civic association, the Women's Federation, and numerous others. I think you are also fortunate in regard to the class of men—Mr. Mather, for instance—who have thrown themselves into the work. Everything you do and everything the association behind you do, with respect to national parks in the United States, contributes and contributes materially to the momentum of the national parks' cause in Canada. It is with pleasure, sir, that I have an opportunity to bear testimony to this fact. Much has been done for your parks by your Secretary of the

Interior. I believe, sir, that he was born in Canada, and therefore when I realize how much your parks' work does for us, I feel that Canada has not poorly repaid you when it gave you such a man for your Interior portfolio.

In Canada the parks organization at present deals with three varieties of parks; they are the scenic parks corresponding to your Yellowstone and Yosemite; animal parks, in which we preserve near extinct native animals, such as buffalo and antelope; and historic parks, located at points where events of critical importance in the life of the nation have transpired. Of course all our parks are maintained as wild-life sanctuaries, and possibly on this account we have been given to understand that the parks organization must take over the administration of the migratory-bird treaty and the administration of the wild life of the Northwest Territories.

The Northwest Territories extend from the northern boundary of the prairie Provinces as far toward the North Pole as Canadian authority extends. The eastern boundary is Hudson Bay and the western the Yukon Territory. That comprises an area of about a million and a half square miles of land—and some ice.

When I first received an invitation to this conference I was under the impression that it was to be of the same character as previous national-parks conferences; that is, that it was to be primarily a round-table conference for the discussion of ways and means; that the discussions would relate primarily to the practical work in the parks themselves. I received a program the day I left Ottawa, and then found that the conference had been planned on a very much larger scale. I came here expecting to discuss the practical business side of parks. I recognize that the detail of such a discussion would not be suitable for a conference of this kind. However, there is one detail of parks administration to which I want to refer in passing.

Probably one of the most serious problems we all have to deal with in connection with national parks is the protection of the parks from fire. In Canada we have taken certain steps in connection with this subject, which we, at all events, think have been a distinct advance. The first is the development of a portable gasoline engine. We went on the principle that the most effective means of dealing with fire is water. We figured that since cities no longer used water pails for extinguishing fires, we should take a pointer from that fact and develop a portable fire engine. We now have a portable fire engine, which can be taken to any part of the mountains on pack ponies—in fact, you can carry two engines on a pack pony—and which can be handled very readily by two men. In actual work it has demonstrated its success, and the engine is now being adopted—has been adopted already—by a number of associations of private

timber owners throughout Canada. I mention this simply as a suggestion, because, so far as I know, it is the first occasion on which a mechanical fire-fighting outfit has been developed for forest-fire work.

There is one other feature of the fire work which I wish to mention and that is a campaign of education which has been carried out in connection with forest fire prevention. I mention it chiefly because I think the methods adopted can be readily and satisfactorily followed not only for fire education purposes but for many other public purposes as well. We recognized the necessity of a campaign of education with respect to forest fires because it is a fact that nearly all forest fires originate from human causes; and it is also a fact that the individual who starts them does so through ignorance or carelessness; he does not realize, for instance, that a match or a cigar butt carelessly thrown down in the forest, or a smoldering camp fire left behind, may result in a huge forest fire. To educate the public it was felt that the campaign must involve a huge and continuous circulation and that the media used must be such that they would keep the educational information constantly before the general public.

Being without an appropriation for a fire education campaign it was also recognized that the work must be carried on without any expenditure on the part of the Government. To meet these two conditions it was decided to endeavor to get manufacturers of articles in common and constant use to put fire warning notices on these articles or their receptacles.

The responses of the manufacturers were prompt and favorable and the result is that education in regard to forest fire protection is constantly going on in Canada and that it is not costing the country anything. We began our campaign with the match manufacturers. For several years practically every box of matches made in Canada has carried on it a fire warning notice. No one can take a match from a box without seeing this notice.

We later on also got the ammunition manufacturers to adopt a similar plan, the idea being that when people were hunting, using ammunition and shells, that that was the time they were most likely to cause fires. Now all the ammunition companies in all of their shell boxes insert special fire warning notices which are worded so as to appeal to the selfish interest of the hunter. It is made clear to him that if he starts a fire through carelessness or any other cause, there may not be any game for him to shoot. The campaign was extended in many other directions. The tent makers of Canada have put fire notices in all their tents. Even the telephone directories have them now. I mention this simply to illustrate what a tremendous circulation you can get at no cost, and how you can reach the

very people who are most likely to require the information you have to give. It has proved very effective with us, and I think that in other matters of national importance a corresponding course might prove effective.

There is a point in connection with national parks which I would like to emphasize. At first sight your parks and our parks may appear to be competitors. In reality, I believe that all our parks are a benefit to yours and that yours are a benefit to ours. There may be an element of competition in so far as the railways are concerned. However, I think the railway men would be well advised if they took the view that I mention. I hold, sir, that every man who visits one national park, whether it is in Canada or the United States, will thereby get a taste for what national parks alone can give him and that he will never be satisfied till he has visited other parks. He may come to Banff this year. He will then want to visit Yellowstone next year.

I have read articles by some Americans who seemed to think it was a catastrophe that so many Americans annually visited Canadian parks. To me it seemed that they should in reality rejoice that so many Americans were getting a taste for national parks and, if you will pardon me for saying it, getting such a good start on the right line. They should rejoice that those Americans, by virtue of their trip, are sent home better men and women, physically, mentally, and morally; that our parks have contributed to the vitality and efficiency of your people. Personally, I rejoice to see the figures regarding visitors to your parks jump up, because I then feel perfectly certain that a considerable proportion of those people are going to visit our parks eventually.

I suppose, sir, from the discussions which I have heard here that one of the real purposes of this conference is to devise ways and means for increasing public interest in national parks and for increasing the number of visitors who annually go to national parks. You want increasing numbers to visit American parks. I want increasing numbers to visit Canadian parks. Why this desire? In the first place we all want to keep money at home; in the second we want to bring in foreign money. It is a perfectly legitimate ambition, but I think you all agree with me that this commercial side of parks is only of secondary importance. If it is not, then we should not have the parks run as governmental institutions, but should hand them over to the railroads, just as we do mining and lumbering and such.

But, sir, national parks are of much too great importance to hand over to any railroads. After all, they do concern the wealth and vitality of our people, and that in the end means the welfare of the nation. Therefore, it seems to me, that the nation alone should

handle them. My reference to railway companies might suggest that our first missionary work should be with the railway people. At present I am afraid they concern themselves too much with the trippers, the people who travel out of curiosity, the people who travel largely in order that they may boast to their less fortunate friends that they have seen Banff, Mesa Verde, or the Yellowstone.

It is quite true we want to see these people visit the parks, but we are much more concerned in the rest of the people who do not get the sort of recreation parks afford. These people need the parks, but so far as millions of them are concerned parks to-day might as well have a Chinese wall around them. I think Mr. Chamberlain referred practically to the same point a few moments ago. It is all important that the national parks should be made available for all the people, and that is why our missionary work should be directed to convert the railroads. Personally, I am convinced that if the railroad people would look at this matter from a new standpoint they would not only be doing what I would call an act of higher patriotism, but in the end they would largely increase their own dividends.

Let me put it this way: Suppose that 500,000 people who do not now visit the parks went to your parks next summer. Is it not a fact that the renewed capacity, vitality, and energy that these people would derive by virtue of that visit would mean in the end a tremendous acquisition to the national power to produce. And, sir, if we increase the national power to produce we increase the business of the railway companies.

I have said we want increasing numbers of people to visit the parks. I sometimes think that we in parks work are really merchandisers. We have goods to offer that we want everyone to buy. But, unlike most purveyors of commodities, it doesn't matter how many customers we have, our stock is undiminished. We are like the two old people in the Greek fairy tale who entertained Jove and his son. No matter how much we give our guests, we still have just as much wine left in the pitcher. The dispensers of all our other natural resources are bound in the end, if they keep disposing of their commodities, to find themselves in the unfortunate position of that illustrious old lady, Mother Hubbard. But our cupboard never gets bare, and, like most merchants who have superior wares to sell, our customers are our best advertisers.

It is, I know, unnecessary to say anything to such a conference as this of the revenues which may be derived from tourist traffic, but I want to point out a peculiarity which distinguishes them from all other sources of revenue, and that is that there are no other taxes that people pay so gladly. And the interchange of travel between our two countries is bringing about a delightful international reciprocity, for the American tourists are helping to pay our taxes and the Canadians who go to your parks are helping to pay yours.

Aside from all questions of revenue, are there any reasons why we should strive and strive constantly to attract more people to the national parks? I think that there are a great many, and to my mind the best possible reasons.

The first of these is the one you have embodied in the slogan, "See America first." In other words, know your own country before you seek to understand others. And in our national parks we have set aside the best our countries have to offer. They contain the masterpieces of nature in our respective countries. And I venture to say that the man who has seen the Grand Canyon of Colorado, the Valley of the Yosemite, or our Canadian Rockies, has a new realization of his country. His conceptions are broadened, his imagination enlarged, and he will sing "My country 'tis of thee" or "O, Canada" with a new and deeper patriotism.

However, the main reason why we want visitors in connection with parks is purely on account of recreation. After all, national parks are simply places of recreation in its broad sense. It needs no argument to convince anybody that the public recognize the need of recreation. We have only to look at the millions of dollars that the public are spending on recreation. They spend very much more on recreation than they do on the necessities of life. We have only to look at the theaters, the picture shows, the ball organizations, the seaside resorts, the golf clubs, and the thousand and one institutions that exist solely to provide recreation.

Now, in the national parks, we provide a form of recreation which we who are concerned in the work, at all events, believe is vastly superior to all other forms of recreation. Recreation, of course, is only a means to an end. It is, after all, nature's method of repairing the damage we all sustain in the struggle for existence. Life in the city is particularly hard on man. I once saw it put this way: "Life in the city squeezes the juice out of man like a lemon, and leaves nothing but the pulp." National parks exist to repair damages of this kind by providing means of recreation in the outdoors. Of course, all recreation in the outdoors is valuable in the matter of this repair work, but the best recreation of all is the recreation in the wilderness. I want to emphasize that word "wilderness," because to me it is the all essential point with respect to national parks. Other parks, city or suburban parks, all help the human unit in this matter of recreation but these parks are necessarily small, are largely artificial and are in reality, as an American writer once described them, simply "first-aid" parks. You have to go to the wilderness park to get the real results.

Now the wilderness possesses something that is not to be found anywhere else and that can not be reproduced. Sir, you can not transplant the wilderness. We can transplant a strawberry plant.

It will grow in our gardens but what of its fruit. It has lost that delightful tang which was its soul. Its spirit has fled back to the wilderness—its home.

In a certain sense we who live the life of cities are like the transplanted strawberry plant. As your own Lowell says: "Before man made us citizens, great nature made us men." There is something which has come down to us in our blood from our remote ancesters which is satisfied only by the wilderness—the home of our first mother—Mother Nature. There is no better example to explain what I mean than the grate fire. You know how we all love a grate fire. It is not for its warmth. We might easily get more warmth from a steam radiator. But we all take a peculiar delight in blazing logs or crackling coal. It seems to me that something in our blood associates that grate fire with the camp fires of our ancestors when they lived the life of health and vigor and freedom around their camp fires in the wilderness.

I am told that if you take one of your cultivated strawberries and transplant it back to the wilderness it will revert to type and regain that wonderful wild tang it had lost in the garden.

Well, sir, we can not go back to the wilderness to live. We are committed to civilization, but we can see that there shall always be a certain share of the wilderness reserved so that all our people can go back to it at times and regain there some of the vitality which the city has taken away from them. The soil of the city grows a wonderful crop of dollars, but it grows a poor and weedy crop of men. Well, we want to make it possible for everyone to rotate his crops. To grow some dollars in the city with all the rest the city has to offer, and then go back to the wilderness for a period and gather what might be called "coins of life." Because every mountain peak, every lake, the wild flowers, the air, and all the wondrous beauty of national parks are like the machinery of a mint turning out coins of life, representing health, vitality, clarity of mind, moral efficiency.

In this connection I want to read a paragraph written by an American writer, an American newspaper man, who had been in the habit of spending his holidays in the wilds of northern Canada. I read it simply to indicate what it means to a man to have gathered "coins of life" in the wilderness. The paragraph is:

> Canada—land of the sunshine and the snow, how big and beautiful you are. Surely the God of all the earth never made another country like you.
>
> When I die I hope it will be somewhere that they will have to carry me out from in the bottom of a canoe—and my last regret will be, not that I shall not see again those who are dear to me, because, please God, I shall see them again, but that nevermore, so far as I know, shall my eyes see the sweep of those dear northern hills and my senses be lulled to rest by the roar of the rapids and the incense of the balsam and the spruce.

Mr. Chairman, I think you recognize that national parks are a much bigger question than a mere getting of tourist revenue or a mere matter of carrying passengers. In Canada we who are charged with parks matters believe they concern the very life of the nation. We claim it is our first duty to see that every person is given an opportunity to gather some of these "coins of life." At present one of the most important matters in connection with national parks, it seems to me, is the necessity of more and still more parks, not simply parks such as you have and we have located in the West, but parks everywhere, and particularly parks nearer the large cities.

Before I sit down I want to refer briefly to what the Canadian soldiers are doing in France. We in Canada take a very special pride in their accomplishments, and there seems reason to believe that to a considerable extent, at all events, the resourcefulness and courage and energy which they have shown on the battlefields of Europe have been due to the habits of the outdoor life which they lived in Canada. You all know that on the whole the people of Canada live the outdoor life.

In conclusion I would say this: We who are concerned in parks believe that the best and most important step in connection with preparedness—a matter which, I believe, has received more or less consideration in this country of late—is the building up of a strong and virile race. We are also equally convinced that national parks, and what national parks stand for properly developed, will contribute materially, and very materially, to this end. I thank you.

THE PRESIDING OFFICER, MR. ALBRIGHT.

Mr. Harkin's address has certainly been an inspiration to us. His office in Canada has always shown a disposition to cooperate with us, and I know that what he has said to-day is suggestive of an invitation to continue that cooperation. We are glad to have an opportunity to consult him, and he has at times taken occasion to consult us. We are going to work together, of course, for the development of American scenery throughout the continent.

I have a question which has just been handed to me by a lady in the audience. She asks, "Has any provision ever been made that would prevent the Government presenting a part of any national park to any city asking for the same for her individual uses, as Hetch Hetchy was given to San Francisco?"

Congress had the authority to give the Hetch Hetchy to San Francisco, and it still has the authority to grant similar privileges in other national parks. This authority is vested in Congress by virtue of its control over the public domain. The national parks, while withdrawn from the operation of practically all of the public

land laws, are still, so far as Congress is concerned, a part of the public domain, and are subject to change in status at the will of Congress. As the powers over the public lands could only be eliminated by constitutional amendment, other grants of privileges in national parks similar to the Hetch Hetchy grant could only be made impossible by constitutional amendment.

I am going to return the presiding officership to Secretary Mather, who has come back from Congress.

(Whereupon Hon. Stephen T. Mather resumed the chair.)

THE PRESIDING OFFICER, MR. MATHER.

I find a question as to whether women would really make good guides in the national parks, as suggested by Mrs. Chalmers yesterday. I am going to ask Mr. Enos Mills to talk to that question, because he has made a study of the whole guide situation so thoroughly that I think a word from him on that subject would be very interesting.

MR. ENOS MILLS.

Mr. Chairman, ladies and gentlemen, I am very glad to say a few words concerning guiding in national parks, because it seems to me that the real success of the national parks depends on their having excellent guides. The national parks are, in addition to being magnificent recreation fields, magnificent outdoor schools. Hence, the part played by the guide will not be that of a football coach, but that of an instructor more than anything else. Well, now, if people want and need guides of an intelligent type in the parks, and I think that they do, what is the source of supply? Well, directly, there isn't any source of supply at the present. Wander as you will and where you will through the mountains of the West, through the national parks of the United States and Canada, and I think you would find very few guides who could qualify in the educational sense for the kind of guides now needed by a great many people who are going into national parks. Hence, for the present, or probably for a few years, the leading guides in national parks will, I think, have to come from the universities—college men who have taken field classes out. Now, that won't cover the full field of guiding, but I think it will be the main source. In my own experience I have had a well-known biologist come into the mountains and go out with people for a week or 10 days simply because there was not any guide who could give these people the information which they wanted about the objects of interest around them. Hence I had to import, as it were, a guide to do that sort of thing.

There is no reason why ladies as well as gentlemen should not guide in the parks. As a matter of fact, they should. The profession of a guide in a national park largely is that of a philosopher and a friend and an instructor. Hence I do not see why a woman could not do this as well and in many cases even better than a man. The majority of school-teachers are ladies. As a guide is to become a teacher, I do not see why they could not teach in a park as well as in a schoolroom. So I think that in most cases the guides should have equality of opportunity among the women as well as among the men.

Take, for instance, in the field excursions of the Sierra Club, the Mountaineers' Club, or any other club. The women show themselves physically and mentally the equals of the men in almost every condition in which these people place themselves on these outing trips. So that, going further into that, let me repeat that the part of a guide is usually that of an educator, and hence I think we will for the present have to call on colleges and schools for many of the guides.

Well, now, if that is the standard we desire to set, then other guides in the parks will see what it is and will at once proceed to qualify themselves to do that sort of thing. The cost: If a teacher who is capable of guiding in a park can do summer school work, as it were, in a park he would be able to do that summer school work in addition to his other work and salary much cheaper than he would if he had to depend wholly upon guiding in the summer time. Well, now, price will cut a very prominent figure. If a poor family go into a park and want a guide and have to pay an exorbitant price for it, they simply will be compelled to do without.

This leads me up to another point in the same connection: I hope, Mr. Chairman, for the present that concessions for guiding in the national parks will be withheld in order to stimulate competition and interest among the guides, to set a higher standard among them. If you make a concession in a particular park and give it over to an individual or corporation, you would not, for instance, be able to get John Burroughs to give a part of his time guiding into a park because he would never for a moment think of passing into a concessioner to guide his friends or anyone else. And so on down the line. If the guide is any good at all, he will be an individual of marked individuality, and the necessity of having to work through a concession will tend to suppress this individuality and also his standard of guiding.

And then, if guiding be done through concessions, what will the guide do when he is not busy guiding? If he is attached to a concessioner, he will have to be employed at something when not employed as a guide. In other words, the concessioner will necessarily

have to keep him busy. Will it be at something that will benefit him as a guide? Not necessarily; but if he is a guide, guiding individually under the supervisor of the parks, on days when not guiding, if his heart is in the work, he will spend his time getting better acquainted with the objects around him, or equipping himself mentally to do a higher degree of work. This, I think, he would not be likely to do if he were dependent on his position to the concessioner under whom he is working. So I think for two or three years until a standard in guiding is set and a number of excellent guides developed, it would be far better to keep the guiding in the national parks out of the concessions.

If this well-equipped individual were in a college or one of a college class he would like to spend his summer, say, in the Glacier National Park; and if he found he could spend part of his time guiding people, this might enable him to have a vacation in that park and spend the remainder of his time as a tourist. That would do something for himself and enable him to serve as a guide and at the same time keep down the price he would necessarily have to charge the people he guided. I hope I have stated myself clearly. Has anyone a question in this regard?

A Delegate.

Mr. Chairman, it seems to me this does suggest a question as to whether or not it would not be a wise administration to organize a university guiding camp, which would obtain a concession for guidance of parties through the parks and would be administered by a central bureau according to the needs of the park. No doubt many young men would enroll themselves under an organization such as Mr. Mills has suggested here, who would be entirely qualified to do the work and do it well; and, by a central bureau, it might be very effective and a real profession calling for the young undergraduates of all our universities. It seems to me it merely lacks organization.

Mr. Enos Mills.

Well, Mr. Chairman, the point is well taken, but I think it should go further than that. A year or so ago it was suggested by a publication that a chair be established in a university for the development of guides. The point you make relates to a course for undergraduates. If guiding requires anything it requires a great deal of maturity. What we want is for young men and women to think of it as a life's work, not something temporary, not something to get them through school, because, if they are just freshmen or sophomores in college, there is every chance in the world they have not had experi-

ence enough to be good guides in the national parks. They may be able to show people the way from some one place to another, or saddle a horse, but those things are incidental. People should have been trained in their work in the past for their life's work as a guide. Guiding is far more than waiting on hotels in the summer. We want to appeal to the best characters, the best brains of the country. So it should not be something for inexperienced people to be allowed to do.

Well now, as I said in that connection, I really believe there ought to be in some universities a chair for the development of guides, and that they should think of it as a life work. Before you realize it these national parks will be opened the year around, and if anyone wants to guide the year around there is no reason why he should not.

But guiding is something that is very intimate. If you go into the wilderness with a guide, you want an individual with whom you can be friendly and intimate. Hence, you will want to pick your own guide without going to a concessioner. So I think from every angle we ought to keep the guides on a plane of independence, so to speak, as nearly as we can. So let me repeat the statement that these parks before we realize it will be open the year around. There is no reason why we will not need guides the year around. So let the people in the guiding realm think of it as an occupation the year around, and prepare and develop themselves. I am sure there is already a need, a demand, for guides who are capable of going into the mountains and taking care of people while giving them information in natural history, and who want this all the year around. I believe I have covered the question. I thank you.

The Presiding Officer, Mr. Mather.

There is no doubt that Mr. Mills has touched on a very interesting thought here concerning the guide question. Of course, we have to look at the practical end of it just as it meets us from year to year. A development of this kind would take time to develop, and necessarily be of slow growth. Of course, it is desirable that each group going out on horseback have a guide, and it would be a most interesting thing to have the type of man that Mr. Mills refers to for that guide; and I hope that that will be developed later on; but for the present it will be possible for the concessioner only to provide men who understand the trip thoroughly. Eventually these field trips and the study of nature are things that should be worked out independently. The clubs that go out now that Mr. Mills refers to—the Sierra Club, the Mountaineers, and others—have with them men who are interested in the country, who know it in a thorough way, who have made the trip before. But those men are entirely independent of the saddle-horse official.

Take Rainier National Park for example. This summer a splendid cooperative camp was established by the people of Seattle, entirely distinct from the regular concession. It was worked out, of course, on a much more economical basis, because it was thoroughly cooperative; it meant that the little group that took charge of it gave freely of their time without cost in order to make it a success; and of course there were a number there who knew the mountains, who knew the parks, and could take up the guiding work as they did without any compensation.

Perhaps with such beginnings there would be an opportunity to develop the individual guide through first saturating him with love of the country itself.

I see a question here: "Were there any new discoveries in the Mesa Verde Park this year?" I think perhaps our supervisor for the Mesa Verde National Park, Mr. Rickner, may say a few words as to that, because I know we are all interested in the wonderful discoveries that have been going on from year to year in the Mesa Verde Park.

MR. THOMAS RICKNER, SUPERVISOR OF THE MESA VERDE NATIONAL PARK.

Mr. Chairman, ladies, and gentlemen, I might say we have recently made a number of discoveries in Mesa Verde National Park. We have entered some cliff houses never entered before by white men, and we got from them some rare specimens of pottery. We have them on exhibit now, and any visitors to the park can see them.

But we are handicapped in our park in different ways. In the first place we have just got an automobile road; in the second place few know anything about the park, but when I was in Denver a few days ago, on my way out here, I stopped and saw the traffic manager of the Rio Grande system, and he said before he quit advertising he was going to put a placard in every railroad office in the United States to inform the people how to reach the park.

Our park is different in scenery from anything I have seen elsewhere. Now the pictures shown here on the screen the other night show but few of our attractions. They were taken a number of years ago. There has been considerable development there in the way of scenery, in the way of cleaning out and excavating, in the way of discovery of more new ruins since those pictures were taken. The park is more attractive than the pictures show it to be a few years ago. If you take our park for the young people growing up, it is a park for study. There were people there who lived at a time when they had nothing to work with except two hands. Their tools

were made of stone, and they built some fine buildings and fine structures, standing to-day, original work that is surprising to us of to-day. They were self-supporting too. Mesa Verde is a spot that every young person should visit.

I can not give a description of it to one who has not seen it, but I want to say that any person going there now will be well paid for the trip for two reasons: It is the most scenic route from the railroad station to the park, a distance of 32 miles, that I have traveled. It is nice, high, mountainous country. You can go in automobiles. From any point you can see a distance of 150 miles very distinctly. I can show you mountains in the distance. There are a number of features there that any person visiting the park will remember as long as he lives.

I would like to invite everybody who is here to come and visit Mesa Verde. I thank you for your attention.

THE PRESIDING OFFICER, MR. MATHER.

We will adjourn this morning's session now, but I want to call your attention to the splendid lectures that will be given this evening. They will be well worth attending. Mr. Hays is to speak on the Yellowstone, and Mr. Steel, the commissioner of the Crater Lake National Park, is to speak on Crater Lake. They will show most interesting pictures in connection with their lectures.

The series of lectures last night were attended by a crowded house, and I would recommend that you come here early in order to have a chance to hear and to see to good advantage.

Do not forget as you are going out to make a point of looking at the pictures that are shown on the second floor, the great canvases of national parks by leading artists; also the showing of photographs and etchings that are on either side of this corridor.

This afternoon motor travel to the parks will be the general subject of the discussion. It is to be taken up by a number of men who are experts in their lines. All those who are interested in the development of motor traffic to the parks should make a point of attending.

There is no question but that within a few years one of the great means of reaching the parks will be by auto from all parts of the country; the roads will be so perfected that reaching the parks will be comparatively easy.

(Whereupon the Friday morning session was adjourned at 12.10 o'clock.)

FRIDAY, JANUARY 5, AFTERNOON SESSION.

SUBJECT, "MOTOR TRAVEL TO THE PARKS."

The Friday afternoon session was convened at 2.35 o'clock, with Robert Sterling Yard, of the Department of the Interior, introducing the presiding officer, Dr. H. M. Rowe, president of the American Automobile Association.

MR. YARD.

In many respects this is the most interesting day of the conference, because it is the day of the motor. These are swift times. The horse has passed. I do not say is passing—but has passed. We move fast; our national parks are all of them now, since Yellowstone was opened to the automobile, open to the motorist. Last summer's experience shows that the motor car will be an immense factor in the future development of our natioinal parks because it will be an increasing accelerator in their future patronage.

Last year's increase was large. Nevertheless, it is only the promise of what is to come, for with the movement for good roads all over this country, the great processions of automobiles to the West will be multiplied season by season and summer by summer. The time is coming when we shall have an enormous passage of automobiles back and forth from the eastern seaboard to the Pacific slope. And it is a prophecy which is not very far in the future when the passage into the park shall be through air as well as over the road.

One of the great attractions of the West is our national parks, and the motorist who travels from the East to the West will inevitably visit our national parks, and stay in our national parks. That is why I say the motor, the automobile, is one of the factors of the moment which makes it one of the most important elements in national parks considerations to-day.

Another thing. Motorists soon will go into our national parks to stay. Many of them to-day go sweeping through, seeing what they can along the line. But one of the most interesting features of the national parks' evolution as I saw it this last summer was the number, the large number, of motorists who went into our national parks to stay there, driving in, selecting camp grounds, camping out with the motors alongside under the trees. I saw many cars with trailers behind. I saw Fords in the Yellowstone that were so loaded up with tents and things around the seat that you could hardly see who was inside. That was a little glimpse of the future.

Now, to meet that future, we of the Department of the Interior are making every possible effort to increase the road facilities in the

national parks. We are laying out new roads. We are improving the old roads. We are going just as fast as the men "on the hill" who make the appropriations for us will let us go, and we hope, as this demand becomes better known and Congress is more and more impressed with the need of it, that we shall get larger and larger appropriations for the development and improvement of the road systems inside the parks.

As for the roads to the national parks, those are out of our jurisdiction; but we have representatives of great national associations on this platform to-day whose special business it is to develop the roads from east to west. The day's session will be presided over by the president of the American Automobile Association, Dr. H. M. Rowe. I now present him.

THE PRESIDING OFFICER OF THE DAY, DR. H. M. ROWE.

Ladies and gentlemen, I suppose that I owe my invitation to preside at this meeting to the fact that for the moment I happen to be the president of the American Automobile Association, and I take it the invitation was intended as a courtesy to that association. As Mr. Yard has just said, this association is and has been for many years interested in the matter of good roads. That is one of its principal activities, not from a selfish standpoint or for the special benefit of only those who may be motorists, but for the larger purpose which is included in the convenient and economical use of the motor vehicle. The opportunity of entrance to the wonderful national parks and reservations which are controlled by the National Government has been one of our aspirations; and, naturally, we have been very much gratified in the activities of the Department of the Interior under Secretary Lane and his most able and competent assistant, Mr. Mather, in the provisions that have been made for the enjoyment of motorists and the public generally in using a vehicle that permits of access to these natural wonders in a way that is not provided by any other means.

But I am not going to talk myself this afternoon. A good presiding officer is a man who introduces the speakers, and who looks pleasant when the speakers are talking, and who, if they talk too long, has the ability to shut them off without anybody noticing it. That saves the other man and pleases the audience.

Now, on our program, as we find it to-day, we have a number of speakers, and I might say with regard to the first speaker, that the American Automobile Association has been particularly fortunate in securing for the chairman of its good roads board a gentleman of more than ordinary intelligence, and one that under ordinary conditions it would be very difficult to secure. I might say to you,

those of you who are not familiar with the workings of the "Three A's," as we speak of it, that it is a voluntary organization that attracts to its interests and its service those who are willing to make sacrifices for the good of the association and for the advancement of its purposes. In our good roads board we have one who has been a county engineer of one of the largest counties of New York State for a period of some 16 years. We can't get rid of him; and I have been told that on a couple of occasions he might have been State highway commissioner of that big State, which was the first State, by the way, to obtain a really comprehensive system of roads. This gentleman whom I am about to introduce is the despair of stenographers, because he talks, as you will find out in a moment, between sentences. He is a rapid-fire orator. Last summer at the meeting in the Yellowstone National Park Mr. Diehl was prevailed upon to represent the association, and Mr. Mather has told me that he talked faster and said more things in a short space of time than any man with whom he had ever come in contact; and I understand that Mr. Mather has had years enough experience in meeting and hearing speakers, both rapid and slow, to be a good judge of their speaking proclivities. I have very great pleasure in introducing Mr. George C. Diehl, of Buffalo, chairman of the American Automobile Association good roads board, whose subject is "Touring, a by-product of roads building; or roads building, a by-product of touring."

Mr. George C. Diehl, of Buffalo, N. Y., Chairman of the American Automobile Association Good Roads Board.

TOURING, A BY-PRODUCT OF ROADS BUILDING; OR ROADS BUILDING, A BY-PRODUCT OF TOURING.

Mr. Chairman, ladies and gentlemen, as the chairman who is presiding is a much larger man than I am and as he is president of the association in which I occupy a very subordinate position there is no danger of his having the opportunity of asking me to sit down because I talk too long. The flattery that was included in his introduction is merely the rhetorical license which is granted to a presiding officer.

Touring is the motorist's chief delight. Good roads, next to a good disposition, is the main requisite.

Whether the motorist, through his good roads propaganda, brought about improved highways or the commercial necessities, through roads development, set the stage for automobiling is immaterial.

The motorist is for good roads and is usually sufficiently diplomatic and tactful in that he supports the officials who are giving

their best efforts to furnish the most generally used of all transportation facilities—the public highways.

Our answer to the question asked in the title to these disconnected remarks has been given many time to many similar inquiries. It is, "We do not care so long as we get the roads."

The satisfaction of their use impels us to place the credit for their building elsewhere, so we say "Touring is a by-product of road building"; but expand the road building program, build roads more rapidly, better, and above all build first those main highways which must form the backbone of a properly connected system of national highways.

Not one person in a thousand on the Atlantic seaboard knows much of the scenic grandeur of our national parks or the unsurpassed natural resources of our own land.

Every one should read the April, 1916, copy of the National Geographic Magazine. This volume should be in every American home. One hundred pages of prose and picture take us from New England, across the Alleganies, over the Great Lakes, past the imperial Mississippi Valley, through national parks, up the slopes of the snow-clad Rockies, to the shores of the Pacific.

America is the most powerful commercial nation on earth, but have we not sacrificed too much to the material?

> One impulse of the vernal wood
> May teach you more of man
> Of morals, evil and of good
> Than all the sages can.

The motorists whom I have the honor to represent appreciate in a small way, at least, the value of our national parks. Every influence that we can wield is being exerted to connect those wondrous places with good roads and, in turn, to link up this system with the Middle West, the East, and the sunny Southland.

Road building in this country did not receive a real impetus until the policy of State aid was adopted. New Jersey was the first to pass a State-aid statute, in 1893, quickly followed by Massachusetts, Connecticut, and New York.

The same principle underlies State aid and Federal aid to road building, namely, the distribution of expense between rural and urban communities, both of which benefit therefrom.

The business or commercial roads were the first built by these different States, and their construction had been in progress 10 years before the automobile appeared upon the scene. For the next five years practically all of the automobiling was done over what might be called the commercial roads. It was then ascertained that the touring roads had a commercial as well as an æsthetic value, and the shrewd New Englanders began to make accessible, through im-

proved highways, the Green Mountains, White Mountains, and the wonderfully indented coast of Maine, with the result that these spots have become the playground of the Nation.

In the last five years in the State of New York especial attention has been given to the connecting up of the various highways, with the consequence that there are now three continuous improved roads across the State; and the mountainous region in the northeast, the Hudson River country, the famous finger lake section in the center, and the beautiful mountain scenes of the southern tier have been made available for motorists.

In 1915 it was estimated that 150,000 motorists from other States toured in New York and that $15,000,000 was left by them in the "Empire State." In 1916 these figures were increased to 250,000 visiting motorists and $25,000,000. As the total cost of the main highway system in New York State up to date is but $75,000,000, it will be seen that one-third of the entire cost was left in a single season by out-of-State motorists.

When we consider that in the United States there are now 3,000,000 motor vehicles, and that road building is being carried on at the rate of $1,000,000 a day, it can easily be understood that the construction of touring roads has only just begun, and that while the strictly commercial roads will be built to a great extent around the centers of population, yet it is the touring roads which will engage to a greater and greater degree the attention of State legislators, highway commissioners, and motorists.

Occasionally appears a man in the Government service who is willing at personal sacrifice to accept a post with great labors and meager salary, because of the great opportunity it offers to make our land brighter and our people better.

Such a man is Stephen T. Mather, Assistant to the Secretary of the Interior. In his modest but capable way he has accomplished wonders in our national parks. They are more accessible, better provided, and more attractively advertised.

The construction of a system of improved roads connecting the parks is one of the greatest works to-day facing the American public.

Thanks to Mr. Mather and the organizations cooperating with him, that fact is being impressed upon the minds of the people. The "Three A's" is cooperating in this huge but pleasing task. We congratulate the country on having an executive officer of the parks of the ability, the enthusiasm, and the love of nature possessed by Mr. Mather. The slogan of America to-day is "service" and particularly "personal service." We congratulate Mr. Mather in turn for the opportunity which is his to place his offering upon the altar of personal service.

Imagine the joy, the inspiration, and the delight of the tourist as he motors over improved roads, past the spouting geysers and wonders of Yellowstone Park to the picturesquely modeled peaks and romantically lovely lakes of Glacier Park, along the fields of ice and snow and the impressively beautiful glacier system of Rainier Park! Share with him as he gazes in the waters of almost unbelievable blue which fill an extinct volcano in Crater Lake Park, or is rapt in wonder before the tremendous waterfalls of Yosemite Park! Well may he exclaim: "In nature's infinite book of secrecy a little can I read."

Trees now in maturity in Sequoia Park were lusty youngsters ere the pyramids were constructed in the Egyptian deserts; hundreds were growing before the heroic days of Greece, thousands were leaf-covered before Christ was born in Bethlehem.

The Grand Canyon of the Colorado is beyond description and as the motorist stands on the rim overlooking miles of painted pyramids, can he fail to realize that "A single touch of nature makes the whole world kin"?

THE PRESIDING OFFICER, DR. ROWE.

It has been our habit to feel that if we were but the owner of a motor car we were in a sphere pretty close to heaven. And it is true that those of us who live in the East do not know very much about the real wonders of our country until we do go West, to Denver, because that is the section of our country that is the biggest and the most tremendous in all of its manifestations of nature and nature's bigness. But there is a time coming, and it is not very far away, when there will be those who instead of traveling upon terra firma will find another way, and one perhaps that will reveal, in some respects at least, in more wonderful aspect the truly marvelous things of that country, not only those contained in our national parks, but those lying without them. Here is something that I will read; a little quotation taken from a paper of many years ago, under date of December 17, 1903, which informs us of a great event. (Reads short account of first flight of the Wright brothers at Kitty Hawk, N. C.) That is the announcement that we had at that day, and I remember very well the thrill I experienced when my imagination carried me to the experiences that they were having, and I asked Mr. Wright to-day if that thrill which he himself has felt—he and his brother—when the first attempt proved to be a success, was, after all, the biggest thrill that he had ever had through all the years. He very modestly said he did not know whether it was or not, because they were sure it was going to fly before they had it flying. So, you see

the trials came out of that wonderful machine that has revolutionized motion on the face of the earth.

Now, men who do things, I suppose you have noticed, are always very modest, and I almost despaired of having the pleasure once of a favorable answer to the request that went to Mr. Wright that he be here to-day and tell us something that I am sure will be of the very greatest interest to all of us. He is a very modest man, as all men of his type are, and I have very great pleasure in introducing Mr. Wright, who will tell us of the "Air routes to the national parks," which we may all hope to take before very long. If there are any high mountains or difficult things in the way he is going to tell us how to get around them. Mr. Wright.

Mr. Orville Wright, of Dayton, Ohio.

AIR ROUTES TO THE NATIONAL PARKS.

Mr. Chairman, ladies, and gentlemen, before starting I think I should tell my automobile friends here that in spite of all that I have to say they need not give up for the present their endeavors to get better automobile roads.

Our national parks are located in wild places difficult of access. Travel to them is at present confined to the few rail and wagon roads leading to them. These roads are expensive in maintenance as well as in the first cost. To build them, paths through the forests were cleared, rivers and caverns bridged, and in many places extensive excavations made to reduce grades. But there is other access to these parks not as yet in use which will require neither roadways or rails, nor bridges or excavations. There is reason to hope that this route may soon be used.

The rapid strides taken in aerial navigation in the past few years have demonstrated its practicability as a means of travel. While it seems certain that it never can compete with the railway train or the steamboat in carrying large bodies of people in one company, yet it will be but a short time till parties equal in size to those now accommodated in automobiles will be safely and easily carried from place to place.

It is only 13 years since the first flight was made by man in a heavier-than-air machine. Within that time the length of flight has been increased from 1 minute to more than 24 hours, the altitude from a few feet to more than 26,000 feet (more than 5 miles), and the load from a few hundred to several thousand pounds.

Travel by air is in many ways the most pleasant mode of travel. It is free from dust, smoke, and vibration from which one suffers in travel by rail or automobile. It is true that in very boisterous winds

one may be tossed about somewhat as in ocean travel, but even in this the sensation is not particularly disagreeable.

The aeroplane offers not only the cleanest, but also the fastest mode of transportation. All other vehicles must follow certain routes to avoid steep grades. They often follow the winding courses of streams of water. The aerial route passes over mountain or plain, over hill or dale and over river or lake, with almost equal facility. Not only can low places be reached by air, but the highest mountains as well. An altitude of over 26,000 feet has been attained by aeroplane—a feat never as yet accomplished by any of the older artificial means of transportation. The aerial route is not only the most direct and the cleanest; it is the safest, at very high speeds. When traveling at a speed of more than 40 or 50 miles an hour the aeroplane is now safer than an automobile.

But in order to visit the national parks by aerial routes, suitable landing places will have to be provided, either within the parks themselves, or in the closely adjacent country. Landing places should be on flat, level ground of smooth surface, and of dimensions of at least 1,000 feet on a side. Many machines require more space than this. Sixteen hundred to two thousand feet, in at least one direction, is not too much.

In the plains west of the Mississippi and east of the Rockies landing places can be found almost anywhere; but in the mountainous and hilly regions of the far East and far West they are not so plentiful. Here suitable landing places either will have to be prepared or those already existing must be found and marked so as to be easily recognized from distances of 5 to 10 miles. When flying at a height of 1 mile, one has a territory of nearly 200 square miles in which to find a landing place; but unless safe landing places are plainly marked the flyer can not know the nature of the ground until he has come within a few hundred feet of it. Then, if the motor is not operating, it is too late to seek a landing place elsewhere.

It is true that most of the national parks do not abound with such spots already prepared by nature. Neither the rugged mountains with snow-capped peaks and rocky slopes or wooded sides nor the deep river gorges of bowldered beds and precipitous walls lend themselves easily to the formation of ideal landing stations. Yet it is probable that within every national park nature has provided many, or at least a few, such spots, which with little aid from man will serve very well for landing stations. Probably no one as yet has ever looked over our parks with this object in view. No doubt aeroplanes will be improved within a few years, so that smaller spaces than those already mentioned can be utilized. In Crater Lake Park, in the Yellowstone, in Glacier Park, and probably in some of the

others are bodies of water large enough for the landing of aeroplanes equipped with hydroplanes.

When viewed from above, the flat, monotonous landscapes of the eastern part of our country take on a new beauty, never seen from the ground; the plowed fields, the fields of grass and grain, and the wooded spots appear as a patchwork of beautiful colors; the hills and valleys are scarcely distinguishable; and the whole, seen in this way, appears as a flat plain, marked and colored with a beauty not to be otherwise imagined. But the grandeur of our national parks is in their high mountains and deep valleys. No matter by what route we arrive, these features must be viewed from the ground to be fully appreciated. The giant sequoia, when viewed from on high will be no more impressive than a modest shrub, and the Grand Canyon of the Colorado will flatten out almost to a plain. Though the shining river will be seen winding its tortuous way in a mass of variegated colors, the grandeur of the gorge in size and sculpture will be gone.

THE PRESIDING OFFICER, DR. ROWE.

Mixed up with the affairs of the American Automobile Association for a number of years is a gentleman who was one of the pioneers in transcontinental touring many years ago. I was one of the first two or three to take a motor car westward from the Allegheny Mountains, and it was some experience. In a good many places there were no roads. Some of the roads that were once quite famous as through routes between the East and the West had been allowed to deteriorate to the point where they were not used at all except to pass over on horseback. But here we have some one who went over the entire distance to the other side and back, and he is here to tell us something about his experiences, and the program says that he is to tell us about the equipment for transcontinental touring. I have very great pleasure in introducing Mr. Seaman, of the Long Island Automobile Club.

A. W. SEAMAN, LONG ISLAND AUTOMOBILE CLUB.

TRANSCONTINENTAL TOURING EQUIPMENT.

The subject of equipment for transcontinental touring by automobile is a large one. People's idea of what is really necessary for their comfort is about as varied as the definition of the term "necessaries" in a matrimonial dispute. There is a generally accepted idea that you must have at least paraphernalia weighing between two and three hundred pounds in order to be comfortable. The

tourist, however, soon learns by experience that many of the articles which he at first considers necessary are not at all needed.

The first thing to be considered is the selection of your car. Almost any of the stock cars will make the trip without much difficulty; how much, however, depends largely upon the driver. If you consider comfort and economy, always bear in mind that every pound of unnecessary weight impairs its efficiency; that power is useless if, in consequence of excessive weight, the car sinks to such a degree as to take the weight from the driving wheels, with the necessary loss of traction.

To my mind an ideal car is one of medium weight, fair horsepower, and plenty of clearance.

The steering rod should be above and behind the lower edge of the front axle, if possible, for the reason that sometimes you have to push it through mud; sometimes you will drive on a newly constructed road where they have simply cut down the trees and dragged the earth over the stumps; you may be driving across the prairie and a rock be hidden in the center, or it may be a hard, high center. In either case, your axle protects the rod if it is behind it. If equipped with a petcock on the underside of the engine base, this should be removed and a beveled plug substituted. This is important, as grass, brush, a high center, or a stone may strike it. It may be broken or only opened; in either case the result is loss of oil, and before the driver knows what has happened he has burned out bearings and frozen piston rings. In this connection let me impress upon all a caution to watch out for high centers. If you are in doubt as to whether your car will clear, make a new track. It will be a little rougher, but may save you serious trouble. On our trip we saw a number of cars with bearings completely cut to pieces because they had hit an obstruction, opening the petcock, or fracturing the base, and we passed many engine pans, torn and bent, rusting by the wayside.

Another thing in making your choice: Be sure and select a car with the seats high enough to be comfortable, so that you can sit for hours without becoming cramped.

What constitutes necessary equipment depends largely upon the manner in which the tourists desire to travel. In a strict sense a good hatchet, short crowbar, shovel, a "pull me out," or instead 100 feet of strong cotton rope one-half inch in diameter, one single and one double 3-inch pulley block, and a piece of stout board 8 or 10 inches square to put under the jack in sand or mud are about all you need east and north of Colorado Springs. West and south, in addition, a roll of chicken wire 1 foot wide, 100 or 150 feet long, a ball of cotton cord three-sixteenths inch in diameter, an extra can of oil,

and an extra 5 gallons of gasoline and, more important than all, an overabundant supply of water should be carried.

The wire is for use to get out of deep sand; it beats canvas all to pieces. We saw many strips of canvas that had been torn in bits. It should be cut in two pieces the first time you have occasion to use it. To use it, jack up the front wheel; stretch one strip under the front wheel to the rear wheel on each side; leave enough fullness for the rear wheel to catch and draw the wire under when you apply the power. The front wheel holds the wire from slipping, and the wire gives you traction. You will be surprised to see how easily your car will come out of sand of any depth.

It may not be necessary to use any of these appliances. On a trip of 9,000 miles we only used the wire once, and that was to get out of an arroyo where we could not go in either direction, as the driving wheels cut away the sand until the car rested on the differential the moment we put on the power, yet as soon as we put the wire under, the car came out as if on an ordinary dirt road.

Much time and anxiety will be saved if you first ascertain from the manufacturer of your car what kind of oils are best for you to use and then write the oil makers, giving your route, as they will give you the name and address of the dealers most convenient to that route.

We have learned that it is a poor barrel that will not supply any kind of oil one asks for; also that it is wisdom to ask what kind of oils are carried and not for the oil you want.

It is advisable to carry an extra supply of gasoline to guard against accident, although the supply stations are, as a rule, not over 75 or 80 miles apart; yet between Ely and Tonapah is a place where they are 130 miles apart. It is, moreover, comforting to know that you have an extra supply with you in case you spring a leak in your gasoline line.

Water should be carried either in canteens or water bags; water bags are preferable, as they will keep it cooler. These can be procured in any of the western cities. You will be told to soak well before using the bag. This is imperative if you want good service. In carrying them they should be suspended from the car, but lashed so as not to swing or chafe. If they are allowed to rest upon the running board or to chafe they soon leak. Make it an invariable rule to keep all the water bags full all the time. Always refill at every point where you can obtain a supply, regardless of how little you may have used. This may mean your life or it may, if you use a water-cooled car, mean the life of your engine. While we drove an air-cooled car, we made it a rule to carry from 12 to 15 gallons of water, and yet on one occasion where we had expected to lunch

at a point 50 miles ahead, owing to the removal of the road sign, we got off the road and did not get on it again until the next day and were obliged to camp at night where we could not get drinkable water. The next morning we fell in with another party of tourists who stripped their differential soon after joining us, and while it was only 16 miles to the nearest ranch, as we had to take him out of the washes and over some of the mountains with a block and fall, it was late in the afternoon and our water supply was exhausted long before we reached a point where we could renew it. I would caution you not to drink the water in the streams on the desert, as it is often poisonous.

The sporting-goods stores have a tent of khaki, wall-tent construction at the back and A-tent construction in front, with one jointed tent pole and one guy line to hold it in place. The wall of the tent should be of the height of the wheels of your car, and in using be sure and tie the corner ropes to the wheels. If you tie to the body of the car the springs give when you step on the opposite side, and this is apt to tear your tent. The center ropes may be tied to the door handles. We prefer a tent made of balloon silk, as it is much lighter. You should have in the wall of the tent a window for ventilation; covered, however, with mosquito netting which should be sewed to the tent itself as part of the wall. Outside, over the opening, should be sewed a curtain, considerably larger than the opening, which can be rolled and tied up in fair weather or tied down in stormy or cold weather. Across the front, sewed to the outer edge of the opening, but inside the tent flaps, should be good strong mosquito netting with at least 1 yard of fullness or lap and at least a foot longer than your ground length, so it can be tucked under the floor.

You should have a sod cloth around the tent at least 1 foot wide. It should be roped for four tent pegs on each side and two in the back. It should have four ropes to tie to the car. No knots should be allowed in any of the strings or ropes, but all the ends of the tie strings or ropes should be whipped, as a knot will, in an increditably short time, chafe a hole through the cloth by the vibration of the car.

The floor should be made of 12-ounce canvas. You can procure it in one piece up to 120 inches wide. It should be made with a 5 or 6 inch side wall. To make the side wall, fold the canvas back the height that you wish the wall, then run a seam or tuck along the edge of the fold. Do this on all four sides. On the extreme outer edge of all four sides and at the end of each seam sew a galvanized-iron or brass ring. When you tie these two together the side wall stands almost perpendicular. This floor cloth, with the mosquito netting, will make your tent absolutely insect proof.

Waterproof the tent and tent floor. A good waterproof solution is made by shaving 1 pound of paraffin to 5 gallons of gasoline. Stir till the gasoline will dissolve no more of the paraffin, then immerse the material to be waterproofed and knead it till it is thoroughly saturated; hang up and dry. It is needless to say care should be taken that no one strikes a match or has any fire while the gasoline is evaporating.

In carrying your tent, fold it with the roof in, all strings out. Do not let any of these come in contact with the roof of the tent. Fold it between 2 and 2½ feet wide; then roll in a compact roll. A tent 9 feet wide, 8 feet deep, made of balloon silk, can be carried in a small bag. The bag should not be waterproofed, however, but should be of some material of open weave, as you will frequently be required to pack your tent when it is wet, and unless the air is allowed to get to it there is danger of its mildewing. If packed wet, you should take time enough when you stop for lunch in the middle of the day to air and dry it.

We have used a tent made of balloon silk for six years. The last year we used it we were caught near Tampa in a storm where it was reported that 15 inches of water fell in 12 hours, and we have every reason to believe that that report was not exaggerated, yet we kept dry.

A division curtain can be fastened to the tent pole in front and to canvas loops sewed to the rear wall. Be careful not to allow anything to touch the canvas of your tent while it rains, as it will cause the water to seep through.

Wooden tent pins we found most serviceable, all conditions of soil considered. These, together with the tent rope (which should be waterproofed), should be carried in an oilcloth bag, the glazed side in, for the reason that you frequently pack them when they are wet and dirty and you can more readily clean the dirt from the glazed side of your bag. You should carry a number of spare pins. Carry the pole in a canvas bag.

The tent floor can be folded in any size most convenient for stowing. Some tents have the floor cloth sewed to the tent, but in a tent of this size you will find it much more convenient and much better to have them separate. One advantage is that you keep your tent clean, even though your tent floor may get dirty from being on wet ground. I have slept on our tent floor, made of 12-ounce duck, when the water was several inches deep under and around us and still kept dry.

While some tourists arrange their car so that they may sleep in it, a tent is much more preferable to my mind; among other reasons you have a place to cook or eat when it storms. You can keep insects out. We have been very cozy in our tent while the storm was raging outside; besides, you have a place to entertain the people

whom you meet on such a trip. The tent and outfit complete will weigh about 20 pounds.

For cooking we found a small stove which will burn kerosene oil under pressure, making a blue, smokeless flame, to be most serviceable. We have used both the Jewel and the Optimus with perfect satisfaction; both of these come apart and can quickly be packed in a small box. With either you can cook in your tent. You should, however, have a piece of pantisote about 2 feet square, to place over your tent floor and under your stove, to prevent any oil from getting on your tent floor, and also to prevent the possibility of burning the floor. With such a stove it is not necessary to build a fire.

In six years of traveling we found that all objection to camping was removed the moment we told them that we did not build fires but used a stove in the tent or in front of it. Full directions for using come with the stove. It should, however, be started with alcohol.

You can take off the engine hood and use it as a wind shield if you cook outside. A wind shield is necessary in windy weather.

A tramper's outfit of aluminum "Neverwear" is the lightest and most compact outfit I know of.

This consists of 3 pails, a coffee pot, 2 frying pans with adjustable handles, 4 plates, 4 cups, 4 bowls, 4 tea and 4 table spoons, all fitting into the 3-gallon pail; 4 steel knives and 4 aluminum forks come with the set, but it is preferable to carry them in a separate bag. Extra singles can be obtained if you want more than the set. The outfit weighs 11 pounds.

You should count your cooking utensils every time you pack them, as it is so easy to miss one. For a tablecloth use a light table oilcloth. A light color is preferable, as you can more readily see dirt and remove it.

It is important that you eat good, wholesome food and regular meals night and morning. You can have a light lunch in the middle of the day. It is preferable to have your main meal at night, for several reasons: You do not have to pack your cooking utensils but once a day; you have plenty of time to cook the meal; and you can have your food in much better condition, as you can buy your meat in the afternoon and carry it without difficulty if you keep it away from the heat of the engine or muffler. You can also prepare the drink for lunch in the morning and by the use of thermos bottles have it in good shape in the middle of the day. We found a case holding three 1-quart bottles very serviceable. It also saves time, which is of considerable importance. At night the food box should be put in the tent or car; meat and milk hung from a limb or the car. There is always danger of stray animals helping themselves.

Provisions can be carried on the running board in an ordinary cake box lined with corrugated paper, provided you put a loose-fitting rubberine or pantasote cover over the box in such a manner as to permit the air to circulate around the box. The box should be first strapped fast. The rubberine cover should also be fastened down to prevent its blowing off. This can be done by using small snaps. It is important, however, that the air is permitted to circulate under the cover. We have carried one for years and have had no difficulty in keeping our butter hard and crisp, although the temperature has been over 80°. The only time that it failed to work was in the desert when the temperature was over 100° in the shade. It will, however, soften up at lunch if the weather is hot, but then only after you take it out of the box. Carry butter, sugar, coffee, and such things in lightning sealing jars; each jar should be in a loose bag; bread and such articles in small waterproofed bags, which can be made of balloon silk. By having each jar in a bag by itself you avoid the risk, to a great extent, of breaking, and also it is much more convenient to get at, as each has its place in packing, and you can pull out one without taking out all. It is well to carry enough canned goods for at least a 24-hour supply, and it is better to have a 48-hour supply, for use in case of emergency.

For bedding, a heavy eiderdown or cotton quilt, which should be covered with a light washable material; this should be so made, either by buttoning or tying on, that it can be removed and washed. This, with two good woolen blankets, all made in the shape of sleeping bags, will be about all the bedding you will need. Such a bed on the floor is very comfortable, and you can use as much or little of the covering as you wish, accordingly to the temperature. To make it, fold the blankets and quilt separately, so that the seam will come on top. Sew each about two-thirds its length; also sew across the bottom, but leave a small hole through each outer corner at the bottom. To each lower corner of the inner bag attach a strong cord, long enough to meet and tie, with plenty of length. In use, put the cord from the inner bag through the corners of the outer bag and of the quilt, and then tie together. This holds all three in place, and you can shake them out for folding. This bed, with a small pillow, a pair of slippers which should be carried in a small bag, and a pair of pajamas, complete the outfit. To pack them, roll in a compact roll and strap with a good leather strap at each end. When rolled, place them in a canvas bag which has been waterproofed and which is long enough to tie. This bag serves the double purpose of keeping your bed clean and dry. A bed thus made will weigh about 10 pounds. As you usually pack early in the morning, occasionally in the middle of the day when you have a good sun you should air the bed.

Each traveler should have a small bag in which to carry his personal toilet articles, such as toothbrush, comb and brush, towel, wash cloth, etc. We found the color scheme, or marking the toilet articles and bedding with a ribbon of a particular color, very satisfactory, as it enabled each one to know his own belongings at a glance, and without the necessity of unrolling.

Our outfit, consisting of tent complete, stove, dishes, bedding, and provisions, weighs less than 100 pounds.

We found a lined leather cap with broad visor, protected our heads, no matter how hot the temperature.

Personal clothing should be limited to a light woolen or cotton shirt with soft collar (both for men and women; it is often cheaper to buy a new shirt than to wait and have it washed, unless you are willing to wash it in a stream and let your back do the pressing), a change of underwear and socks, one pair of thick drawers, as it is sometimes cold in high altitudes, a sweater, a duster, and a waterproof coat, with the usual toilet articles, are sufficient to enable one to travel comfortably.

Mrs. Seaman says either khaki or corduroy makes a good outing skirt; that with either, and a leather coat and cap, sweater, black woolen tights, duster, a one-piece crushable silk dress and knit underwear, she is ready to start on any trip.

The most convenient towels and wash cloths are made of hemmed cheesecloth. They take up water well and dry quickly. These also should be marked with the owner's color.

For general washing, carry a collapsible canvas wash basin and a cake of soap, which can be carried in it (but it must be in a soap box), and this should be carried where you can easily get at it.

You should have one dress-suit case into which you put your toilet articles and the articles which come in daily use. One suit case will be large enough for the party. The dress-suit cases containing the spare clothing should be first carefully wrapped in paper and then wrapped in oilcloth before being strapped upon the car.

If you carry passengers in the tonneau, you should tie your bed, tent, and tent floor in a compact bundle, then wrap it carefully in oilcloth before lashing it on the luggage carrier, and after lashing it to the luggage carrier you should also have a loose-fitting cover, similar to that covering your cake box on the running board, going over both the luggage and the lashings. This also should be tied down. You should also put oilcloth under the bundle before you put it on the luggage carrier, as water from the wheels will otherwise work up into the baggage. If you do not carry passengers, you can use the tonneau in lieu of the luggage carrier. In this case you should make a canvas cover with a cord running from the middle of the front seat to the middle of the tonneau behind the

back seat. This cord should run through rings fastened to the underside of the canvas cover, which should be water-proofed, and made to extend over the front seat, back upon the slip cover of your top, come down and button over the side of the car to the side-curtain buttons. We found taking an ordinary suspender with the snap which is upon it and fastening it to the tonneau was a good thing to hold the cord. This will keep out the dust and dirt from your tonneau and will stand a pretty heavy rain, and will more than pay you for the trouble of making.

A convenient thing in which to carry sweaters, raincoats, dusters, and such articles, which may be needed at any time, is what we call a handy bag or a bag made of canvas, with a long flap to cover the opening, large enough to rest upon the floor of the car and have the upper corners tie to the robe rack. A convenient size will hold about a bushel and a half.

If you have any taste for photography, no outfit can be said to be complete without a good camera. This should be carried where it will not get the heat from the car or be over the muffler. In the desert in addition to its regular case we found a cardboard box covered with pantisote, with a top of canvas that could be tied with a puckering string, large enough to take two cameras and a box containing a dozen rolls of films, to be very serviceable.

We also found it advisable to send our exposed films to the photographer at once. Whether it was something in the atmosphere I can not say, but we had exceptionally satisfactory results in having our films developed at Denver. It is well to make arrangements with the photographer who deevlops your films to keep the films, sending you a print in order that you may see what kind of work your camera is doing.

In every car, whether it is for a long trip or a short one, there should be a small package containing scissors, bandages, a bit of gauze, a roll of adhesive plaster, a small box of absorbent cotton, a bottle of bichloride tablets, and a small flask of whisky or aromatic spirits of ammonia for use as a stimulant, for use in case of emergency; a couple of pantisote robes to sit on when eating outside the tent are very convenient.

It is a good thing to carry a bottle of insect repellant. You can usually get it at a drug store ready mixed. If not, a good recipe is: Oil of citronella, 2 ounces; camphor, 2 ounces; oil of cedar, 1 ounce. This will not injure the skin or fabric, and if sprinkled on the floor it will prevent mosquitoes and other insects from coming in, which are in many places quite annoying. Another mixture is: Pine tar, 3 ounces; castor oil, 2 ounces; oil of pennyroyal, 1 ounce. Heat the tar and oil, and mix thoroughly; when almost cool, stir in the pennyroyal; bottle and cork.

In camping always select a place where the drainage from the house and outbuildings is away from the source of water supply which you expect to use. If the drainage is toward the well, don't stop there, but go on until you find a better place. Try to select high ground for your camp, and after having selected the place, pitch your tent where the ground slopes away from it, if possible. Don't trust to appearances and think it won't rain, or you may have an experience similar to that we had when we pitched our tent without regard to the slope of the ground one beautiful, clear, starlit, night and sat in the car from 2 o'clock until daylight, while the water ran under the tent.

And in breaking camp in the morning make it an invariable rule to always leave your camping site as clean as you would like to have your own lawn left had some one camped upon it. Papers, tin cans, and other litter, unless you can dispose of them by burying them without difficulty or burning them without danger, should be carried until you can find a place where you can so dispose of them. Don't permit it to be said of you in the future by anyone that you had left an unsightly place for some one else to clean up or had done anything to mar the beauty of the landscape or offend the sight of those who may follow you.

While the following suggestions are not, strictly speaking, touring equipment, they may not be out of place.

We have found that it was well to go to a standard tire maker, give him your itinerary, and obtain from him an order addressed to their agents, directing them to supply you with tires, and take your check as tendered, which means uncertified. Do not carry much money; travelers' checks are so easily obtained now and the cost is so slight that it removes the temptation of robbery.

Have one of your party act as pilot; he should have charge of a compass, road guides, maps, etc. The driver should never be required to look out for road signs; that should be the duty of the pilot.

Always strain your gasoline. You will be told that it is not necessary, but a piece of chamois as a preventive beats cleaning your carburetor. Go over your engine every day. Watch particularly spring clips and the bolts which hold the engine and the body to the frame, and when you think you have oiled everything, think again; and particularly watch oil in transmission and differential.

The joys of a transcontinental tour will make you forget all the difficulties you encounter.

And last, but not least, be careful how you choose your touring companions. Much depends upon it. Choose those who can smile, whatever happens; and one of you should have enough mechanical skill to enable you to make ordinary road repairs. It is well to ar-

range with the manufacturer of your car to ship you any part that you may desire in case of accident.

THE PRESIDING OFFICER, DR. ROWE.

Of course, ladies and gentlemen, I think you will realize that what Mr. Seaman was speaking about is where you put up your tent and rough it over the country. That is very admirable for those adventurous spirits like Mr. Seaman and his wife, who are unusually enthusiastic motorists, but for the fellow who has knocked about as much as I have in motor vehicles, I will take the hotels in the simplest way; and I am told now it is possible to go the entire distance without departing very much from the usual accompaniments of sweet civilization.

We have to-day with us some one who prior to the last few years found it very convenient to roll his machine on a boat in New York and go over to the other side. This gentleman has been identified with the American Automobile Association for many years, is a live member of it, and a highly esteemed one, and one who has perhaps rolled up more mileage seeing the wonders of the other side than at least the average man. I am informed that a year or two ago he thought he would see what our country was, and so he went over to the other side of the country and traveled north and south and east and west over it until he knows it pretty well. Now, he is very well acquainted with how they have capitalized the sites of beautiful scenery on the other side, and when we consider that we have on this side something that will discount the best they have over there, I am told—I have never been there; I have never had hankerings for the other side, particularly during the last two years—I seem to have acquired a very great distaste of any idea of going to the other side at this particular time. But we have something on this side.

I am going to introduce Mr. Cortlandt Field Bishop, whose program assignment is to tell why the national parks should be made ready for the motorists.

MR. CORTLANDT FIELD BISHOP.

AMERICAN VERSUS EUROPEAN SCENIC ASSETS.

Mr. Chairman, ladies and gentlemen, when it was first suggested that I should talk and make a comparison between American and European scenic assets I hesitated very much because I think those who are in any way acquainted with the subject have no choice in the matter. We have a great many wonderful things over here and Europe has a great many wonderful things over there; but I think

in the matter of scenic specialties we have one or two things here which can not be equaled or excelled anywhere, objects which are absolutely unique, objects which have been heard of for some time. But now we are thankful to see the national parks under the control of the National Government. There is no Yosemite anywhere but in California; there is no Crater Lake anywhere but in Oregon; there is no Grand Canyon anywhere but in Arizona. Those three national parks alone are sufficient, in my opinion, and I have been to most of the scenic places in Europe and to some of those in Asia and Africa, to show me we are ahead in the matter. That is why I thought it would be superfluous for me to talk here on any comparison.

Of course, the great beauties of Europe are the mountains. We have all heard of the mountains of Switzerland and the Pyrenees and the Austrian Alps, which are the finest of their kind in the world. They may be not up to the Himalayas, but they are more accessible. We have here in the Rockies just as fine scenery in every way, I am told, as anything in any part of Europe. I mention the Rockies, but unfortunately the central Rockies are not at present accessible for motor vehicles. The Glacier National Park is rather out of the way and while it is possible to get there most of the persons who do visit it tour it in automobiles. It is still difficult to get the automobile up as far as that. In Yellowstone Park the scenery is perhaps less of an Alpine character—not glaciers—but it is within the reach of the motorist and the number who have been there the last few years is greater and greater.

I can not claim to any distinction as a rough-and-ready traveler like the gentleman preceding me. I have never camped out in an automobile. I have always managed to get to and sleep in a bed. So I am not a hero in that line. I am afraid I love comforts too much and that is perhaps the reason I found Europe so satisfying. For the last 18 years I have motored in Europe, until the war, and always managed to find a comfortable bed and board. So when the European war came about I was hesitating what to do and I fortunately had some friends interested in good road building in California and they suggested my going out there, and in a year and a half I made three visits, but shipped my automobile wisely by railroad and enjoyed life motoring up and down the coast.

During my three trips on the Pacific coast, the last being quite extensive, extending from the Mexican line up to the northern part of British Columbia, I found everything delightful. I do not know that I ever enjoyed motoring anywhere as much as I did on that last trip, because I found so much to see and to admire in nature.

Of course, to-day I have to talk—I believe it is my business—to speak on the topic of making the national parks accessible and con-

venient for motorists. I have, therefore, thought it wiser to restrict myself to the national parks I know something about.

I visited Yellowstone a great many years ago, before motors were dreamed of or invented, and my experience on the Pacific coast has been confined practically to the three parks.

We all know about the Yosemite in California, Crater Lake Park in Oregon, and Mount Rainier Park in Washington. I visited all three of those this last summer.

I suppose that it is a well-known fact that national parks, as we understand them over here, are unknown in Europe. There is absolutely nothing of the kind. The scenery very much takes care of itself, because all of the countries have taken pains to preserve the forests from desecration; but the national parks such as we have are not though of, and consequently those matters have been allowed to take care of themselves. As it is, matters have gone on very well, and there has been no particular desecration. There is one thing in Switzerland which I am glad to say the national park movement will keep out of this country, building scenic railways and elevators to all sorts of beautiful places, and thereby spoiling them, although rendering them accessible.

The first time I went up the Jungfrau, I fortunately arrived at Interlaaken a day or two after the elevator was opened. The trip impressed me very much; but I expressed the hope, and I hope it will be realized in the future, that none of the other beautiful mountains will be spoiled in that fashion.

We know that in the Yosemite, for instance, this proposition a year or two ago up to Glacier Point was howled down; and I am very glad to feel that the Federal Government will never allow such a thing to take place, whatever may be the popular demand for it.

As it is now, one can go to Glacier Point by automobile. It is a rough and risky journey. I had it myself last year, but we hope as a result of this movement the time will come when a safe road will be built to that point, as well as all others of the national parks, easily accessible.

The chain of parks I spoke of appealed to me particularly, because they followed in sequence from north to south and are really quite easily reached from the main centers of population in the West. One does not require the long trip across the continent. The Yosemite Park has been made in a day from San Francisco, frequently by motor, although I should think it would be a pretty long day.

I do want to make a comparison in one sense with the European mountain ranges, and their convenience of access by motor, because I want to show how little we have done in that line. As I said, the finest mountains in Europe are the Pyrenees, the Alps, and the

Appenines—all of those can be reached and crossed in every direction by countless passes, all of which are covered by roads well built and kept up. There is only one exception, and that is the eastern part of Switzerland in the canyon known as the Grisons Canyon, which is perhaps the longest in Switzerland. They have very fine scenery, but their roads are not of a modern sort. They were built years ago in the old coach days—I might call them prehistoric days—and they have never been improved in any way. As a result, the people of that part of Switzerland have forbidden the use of motors altogether and have lost much travel and kept away the most desirable class of tourists.

I do not want to say anything detrimental of Switzerland; but I think they have made a great mistake in excluding motors from the eastern part of the country. I am glad to learn of late years thousands of the automobiles are allowed in all of our national parks, and their use is being encouraged and is to be encouraged instead of discouraged, the way that Switzerland has done in the past year.

Now, this European war is not going to last forever, notwithstanding appearances to the contrary, and there will be a vast number of Americans used to going abroad before the war who will not be particularly anxious to go abroad in the future on account of the many inconveniences which will result immediately after hostilities have ceased. Now, those Americans ought to be encouraged to visit our national parks in the West. Those persons have been used to motoring a great deal in Europe for many years and will feel the want of it.

I spend my summers in a little town in Massachusetts where the number of motors is increasing rapidly every year; even until late autumn a ceaseless stream of tourists come from all parts of the East and travel over that part of the country, and travel most of the day and all night long. Now, those people will look for other fields after awhile. We want to encourage them.

The national parks want to do all they can to attract those people, and many things must be done to get them and make them comfortable. I do not know whether one realizes, who has not studied it, what an immense country this is and the great distances. We talk of the parks as if they were all together. You will find, however, it is a matter of thousands of miles, and most of the distances extremely bad highways, and that is one reason that makes it extremely difficult. Cooperation will be necessary to connect the parks with one another, and that is one of the results of the Federal-aid road act of last year that should bring about an expenditure of money where the population is sparse in certain States and the States can not themselves furnish the money to build good roads to induce travel.

Going back to the three parks familiar to me, I found a great difference in the methods of access to the parks in each State. For instance, in Washington there has been in that State more progress in road building than any State in the Union. Washington certainly has done wonders. There was last spring, and is still, I know, a fine highway from Seattle and Tacoma into the Mount Rainier National Park. To be sure, the park district of Mount Rainier has had but very few roads until now. But what it has got are of excellent quality, and it is perfectly possible for a citizen of Seattle to drive his motor up to the glaciers of Mount Rainier in a morning's run, something that can not be done anywhere in so short a space of time. None of the European cities is as closely situated to the glaciers as are Seattle and Tacoma. On the other hand, the difficulty of driving in a motor to Crater Lake is about as great as anything I can imagine. I made the trip myself last year, and until I got to the reservation I saw no decent road. I suppose Crater Lake has been described a great deal this week, but I can assure you it is well worthy a visit. At the time I was there I was perfectly astonished to find a good road, with proper grades and proper curves, being laid out by the Federal Government. But against that there were perhaps 100 miles of rough mountainous road which Oregon has done nothing to improve. And that is really quite enough to discourage anyone from going to Crater Lake.

In the Yosemite Valley—I speak more particularly of the Yosemite because I have made four trips there, two in the last year by motor—I must say that the Yosemite Valley has a great deal of room for improvement in regard to its highways. My first visit was just as I was going to college, some 30 years ago, and I then made the trip by stage, the only method possible, and I remember I thought the roads so bad those days it was cruel to allow horses to pull me, and I walked most all the way. I came back after 30 years in my automobile, and I find the roads more cruel than ever. I left the Yosemite as a result, and came back to the San Joaquin Valley. I had not a single spring that was not broken, and I had to lay up three or four days before I could go farther. Those roads seemed to me not to have improved in those 30 years. Of course, we must not put the blame all on the Federal Government. Some of those roads, some 40 to 60 miles in the distance, lead through territory not under the Federal Government, and most are toll roads that were laid out by toll companies some years ago, and have not been kept up. It certainly is bad enough to have to pay toll, but doubly so on a road almost impassable. And that is one reason why the State has a matter of great difficulty that will take a great deal of time and trouble to rectify. But I do think that our money can just as well be spent on

making our national parks accessible as on post offices and customhouses in remote villages, as seems to be the fashion nowadays.

There is another trouble about the roads in the neighborhood of the Yosemite Park. They were laid out as old coach roads many years ago, and without regard to proper grading or safety. The roads are extremely dangerous leading into the park. Perhaps you are aware that although the floor of the valley is 4,000 feet above sea level, it is impossible to go by highway without crossing a pass 7,000 feet high to get over the divide. The railroad comes to the Yosemite up a deep valley, and never rises above 4,000 feet altitude. There are three highways, but none comes over a pass of less than 7,000 feet. Consequently the difficulties to be overcome are very great, and all the highways were laid out years and years ago, perhaps at the time of the gold seeking, or maybe later, and no attempt was made to provide a proper grading. The result is most of the steeper parts fatigue any automobile, and the descent was so great there is practically no brake that will not burn off if applied vigorously. All these things require a great deal of attention, and I think there is only one way to bring the matter to bear, and that is for Congress to investigate the matter and provide for going ahead in a thoroughly scientific way, not attempting to touch up the present roads, but construct them anew. I am sure that applies to all the national parks as well as the Yosemite.

I understand in some of the other parks, such as Sequoia and Grant, the roads are not laid out yet; the matter is untouched; and they will be easier to start fresh and do it rightly. I have found many complaints of people going to the parks on account of the regulations imposed on visiting automobiles very much like the regulations imposed on motorists in Switzerland on some of the passes. You have heard of the typical villages in some parts of Switzerland where the limits of speed are small, and you are fined. I have been fined, and everyone has had the same experience. The fines are collected by telephone, and the fine is sent to the village head, and you are forced to deliver before you go on. That is not true, of course, in the parks, but the regulations are strict, and I think rightly so.

I have not been in the Rockies during the crowded season, but at the end, when there are not enough motorists to make the regulations necessary, as at the height of the season the roads are crowded. In the Yosemite the road is so steep that traffic is allowed one way like New York and Boston. People have to wait until their turn comes and start in one direction, and when the hour is up, the traffic goes the other way, and anybody in the interval has to go over the bank until the others go up. That should not exist in the Yosemite. The Yosemite is within a day's run of a great city, and

many people spend their vacations there, and those things should be remedied. They can be remedied. It is only a question of money. I have ridden over roads in Europe far steeper and far more dangerous territory than anything in this country, and I have been over new highways there built so that no accidents are possible. To avoid going over the precipices, solid masonry bridges are constructed, and no accidents can occur; and we must come to that in this country and are coming to it very rapidly.

I mention road-building activities in Washington and California. Those States have to my knowledge within the last two or three years undertaken many problems just as great as anything presented by the Yosemite. There is a road built in connecting a county in Oregon and one in California. I have never found anything more wonderful than that road. The grades are easy, the grading never over 5 per cent, and not a blind corner. You can always see the traffic coming the other way. The State of Washington has done just as wonderful things in the Olympic Mountains. That country was impassable; no road of any sort two or three years ago; and now you can cross the mountains without slipping a cog and without jar.

I presume attention has been called this week during these meetings to the question of hotel accommodation in the national parks. My experience with the Yellowstone is so far back I know nothing really about it, but in the Yosemite I felt things have been very far behind the times. I noted in my last visit I made that plans were on foot for extensive hotel building, and I think that is of great importance to the motorists and every one else. It has been less in most of the national parks I know of. People do not feel comfortable. The equipment was not luxurious enough for the women to spend any time. It is the custom in Europe for people to spend two or three months with their families, but in the national parks under my observation the hotel conveniences have been such that people only stay two or three days and then pass on. That is a fault that can not be remedied without more modern hotels. I believe in the Yosemite, as I mentioned, it is going to be done; and in Crater Lake and in some of the other parks; the sooner, the better in all of the parks. In the far West the hotels have been started originally by the railroads, and while they have done so much, the Federal Government can afford to follow, and I hope such will be the case.

I found in some of the national parks there was another matter needing attention, and that was the Government regulation of the sale of gasoline and other supplies for motorists. It occurred to me, what little I saw of it, that the prices were not kept down as much as they should be to encourage the motorist. I have not an intimate knowledge of the subject, but I believe if the Federal Government attempts to fix a price on gasoline and oil and other

materials sold in the national parks it should be called to the attention of those in authority that the charges should not be prohibitive. I remember when I bought gasoline in the Yosemite and elsewhere the prices seemed very high.

There is a great deal yet to be done in developing our parks in every sort of way. We hardly realize as yet what a tremendous asset they are, and, as I say, I hope this European war keeping Americans here will enable them to appreciate it more and more.

I can not too strongly insist on what, it seems to me, is a very important work of the American Automobile Association. There is, as you may know, in France, a Touring Club de France, which has an American name in part, but entirely French in character. That organization has done wonders in the 20 or 30 years of its existence in developing touring activities all over Europe, more particularly, of course, in France. It has kept the hotels in order, improved them, reduced the charges, looked after the charges, improved the highways, etc., and it seems to me that work belongs to the American Automobile Association in this country, and they can develop it, and I believe they are developing it.

The passage of the Federal good roads bill was a step in the right direction; and it seems to me the association has only begun in slight measure what it ought to be able to carry out with its influence and membership. There can be no greater work than the work of the kind I have mentioned to enable people to understand and appreciate and develop their own country.

The Presiding Officer, Mr. A. G. Batchelder
(Who Substituted for Dr. Rowe, Who Had to Take a Train.)

Mr. Bishop's connection with automobiling goes back to the very early days when perhaps we motorists were somewhat in the position of the man who had bought a horse from the Quaker. The following day he noticed that the horse was not quite up to the standard claimed, and so he started back to see the Quaker, who noted his coming and started to escape. Whereupon the man shouted: "I am not bringing the horse back, but I want to borrow your face and your clothes while I sell it to another man." Now, we were compelled in those early days of automobiling frequently to get behind the other fellow in our advocacy of many of these things that were being brought about. One of the early charges against us in Congress was that all that we wanted were peacock lanes across the country for our highbrowed members to race over and endanger the farmer's children on the way to school and to run down his hens and other fowls. Of course, we did not have any such idea in mind, and we have persisted in the work that we have set out for ourselves, and,

as Mr. Bishop says, and I agree with him in the hope he expresses that we shall be able to do some of those big things like what the Touring Club of France has done. We even look forward to the time we can emulate the National Geographic Society and do something similar to its recent action in taking from its treasury something like $20,000 and thus aid in purchasing and preserving a large section of the big trees in California.

Referring to these "peacock lanes," probably one of the greatest roads across the country to-day, a road which is assuming a tangibility, is that known as the National Old Trails. That road includes in it the old Cumberland Road, the highway on which this Government expended money away back in the early days of the Republic.

Of course, in the case of every road there is a necessity to signpost it to make it easy for the man to follow it, and while Mr. Davis, the secretary-treasurer of the National Old Trails Road Association, was not able to be with us to-day, he has sent in his stead Mr. W. P. Simpson, who is going to give us a bit of a talk on "Signposting on highways and byways."

Mr. W. P. Simpson, Kansas City, Mo.

SIGN POSTING ON HIGHWAYS AND BYWAYS.

Mr. Chairman, ladies and gentlemen, I stand much higher in Missouri as a rock crusher than I do as a speaker. So, I will erect a set of old trails here instead of trying to make a talk [exhibits placards and signs before audience].

These signs are on 2-inch galvanized-iron posts in this form, and set 30 to 36 inches in the ground, secured by a block of wood treated with creosote. This top sign [indicating] is alike all through the system. This sign [indicating] is made—each sign for the particular location along the route as we go over and give the mileage. This work is completed from Los Angeles, Cal., to St. Louis, Mo., and we have contracts from St. Louis, Mo., to Richmond, Ind., contracts by counties for the work which is to be begun next spring as soon as we can cross the Illinois mud roads with a truck, and will be completed into Washington some time next summer. The entire system will then be complete.

This sign [indicating] is made where there is a turn in the road, and there will be two signs and only one figure on the signs.

This sign [indicating] is made in the town of Booneville, Mo., with no mileage. A great many of the towns, or smaller towns, do not even have a marker up that the tourist may know what town he is in. I believe Overbrook, Kans., has one, and that slogan is "Do not overlook Overbrook."

Where there is no turn in the crossroad, the sign is put up parallel with the road and figures at the top and at the bottom, and only one sign. Where there is a turn there must be two signs, so they will show up from a quarter to half a mile before you get to them.

This is the larger sign [indicating] for railroad crossings, one on either side of the road, or short turns; at corners where the view is obstructed, where you can not see the people coming from the other way.

This sign posting has been contracted across the continent to Richmond, Ind., at $10 a mile. It costs a little more than that to do the work, but the Old Trails has asked the larger cities to make up the deficit in this work, so it is taken care of in separate funds from the Old Trails' promotion fund.

I thank you very much.

THE PRESIDING OFFICER, MR. BATCHELDER.

There is a story told of a couple of Scotchmen who were out in a boat which was buffeted and billowed, and it did look as though they would not get ashore. Finally Jamie said, "Sandy, you had better offer a bit of a prayer." Sandy replied: "I don't know how." Whereupon Jamie retorted: "If you don't, I'll throw you overboard." So, Sandy hesitatingly started: "Oh, Lord, I have not bothered you for many a day, and if you'll only get us safely out of this I'll not trouble you again for a long time." Just about then the boat grounded in the sand and Jamie at once cried: "Stop your praying, Sandy; don't be beholden to anybody."

Now, one of our difficulties has been that lack of desire to come in on the great big plan; in other words, we have had 48 separate State units, and it has been a pretty hard matter to get the richer and the stronger of these 48 to help the weaker and the less developed ones. But gradually we seem to be accomplishing that plan, and as President Wilson very forcibly put it, "We are, in this good roads work, knitting together the energies of the country."

Now in everything there must be the man who has the vision, for there is a proverb that the people perish where there is no vision, and so in this work we have had those men who have dreamed the big things which later have become true. Out in Wyoming there are men who dream and we have here a man who conceived the idea that all the national parks should be connected, that there should be roads constructed and maintained in such a way that it would be an easy matter for an American really to see his own country and see it comfortably. Mr. Gus Holm's, of Cody, Wyo., is the man who has conceived the idea of this park-to-park highway and he is going to give us his views on the subject right now. Mr. Holm's.

Mr. Gus Holm's, Cody, Wyo.

PARK-TO-PARK HIGHWAY OF THE WEST.

Mr. Chairman, ladies and gentlemen, the chairman introduced me wrongly. I am not the dreamer of the national park-to-park highway; I am the assistant to the man who really thought of it and made the first suggestion, Mr. Stephen T. Mather. I am representing some local roads organizations which took the work up. I am glad to say that we are making some success and hope in the very near future to be in a position to say to Mr. Mather that his suggestion has been carried out.

His suggestion appealed to us as being very good. For a number of days I have been here listening to remarks of interest about the national parks throughout the United States. I am a westerner. Naturally, I may seem to you a little bit inclined to be selfish with regard to the western country. I have traveled over considerable portions of the western country—very little over the East—and even long before the days of the automobile I traveled over the roads that were spoken of here. I know of them and I know that in some cases they have not been improved but very little. But to us natives those roads are just as easy to get over as the roads that you have in this country. Do not get the impression from remarks that have been mentioned by the former speakers that it is hard to get over our country. I just want to say to you through the State of Wyoming, on what is known as the Yellowstone Highway, there are eight large towns. Every one of those towns has from three to five garages; every garage is fully equipped with machinery, and from 50 to 125 feet long to larger buildings, modern as you will find in this country or any place.

The hotel accommodations along the highway are very good, while possibly not enough to accommodate the increasing travel that is going to come. That is one object with my work. Connected with the promotion of roads in my section of the country I encourage the building of hotels and garage accommodations, so that those of you from east of Chicago that come out to visit our country and the national parks will find it just as convenient as you would traveling in your own section of the country.

The transcontinental highways that have for years been working and striving for the same object have succeeded very well. The opening of the national parks has given us a look in, and particularly in the Yellowstone National Park we have splendid hotel accommodations.

Mr. Mather, as I understand, has removed all the difficulties that have previously caused inconvenience to the automobile travelers

to-day; that is, this coming summer you will travel through the parks just as easily and just as comfortably as you have done over any other section of the United States, without any regulation that will hinder you any further than is necessary for safety.

Now, I have with me a map. I am not going to take up very much of your time, because it is getting late. I have drawn on this map the possible park-to-park highway, not definitely settled on, as it has not been permanently settled on by the different States. I am sure about my own State. The park-to-park highway may be a dream, and I presume it is, but with the assistance of the American Automobile Association, the officers of which have assured me of their cooperation and help, the parts of this big road will be connected up and within a few years will be a reality because of the reason that it is already partly opened. There is no section around that entire circuit that can not be traveled with safety at the present time. The park-to-park highway just simply connects by cooperative energies and consolidated advertising a desire to travel over the park-to-park highway, which is just simply portions of already organized roads.

These are the proposed national parks [indicating on map], of which there are 12. There are 9 at the present time. Very shortly there will be 12. In course of time there will be more, for there is a gentleman here from Denver now working on Congress to establish two more national parks in Colorado.

We have a proposed national park in Wyoming. There are 21 national monuments around this entire section. Those national monuments are right on the circuit or within a very short side trip from the circuit.

Now, the ribbons that are leading east there [indicating] are not accurate. They are not absolutely sure. But they go to show the transcontinental roads that have already been promoted across the continent, contributing to the park-to-park highway. With all due respect to anyone here from inside of the circuit and from my acquaintance with the West, I know of but few attractions within its circuit, except one proposed national park—the Saw Tooth Park—that is having difficulties getting a road that is suitable. That is one of the places that you get the dust that a former speaker spoke of. It will take some years to make that road around this circuit, passing through and over nine different States, eight States entirely, and across one portion of Idaho, making nine traveled through, with the exception of Arizona, New Mexico, and from Los Angeles to the Needles, over a well-established road that is not a sandy proposition. It is a prairie country in most cases and through mountains that are excelled in no place in the world without exception. We can offer in the United States, and particularly on the park-to-park highway,

mountain scenery that can not be beat in any place in the world, not excluding Switzerland, for we have the Glacier National Park, and most of those places I am personally acquainted with, having at some time or other visited them by automobile and before the days of the automobile. The Grand Canyon of the south is now a monument, but will soon be made a national park.

We invite you, we invite the travelers from the East, to take the coast-to-coast highway, no matter which direction you are going to go, whether south or north, it does not matter, and in course of time we will have a road that will be in good shape for you, and we will really have better roads and will be better able to keep them up on account of the less rain than you have here in the East; and, eventually, we will have established a concrete highway around that entire circuit that will then make it possible to travel at the same speed from park to park and visit all the attractions of the western portion of the United States, inviting you not only to pass through our towns, our parks, but to stay awhile, live awhile.

As Mr. Bishop said, in Europe people are staying for a number of months. Why is it? Because you are getting a little farther away, and it is not so easy to get back after you have gone over there, and you do not like to come back until you have seen it all. Do the same with the western section of the United States, and you will be just as well satisfied as with anything you have seen in a foreign country, except they are now in ruins from the effects of war. The map, I think, will possibly speak for itself more than I can say for it. It is only a suggestion; and by aid, as I said before, by the aid of the American Automobile Association and other gentlemen connected with road progress and the promotion of automobile travel the park-to-park highway will be, in my judgment, a reality before many years. Even now, if it is possible for you to get from here to the park-to-park highway, it is more possible for you to travel around it, because it has taken that much of an effect; and, as I said, hotels and garages are building up, with the view of accommodating the travel, and you will not always have to carry a camping outfit.

Speaking of the automobile travel, most of you that are here, possibly a good many of you as tourists only, but if you could only see some of the outfits entering the Yellowstone National Park—my home is right east of the Yellowstone National Park. Last season we had the best year after the first season, because the park has only been open for a while, and many machines came to us from Kansas, Oklahoma, and near-by States, possibly 2 out of 10 from east of Chicago.

Now we are going to make it possible for you east of Chicago where there are more people longing and capable and able to travel

than west of Chicago to reach us, and machines have come across the continent carrying one or two extra inner tubes. They have traveled from New York over the desert country without carrying an extra tire—a good many machines—because at any town along the way you can buy the necessities just as well as in your own city. The places are supplied, and if it does not happen to fit your machine right at the time, it is phoned to the neighboring town. The accommodations are just as good as you will find touring in the East. So do not be afraid, do not be afraid of the West, for every man in the West is willing to help extend to you a friendly hand, and you won't have to bring a lot of equipment.

Our friend Wright suggests that we may have to have a landing place. I do not know, with the growing aeroplane business—I do not know how we are going to find a large enough place for a landing place. That is all that troubles me. In the Yellowstone National Park we might find a place to land one machine, but not too many, for it is too rough; but it is beautiful.

There are one or two other gentlemen to follow me, and I am indeed pleased to have had an opportunity to present to you the park-to-park highway. It has been a pleasure for me to come to Washington, my first visit to our National Capital. I have learned a good deal from discussions that have for a number of days taken place here regarding the affairs of national parks, and I hope to go home with a better understanding of what is being done, with the hope of assisting Mr. Mather and the other gentlemen who are doing the work that eventually will help us. I invite you, one and all, to come out into our section of the country, and from Cody into the eastern entrance of the park travel over 70 miles of the most scenic highway in the United States and over just as good a road as you will find in any other portion of the United States.

I thank you.

THE PRESIDING OFFICER, MR. BATCHELDER.

I must commend your industrious patience of this week. I know the large quantity of information you have had given to you, and that you have absorbed, and I realize along about this hour of the day that only such survivors as Enos Mills and Judge Steel and Mrs. Sherman and a few of that character can stick it out. There is only one other speaker, and he is going to be quite brief, and he takes the place of the chairman of our touring board, Mr. Joyce, who could not be here. Mr. Ferguson is a man who has dared cross the United States with a motor truck. It was some job. He is the manager of the touring bureau here at our National Capital headquarters, and has probably covered more miles of road throughout

the United States of one kind and another than any other man of whom I know. Mr. Ferguson is just going to give you a few words in behalf of Mr. Joyce, who was unavoidably detained in Chicago. Mr. Ferguson.

Mr. Ernest L. Ferguson.

Mr. Chairman, ladies, and gentlemen, I see that Mr. Joyce is down for something about the "Multiplication of American road travel" in the United States, or rather in this country, which means sometimes the United States and a bit of Canada included. Inasmuch as to-day it is possible, with the exception of about 100 miles, to go from east of Portland, Me., and from Quebec, in Canada, to a point south of Miami, Fla., on a highway; that is, I say it is possible, because just this week we have a stretch south of Washington that nothing will get through. As evidence of the touring spirit, let me say to you that last year the bureau carried about three to one for the preceding year, and this year it has more than squared itself. In fact, there are to-day in Washington six automobiles on their way south to Florida. That one trip and that one route is the nearest completed boundary to boundary, in the sense of north or south or coast to coast, of any of the roads, and therefore it is perhaps carrying the greater number, despite some enthusiastic figures that might be given from other routes.

The other main north-to-south road in the United States is the Meridian Road, which probably does follow the central meridian of this country, and the third road mostly known is the Pacific highway over which Mr. Bishop practically traveled in going from that little three-bit town in Mexico, known as Tia Juana, to Puget Sound; and in addition to these there are, of course, many others like the Dixie, proposed to lead from Chicago to Florida, and many, many others, out in the Middle and extreme West in the sense of being this side of the Cascades and Sierra Nevadas.

Then, we have the east and west routes, where—well, I should say six or seven or eight years ago it was a really difficult job to get any sort of a car across the continent by any combination of routings you might pick out, whereas there are now seven main transcontinental routes, any of which can be covered with reasonable comfort during the season, barring a bit of rain here and there in the Mississippi Valley and in the other valleys between the Rockies and Sierras. Of course, the Lincoln Highway is the best-advertised route.

If it rains occasionally you have to lay over. But, as Mr. Bishop said, he did not find it necessary to camp out. I have never found it necessary to camp out on the seven trips I have made. I have camped out, as a matter of fun, but I did not from necessity, except

when we took the truck across that Mr. Batchelder spoke of, and that was because it weighed 10 tons and broke down every bridge, and we had to camp out by every bridge and rebuild it. A man who was a bridge builder approached us on one of these occasions and gave me his card and said, "I will give you a little assistance." I asked him a few questions and found that he was experienced in the building of bridges, and I told him to go ahead. In a twinkling the bridge went up. Then he told me, with a twinkle in his eye, "You people are making business for us," and then he explained that we motorists broke through that bridge about three times a day on an average. But that was abnormal, of course. The truck weighed 10 tons.

A day or two ago a man from New England started across the continent by the southern route, and he has an outfit put up according to his own ideas, whereby he and his wife live in perfect comfort. He has a small engine up front. How it will be made to pull a thousand-pound outfit is a puzzle; it is up to him, anyway; we need not worry. But in the multiplication of road travel you will find generally that while we have been accused as a Nation of softening down a bit and not having the pioneer spirit of our forefathers, that does apply in a measure, for we largely do like to go over roads that are already there. On the other hand, the American Automobile Association has a great many members who do not mind going out and exploring over some very difficult country, and that is a thing that is keeping alive as much as anything, and before the local people especially, with the marvelous increase of autos, that there is now the real need for real roads.

Sometimes I have got into trouble with the suffragists because I claim that, if they would devote as much time and energy to road work as now they devote to their uplift work, they would really accomplish something—because they would give the women an opportunity to vote, when now they can not go to the polls half the time.

They talk about prisons. People have brought the new prison rule into existence. Now, you can take it from me, in my experience in 45 States of this Union, that no prisoner under guard of a man walking on the wall with a gun on his shoulder is more absolutely confined than the women out in the country. We have a mudhole between them and the polling place. And the women out in the country are not altogether stupid on the situation. Do not think that. I remember down here in Fredericksburg, Va.—to show you the countrywoman is really up to date, after all—at the last fair they had down there they took the women and showed them the various historic places in Fredericksburg, and among others is a monument erected to the mother of George Washington. On the monument is

the inscription: "Erected by our faithful countrymen." There was an old lady from away back in the woods present, and she looked at it and said: "Thank goodness, I have seen something for once the city women did not do!"

Now, the countrywomen to-day are really more of a factor, or can be, in multiplying our road travel than any group of city women I ever met, because the city women are too used to travel around on a thing already made for them. But the countrywoman knows what she is up against, and if there are any good suffragists here to-day, if they will do a little on the road question they will be doing something on the suffrage question.

The transcontinental travel has been second in its growth to that along the coast. The last year, of course, was abnormal. Perhaps as a result of the California exposition, those people have gone back East and told their experiences, and through that there has been an immense flow of travel this year across the continent. But the great travel has been, and I say this with Mr. Holms back there, hoping that Mr. Holms will hear me, the great trouble has been in boosting the transcontinental travel, that the rival fellows do not stop at boosting their own road, but they have so much to say about the difficulties of the other fellow's road. Now, you take it from me, they all have their difficulties. When it rains out there, none of them but have their difficulties under those conditions, but in normal good weather most all of them can be made with perfect comfort, and you can have a hotel every night, and a restaurant in which to eat every noon, if you plan a reasonable mileage for the day.

I had prepared quite an elaborate outfit on a possible chance to prove this multiplication table I was up against on the program. The time is late, so I have chopped it all out and got it down to a few scattering wild ideas and remarks that I have been making. But keep in mind this one thing, that you who own automobiles and want to travel, do not be like those whom I once met in a town in Louisiana. It seems they had a delightful little park area there in the middle of the town, eight blocks long, and the question of their touring was going up one side and down the other. I happened to be there with my family on a trip, and suggested that they go along with us on the next day's run. They said it could not be done. I said that is not encouraging, but we are going to try it. The result was that by noon we had eight cars with us at luncheon, and at night four of those cars, and they had gotten one hundred and twenty odd miles, much to their surprise.

Now, all of those conditions exist all over the country, and so do not stand still or circle around in a small area if you want to tour. Because you do not know this yourself, write to us and we will tell you something about it. We either tell you that you can or can

not get where you are headed for, even though you may be like a letter we got the other day. Somebody in Montana wrote in and said five women wanted to make a trip to Texas. They had a cat with them. One of the women was careful to mention the cat; but the next day a letter received from a man stated, "I want to make a trip to Florida, and I want to carry a bulldog with me; can I do it?" Of course they multiplied the amount of travel by one cat and one bulldog.

I expect the extent of travel into the national parks has already been told you. There has been the biggest increase apparently of the number of cars going into the Yellowstone Park. Last year was the first year. The matter is therefore not susceptible to comparison, but this year the number jumped so that I might be excused if I exaggerate. Such exaggeration would perhaps be owing to a Mather-like imagination, rather than a common, ordinary mathematician statement, as our friend has been the one big thing that has brought this result about.

You want to go out into the country of Mr. Holm's, and you will find all that he said to be true.

It being late and having exhausted my own ideas of what I wanted to say, I am going to excuse myself at this point.

THE PRESIDING OFFICER, MR. BATCHELDER.

In conclusion, I am going to inflict just this short story upon the survivors, because it does not apply to you. Down South there was a baptism taking place in the creek, and everything had proceeded with a great deal of success until a quite elderly man was taken in hand by the minister for baptism. Some one from the shore cried out, "Excuse me, parson; I don't mean to interfere with your business; but that old sinner wot you have got hold of needs special 'tension. Yo' jest stake him in dat water for the night." I don't think it is necessary to take any of you people and stake you to convince you that we ought to have real national parks. They ought to be made ready for Americans to see them; and, furthermore, by working together and using all our influence from every possible source, and with the cooperation of a Department of the Interior, which realizes the situation, I am sure that within a comparatively short space of time we are going to have that thing we seek. I thank you very much for your patience and attention.

(Whereupon the Friday afternoon session was concluded.)

FRIDAY, JANUARY 5, EVENING SESSION.

The Friday evening session was convened at 8.15 o'clock. Illustrated lectures were delivered by Judge Will G. Steel, Commissioner of the Crater Lake National Park, Medford, Oreg., and H. H. Hays.

JUDGE WILL G. STEEL.

Mr. Chairman and friends, I know you are my friends, for your very presence here indicates that you are interested in mountains and all they signify; and if that is the case you can not be otherwise.

My life has been given to the freedom and joy of the mountains in the Pacific Northwest. For more than 40 years I have wandered through them, sometimes alone, sometimes in the midst of great, jovial crowds of men and women—two or three hundred of them, sometimes. I have sat before the solitary camp fire listening to the strange notes of the coyote and the solemn call of the owl, while memory lingered in pleasant valleys far away. My soul has gone out to my neighbors, the trees and the lakes and streams, and I have laid awake and watched the stars until I was lulled asleep by the gentle music of the gurgling stream.

On the rim of this same Crater Lake they have spoken of, I have listened to the words of that kind old prince of the forest, John Muir, and well do I remember his words:

> Climb the mountains and get their good tidings. Nature's peace will flow into you as the sunshine flows into trees. The winds will blow their freshness into you and the storms their energy, while cares will drop off like autumn leaves.

I have climbed the mountains and my soul is cheered by the recollection. I have stood on the top of old Rainier and looked to the north over that wonderful wilderness of the Cascades; to the west over the waters of Puget Sound and on to the great Pacific; to the Columbia Basin in the south and far beyond the rugged range to the Big Bend country away off in the east. And my soul has swelled with gratitude to my Creator for this marvelous sermon on the mount, that all who see can read and understand but of which none can tell.

> It seems by the pain of ascending the height
> We had conquered a claim to that wonderful sight.

God has reserved for mountain climbers alone this stupendous grandeur and has sealed their mouths and paralyzed their pens that they may not tell their neighbors.

I was not satisfied to enjoy this life alone, so induced my friends to go with me. The parties grew in number, and I wanted to spread the gospel. With that end in view I organized the Oregon Alpine Club, intending it for mountain climbers alone; but the idea proved popular and the public was invited to join. They did so with a vengeance. When the constitution was ready for signatures, instead of having half a dozen members there were 75 of them, and we poor mountain climbers were lost in the shuffle. It was an organization based on theory and controlled by bright and shining lights of society.

Before we realized it there were 650 members. The seed had been sown in poor soil and sprang up quickly, but when the sun rose the withering process began. I watched it die with a great deal of interest and really enjoyed the transit. During the withering process I had conceived the idea of organizing a club on the summit of Mount Hood and limiting the charter membership to those who had climbed to the summit, a perpetual snow cap up the sides of which it was impossible to ride, horseback or otherwise.

I called in my friends. We formed a preliminary organization and on the 17th of July, 1849, 350 persons met at my ranch at Government Camp, on the south slope of Mount Hood, and there we held the first camp fire. I promised that next day I would show them the Pacific Ocean, but they did not believe me. Next morning we moved camp to the timber line and spent the day rambling over the snow and rocks. Late in the afternoon I led them to the sky line in time to see the sun approach the horizon. When it reached the angle of reflection, a long, golden band appeared, and all realized that they were looking at the Pacific Ocean, over 100 miles to the west. From behind the mountain the waters of the great Columbia emerged and flowed onward to the sea, like a shining ribbon of gold, to Cape Disappointment, 120 miles distant.

Next day, July 19, 1849, we toiled over the snow from early morn to long past midday, when we stood on the highest point 197 strong, the largest number of human beings that had ever gathered on the summit of such a mountain in one day.

We needed a name for this organization of enthusiasts and found one that was coined by a Spanish naturalist in Mexico two or three hundred years ago, Mazama, the significance of which is disputed; scientists sometimes claim it means the antelope, while others favor the mountain goat. However, we took this matter in hand and settled it by deciding that it means the mountain goat, the best mountain climber in the country. So there!

Forty-six years ago I was a farmer's boy in southern Kansas and attended school 5 miles distant. My lunch was carried in a newspaper, the advantage of which was that I had no basket or bucket to carry home. One warm day in May or June, I sat in the schoolroom eating the contents of that paper. When through I scanned the columns, reading the short articles, among which was one descriptive of a sunken lake that had been discovered in Oregon. It was said to be 5,000 feet below the surface of the surrounding country, with vertical walls, so that no human body could reach the water. In the center of it was an island 1,500 feet high, with an extinct crater in the top. In all my life I never read an article that took the intense hold on me that that one did and I then and there determined to go to Oregon and to visit that lake and to go down to the water.

I had two brothers in Portland at the time. Two years thereafter I went to Oregon with my parents and we were met at the steamer landing by my brothers. Before getting over the dock I asked them where that sunken lake was, and found that they had never heard of it. It was seven years before I was able to find anyone who had ever heard of it; then I was told that there was something of that sort in southern Oregon, but my informer was not sure. In nine years I found a man who had actually seen it, and gave me a good description of it that greatly increased my desire to see it. However, I was not able to get there until the summer of 1885, when, together with three friends, we made the trip, arriving there in July.

At Fort Klamath I met Allen David, chief of the Klamath Tribe of Indians, from whom I got the tradition of its discovery. He informed me that, many ages ago, the Klamaths came suddenly upon the lake and at once realized that the Great Spirit dwelt there. Reverently they lingered near for a time, then slowly withdrew. One brave returned and looked upon it with awe, then joined his tribe. Again and again he came; finally he descended to the water, where he heard strange voices and saw many monsters or Llaos in the water. At last his curiosity overcame his reverence and he killed one of the monsters, when myriads of them surrounded and caught him. They carried him to the top of a great rock, where they cut his throat with a stone knife, then cut him into small pieces, which were thrown over the rock to the Llaos below, who promptly devoured him—and such shall be the fate of all Indians who violate the sacredness of the place by intruding upon it.

Crater Lake was discovered by a party of 22 prospectors led by John W. Hillman, then of Jacksonville, Oreg., June 12, 1853, and named Deep Blue Lake. Mr. Hillman was the last survivor of this party and died in Hope Villa, La., March 19, 1915, in the eighty-third year of his age.

While standing on the rim of the lake in 1885, with Prof. Joseph Le Conte, the thought occurred to me that at no point around this wonderful caldron had the hand of man yet desecrated it with peanut stands or other marks of desolation and something should be done to forever save it for the people of this great country. How to accomplish this was the question, so I turned to the professor for counsel. We discussed it at length and finally decided the only way was to have a national park created. Ways and means were discussed, and the work of preparation commenced then and there. A petition to the President was prepared, asking for the withdrawal from the market of 10 townships, which petition was granted the following January, when President Cleveland issued an Executive order to that effect. The actual work of interesting Congress commenced immediately and continued for 17 years when a bill was passed and

signed by the President May 22, 1902, the anniversary of the marriage of my parents. I had the temerity to write to our Congressman for the appointment as superintendent but was informed that no superintendent would be appointed for some time; but one was appointed at once who greatly excelled me in politics.

There were no fish in the lake, and this worried me until the thought occurred of putting some there. In 1888 I obtained a bucket full of rainbow trout minnows down on the Rogue River, 50 miles distant, and in two days walked the distance and was successful in getting 37 live ones in the water. They had no enemies to contend with and increased rapidly, so that in a few years the lake was full of them. Since then I got from the United States Fish Commission 50,000 rainbow trout fry and at another time 17,000 black-spotted trout fry, all of which were placed in the lake, besides 6,000 crawfish, for food. In all these years we had not found a minnow in a fish's stomach, so we conclude that they are certainly not bad cannibals.

Soon after taking up this work I realized the necessity of roads and was not long in developing a comprehensive system the central idea of which was a road completely encircling the lake. The cost seemed appalling, but I set about to put it into effect. In 1908 I appealed to Congress for funds for the park and was successful in getting $10,000. This work was carried on through the seasons of 1910 and 1911, and the cost was estimated at approximately $700,000.

I immediately applied to Congress for the money and spent the entire winter in Washington importuning Congressmen for assistance. It was by far the hardest fight of my life, but a bill was finally passed granting us $50,000 on account. Over $300,000 of this money has now been spent and the work is in full swing. The remainder will be spent as soon as it can be economically, and when the entire system is finished we will have the most thrillingly beautiful automobile driveway on earth.

Several months ago I was taken by friends over that wonderful drive, the Columbia River Highway, and when we returned to Portland I was asked to express my opinion of it. "Gentlemen," I said, "I have never been in Europe, but I have been all over the United States many times and can say advisedly that there is nothing in this country in the same class with it and I do not believe there is in the world. But, remember, I am neither joking nor boasting when I say that, when our road system in the Crater Lake National Park is finished, we will make your Columbia River Highway look like 30 cents; and I will be willing to rest my judgment with you, if you drive over it."

I am here on another mission for Crater Lake, in that I want a paved road built from Medford to the western entrance of the park,

at a cost of nearly $2,000,000; and I expect to win. I am not asking it all just now, but hope to secure a fund of $100,000 for use during the season of 1917. When I have succeeded in this mission, I want you to come out and see us tear up old roads and put in new ones.

So much for Crater Lake. But, this is not all. We have mountains and glaciers and lakes and streams of beauty and grandeur beyond the ken of man and so great that if all Switzerland was thrown into them a passer-by would look askance and say, "What little summer resort is that over yonder in the valley?"

Now let us stand upon the summit of Mount Hood and look about us.

> Lo northward—lo, southward, in martial array,
> Stands monarchs 'yond monarchs whose crowns fret the sky,
> Look westward—the sea at their feet lies asleep;
> Look east and behold the far desert's broad sweep,
> Now hushed are our boastings; Ah, man! thy life's drama
> Seems puny and vain in the realms of Mazama.

Mr. H. H. Hays addressed the conference on the "Greater Yellowstone," displaying as he spoke, a remarkable collection of slides of Yellowstone scenes.

SATURDAY, JANUARY 6, MORNING SESSION.

SUBJECT, "THE GRAND CANYON."

The Saturday morning session was convened at 10 o'clock, with Hon. Stephen T. Mather, Assistant to the Secretary of the Interior, presiding.

The subject of the morning session was "The Grand Canyon."

THE PRESIDING OFFICER, MR. MATHER.

We believe that the canyon itself will probably be the best introduction to the addresses to which we are going to listen this morning. Probably there is no one scenic wonder in this country in which more people are interested than in the Grand Canyon. That is particularly true the last few years, and probably the teremendous attendance, the large number of visitors that saw it in 1915 in connection with the travel to the exposition, will add strength to the strong movement to have it created a national park. The plan is not moving very rapidly just at present up at the Capitol, but the interest is there just the same. It is only a matter of concentrating attention. In good time it will join the group of parks already created and come into its own, so that it can be properly handled, and that preparations may be made for its development as a park. At present

the canyon is being developed by the individual efforts of the Santa Fe Railway Company. It brings the bulk of the travel.

We are very fortunate this morning in having with us Representative Simeon D. Fess, of Ohio. Mr. Fess is very much interested in the Grand Canyon. He knows it thoroughly. I am going to call on Congressman Fess for a few words from his own standpoint, both as to its appeal to him and also the possibilities and prospects of the necessary legislation in Congress, as he sees them.

Hon. Simeon D. Fess, Representative from Ohio.

COLOSSUS OF CANYONS.

Mr. Chairman, ladies and gentlemen, it is an honor conferred upon me to be invited to join this group of scholars and research men and women, but I am simply overwhelmed with the topic that has been suggested upon the program, but somewhat relieved by what the chairman has just now suggested when he asked me to say something about the possibility of the Government becoming sufficiently interested in this greatest of the world's wonders, in making it more accessible to the people. When I was thinking in my very busy hour, because of certain legislation that is soon to come in which I am greatly interested, and that is to come to-day, about what I could say to any people interested in this great question, I was, as I suggested, simply overwhelmed with the thought of an attempt to describe the canyon. Everybody refers to and approaches it with a different interest. If I should attempt to describe its impression upon anyone when he first beholds it, or even after he attempts to descend it, I would have to have the power of language of a Charles Dudley Warner; I should not attempt to do that; I could not do it; it would take some one who has a greater facility of expression than the average man that you would find in the House of Representatives.

On the other hand, if I would undertake to detail the history of it, I would have to find it written in the rocks, and the chasms, and the wonderful temples; I would have to call upon the geologists; I would have to appeal to the famous Powell or Dickens or our distinguished George Otis Smith, who is here. I am interested in it from the standpoint of geological study, it is true, but I, a layman, could not discuss it from that standpoint. I could not begin to suggest what it would mean to one who has never seen it. I would have to have the skilled hand of the painter, as you saw a moment ago on the canvas, even then to fall short of its reality. To ask me to describe it, even though I saw it before my eyes! That's an impossibility. If I were interested, talking to a group of people who were trying to get the early history of the life in the canyon, there is plenty of

resource, but I am not capable of even doing that. This must be left for the real traveler and explorer. All I can say to you, ladies and gentlemen, is that I have taken the time to come down here to make it very emphatic that it's impossible to do what most people have expected me to do. You are asking me to do the impossible when you ask me to talk about this colossus wonder of nature. I can say this, however, before I leave you, that our people must be educated to support more generously the tablets of our history, whether it be the history of our people or the history of our continent.

I have been greatly outraged to realize how slow we are in maintaining permanently those tablets that are of greatest importance to us in the genesis of our own people, to say nothing about the wonders of our continent. I remember not long ago that there was an attempt to tear down in a great city a famous place of interest that had been the meeting place of the famous men of other days, and the birthplace of some of the great movements that make for most in our present-day history; and the people of that city were so outraged to think that the commercialism of the times was apt to be sufficiently influential as to overcome the meaning of the place that they organized a volunteer association and purchased the place in order to make it permanent as a tablet in our history, and not to be destroyed. That undertaking was not national; the meaning is national, but the effort to preserve the tablet was purely local.

I read in yesterday's paper an extract about an attempt to widen the streets over here in Philadelphia. I think it's Arch Street and Seventh, which it is proposed to widen in order to make it a more convenient thoroughfare; but to do so is going to obliterate the famous site upon which stood the little house in the second story of which was written the Declaration of Independence, penned by Thomas Jefferson while he occupied the house. Our modern time is so commercial that we are apt to easily obliterate these tablets of history, totally oblivious to their importance in our history, and I protest against it; and as I want to maintain these places that are the original markings of the movements of our civilization, I would like by national authority to preserve and make accessible for the value of the entire public in all time to come these famous wonders that are ours by nature, such as the Grand Canyon.

I hesitate in a matter of legislation just now before us in utilizing the waters of Niagara, a matter that is purely commercial, and probably from that standpoint wholly justified. I hesitate to be a supporter of any measure that may seem to be for the moment necessary that would have the effect of ultimately destroying the scenic beauty of that great natural wonder. And yet I have been told, and told by one of the Congressmen, for whom I have the greatest respect, that the good Lord has put that power there to be used for man, and that

we ought to utilize it, and he continued, "Mr. Fess, you will come to the place yet where you will see that the people's value in it is not to look at it, but to use it for the purposes of mankind." This commercial item is always present and quite frequently all powerful. It rules to-day.

Now, that is in the minds of many people. My fellow citizens, I do not know whether we are eliminating altogether the element of ideality, and are superseding it by the element of utility, but I fear we are. There is strength in the ideal, and there is power in the beautiful, and I doubt very much the wisdom of saying that we are justified in destroying the beauty because it is not useful as long as it remains beauty. The ideal and beautiful are eternal, beyond mere utility, and for that reason, I shall vote and urge with my voice the authority as well as duty of the Government to make the Grand Canyon more accessible to the public, to lend the influence of the Government to the needs of these famous wonders, not only to preserve their beauty, which of course will be preserved, since it can not be destroyed, but to make that beauty within the reach and enjoyment and pleasure of the great population of the country. The Congress invariably hesitates to take any step along such a line because it is to be perpetual; Members always inquire when a project is proposed: "Well, what is to be the end of this thing?" If we undertake to develop it by the National Government, it means appropriations, and the little money this year, will mean more next year. It will be cumulative, and Congress is always hesitant on undertaking anything that is to be perpetual. If it is temporary, they are apt to do it quickly, but if it is to be perpetual, they say, "What is to be the end of it?"

Now, my friends, while that is true, the Grand Canyon is one of the famous wonders of the world that the Government can afford to expend money upon, to make its reality common property to the people who might seek its wonders if the Government would but take it in hand and make it more accessible. Our Secretary, under whose power it is, will tell you that the economic idea of it ought not to be in the way, for in all probability it can be made self-supporting. But let me ask the question, even though it can not be made self-supporting, or conceding that it can not, is it a useless expenditure of money or a waste of money for the Government to make accessible to the population of the country as well as of all countries the greatest wonder of the world. I do not think it is a waste of money, and all that I can do for you as a Member of Congress is to voice my approval and simply say in these few minutes that I am thoroughly convinced that this ought to be made a national park. I am convinced that the Government ought to go beyond making it a national park, but should proceed to build roads, to make camps, and

to secure water at convenient places, so that it can be utilized as a living possibility as well as simply remain a thing of beauty. I shall do what I can to reach that conclusion, so far as Congress is concerned. Good-by.

THE PRESIDING OFFICER, MR. MATHER.

We certainly appreciate the hearty support which the words of Representative Fess have pledged. Already we have a strong group in Congress deeply interested in the establishment of the Grand Canyon as a national park, and with that influence spreading through just such men as Mr. Fess, undoubtedly we shall have the result which we have so long hoped to obtain.

I have been called to the Capitol to a committee meeting which I feel it necessary to attend, and I am going to turn over the meeting—the chairmanship—to the next speaker; but before doing that I want to say just a word of tribute to Dr. George Otis Smith, the Director of the United States Geological Survey, for the very great interest which he has always taken in our national-park problems.

We have drawn freely on the survey at all times, with Dr. Smith's very hearty support, the initiative coming largely from him, with suggestions from him as to where and how he could benefit us, with all who are under him in authority giving freely of their time and energy, we owe to the Geological Survey a very large part of any success that has been attained in the development of the national parks.

I have pleasure in introducing to you Dr. George Otis Smith.

GEORGE OTIS SMITH, DIRECTOR OF THE UNITED STATES GEOLOGICAL SURVEY.

THE SURVEY'S CONTRIBUTION TO THE NATIONAL-PARK MOVEMENT.

Mr. Chairman, ladies, and gentlemen, this is a contribution which the Geological Survey had not expected to make at this time, and I will further assure the chairman and you, ladies and gentlemen, that as chairman from now on I will see that the next speaker before you is not allowed to encroach upon the time of the speakers who follow. If I overrun my allotted time, I will call myself to time.

It is an opportunity which I welcome to address here to-day this National Parks Conference and speak on the contribution of the United States Geological Survey to the national-park movement.

I welcome the opportunity to address this National Parks Conference simply to assure you that the contribution of the United States Geological Survey to the movement for national playgrounds is not only a fact of the past but also a promise of the future. As

the field service with which I am connected was a pioneer in this good work so we purpose to continue our cooperation.

A swing around the circle may serve to illustrate what already has been contributed by the Geological Survey.

In the Yellowstone the scientific investigation of its resources began before the creation of the present survey, but the resulting report by Hayden, Holmes, Peale, and Gannett was published under the supervision of the United States Geological Survey, of which organization these pioneers had become members. Exploration and study of this wonderland was continued by Arnold Hague and his associates, the topographic surveys being made in 1883-1885. It is interesting to note that Dr. Hague, 33 years ago, speaks of the Yellowstone National Park as a national zoological reservation and a game refuge. Nor were the practical matters of park administration neglected, for 20 years ago Director Walcott made specific recommendations on the improvement of roads, hotels, and transportation facilities, the protection of the park from forest fires, etc.

In that wild region, of which was later made the Glacier National Park, topographic surveys began in 1900, and in 1908 Topographer Robert H. Chapman furnished the Senate committee with a report on the area of the proposed park, submitting a sketch map which was used as a basis for fixing the boundaries in 1910. Here, again, the work of the geologist helped to make known the natural wonders and beauties of the region, Mr. Bailey Willis visiting the region in 1901, and Mr. M. R. Campbell, publishing a full geologic description of the part in 1914.

When I mention the Mount Rainier Park I wish to claim much for the Geological Survey and its geologists. Samuel F. Emmons, then of the King Survey but later the leader in the Geological Survey's work in the study of ore deposits, made in 1870 what he thought would be the first ascent of this incomparable peak, only to find near the summit evidences of Gen. Stevens's successful climb of only a few weeks earlier. In the early eighties Bailey Willis built the trail from the north through the dense forest to the upper slopes of the mountain and escorted to the snow fields a party of prominent tourists who were the guests of the Northern Pacific. In 1895 and 1896 Mr. Willis and I made geologic studies of the north side of the mountain and the latter year, under the skillful leadership of Prof. I. C. Russell made the first ascent of the peak from the northeast. Prof. Russell in his report on the glaciers of Mount Rainier, published in 1897, made a special appeal for the passage of the legislation then pending in Congress for the creation of this national park. It is interesting to read in Russell's report the enthusiastic praise of the grandeur of Rainier's scenery by James Bryce, who had been a member of the Northern Pacific party of 1883. The excellent topo-

graphic map of the Rainier Park by Matthes, Davis, Birdseye, and Tufts is, we trust, but the forerunner of an adequate popular statement of the life history of this monarch among our western mountains.

But before leaving Rainier let me relate a special service rendered by the Geological Survey in the administration of this park. A few years ago an enterprising iceman, presumably desirous of lowering the cost of living in the Sound cities, petitioned the Secretary of the Interior for the right to cut ice from the end of one of Rainier's wonderful glaciers. By way of forestalling any technical objections based upon theories of conservation or public interest in glacial scenery, his ingenious attorney set forth the purpose, intent, and desire of the petitioner to cut only so much ice each winter from the end of the glacier as would otherwise melt the following summer. His well-meaning plan was simply to do what nature would do—but do it sooner. His logic reminded me of the reasoning of the man who proposed to minimize the damage from rear-end collisions by leaving off the rear car. The Geological Survey failed to see the point, and Secretary Ballinger refused to grant the application.

Crater Lake, like Lassen Peak, must be credited largely to the geologic studies and scientific papers of J. S. Diller, the survey geologist whose quiet propaganda since his earliest visit in 1883 finally appealed to the thinking people of the country. The Nation does well to retain title to these two volcanoes, the one of which long ago lost its head and the other which is now active in a conservative and seemingly well-intentioned way.

The lecture by Mr. Capps before this conference on the region of the proposed Mount McKinley Park may be taken as evidence of the survey's desire to render similar service to that which helped to create these other parks.

Yosemite, like the Yellowstone, has been the scene of work by Federal geologists both of the earlier organizations and of the present survey. The names of King and Whitney are associated with those of Muir and Le Conte, and these pioneers have been followed by Russell, Turner, Calkins, and Matthes, while the accurate topographic surveys are to be credited to Marshall and Matthes. Director Walcott also visited the park 20 years ago, making specific recommendations for its improvement. In 1904 Mr. Marshall was one of the commissioners selected to survey and change the boundaries of the park.

Now, turning eastward, without mention of the General Grant and Sequoia Parks except to say that by reason of love for the high Sierra we of the survey intend to continue to help in the movement for the Greater Sequoia, we come to the Rocky Mountain National Park. Here, again, the chief geographer of the survey rendered large

service in promoting the creation of this park by his report of 1912, made under instructions of Secretary Fisher. Last season the geologic study of the area was made by a survey geologist, Willis T. Lee, and his popular description will soon be issued by the National Park Service.

Passing by the Mesa Verde, where both topographic surveys and geologic studies have been made by members of the United States Geological Survey, I wish to conclude our circuit with mention of the Grand Canyon—the greatest of America's wonders. On the brink of the canyon stands the monument to Maj. Powell, the explorer and geologist who was the second Director of the United States Geological Survey. To Powell, the hero of the successful passage of the Colorado, we owe the first appreciation of the Grand Canyon, of its scenic grandeur and no less inspiring geologic significance, and the work of exploration and interpretation so well begun by Powell was continued by Dutton and Walcott, by Bodfish, Matthes and Goode, and by Darton and Noble, geologists and topographers in our survey.

The story of the past written on the painted walls of the canyon has not yet been fully read nor have all the vivid charms of rock terrace and turret been caught by poet or painter. How important is it then to add this greatest and grandest of wonderlands to the Nation's crown of parks? Where better than in these wide spaces telling of the infinite past can tired and troubled humanity find relief from the petty things of the city street, and win that true recreation of spirit to fit us for the duties of life?

Speaking now, nearly 50 years after Powell fearlessly explored the canyon's depths, I must express a belief that the creation of the Grand Canyon National Park is a step already too long delayed.

It is appropriate that in continuing our consideration of the Grand Canyon, both in its present condition and with regard to its possibilities as a national park, that we have the privilege of hearing from one whose name is intimately associated with the comfortable enjoyment of this wonderland of the West. So we have the opportunity of hearing from Mr. Ford Harvey, who will speak to us on the subject of "The public and the Grand Canyon."

Mr. Ford Harvey.

THE PUBLIC AND THE GRAND CANYON.

Mr. Chairman, ladies and gentlemen, I feel that I have come a very long way to say very little, but the director of this department seemed to think that I might say something of interest where he is doing so much, and I have such a high admiration for him and his work that I felt that when he called I should do whatever I could in my small way to assist.

What these gentlemen who have preceded me have said about the fitness of the Grand Canyon to be a national park I have heard personally on different occasions from two Presidents of the United States, three Secretaries of the Interior, every United States Senator and Congressman I ever met who has been to the canyon, and innumerable distinguished men of letters and science and arts; and still the Grand Canyon is not a national park, and, as far as I know, there is no definite step, not even a bill before Congress to-day, to make the Grand Canyon a national park. As evidencing the public's interest in the Grand Canyon, I will say that I have known the canyon intimately ever since the railway has been built. I am sorry to say I did not know it before. But the railway was completed to the canyon, or practically completed, in 1900. In that year there visited the Grand Canyon 813 people, less than a thousand. In 1915, 15 years afterwards, the visitors to the Grand Canyon numbered 116,027.

That is, of course, not a fair average; in other words, that was the World's Fair year at San Francisco and is very much above the average attendance. But still, comparing it with other parks or with the most celebrated parks—the Yellowstone, Glacier, and Yosemite—the Grand Canyon in 1915 had an attendance of 6,415 more than those three national parks combined. So I should say that the public's interest in the Grand Canyon was very thoroughly demonstrated.

I had the pleasure of hearing yesterday afternoon addresses from two gentlemen who described motor trips, and they were very interesting indeed. One of the speakers described the equipment desirable to have on a transcontinental trip, and that man could go anywhere in a motor car and enjoy it—that is, all his difficulty would be met and overcome; but I should rather think the experience of meeting difficulties would be part of the pleasure. The other gentleman frankly stated that he did not motor. In other words, he wanted the comforts of hotels and roads and things of that sort.

Both of those classes visit the Grand Canyon, as, in fact, they visit all parks, and they want different sorts of things. For the first class the conventional sort of things would be rather objectionable than otherwise—I mean that his enjoyment would be that of the explorer; the sense of the unusual would appeal to him; and I must say that I think it is the higher sense. But the bulk of our visitors belong to the other class. They want comfort.

I took the trip a year ago in emulation of the first type of motorist. I did not plan, however, to go wholly without comforts, and, in fact, I wanted to go de luxe. Feeling that our people had no experience with those roads, I employed some men that had good cars and who claimed to be experienced in the roads of the desert.

I had my son with me, and we took a Packard Forty-eight six-cylinder car for ourselves, with a driver, and a Cadillac Four with our bedding and camping equipment; then we took a little Chevrolet car for our retainers, who were to do our cooking and were not to suffer any inconvenience or want if we could help it. Just about as we got ready to start every once in awhile there came a heavy rain, and the Colorado River went up. It did not seem very high, and we tried to ford it with our car. Before we got through our Packard got sand in the gear shift. We got upon the other bank all right, but the car would not go. Our Cadillac stripped its gears, and it was disabled, and our little Chevrolet was the only thing that was left with our retainers.

They turned that over to us, and we started to the Mesa Verde, about 90 miles away, without food, without bedding, and without anything except a little chap to drive us. We landed there at 3 o'clock with beautiful moonlight; but I want to say that moon got very cold about 3 o'clock in the morning—and we had no food and no bed. We got breakfast, by the way, from another chap who had come there very much as the fellows out that way do. He understood his country very well, and he had a cheap little car of some sort and no car to carry his food. He was equipped much as this gentleman described yesterday, and he got through all right, and there he was cooking his breakfast with his wife. They gave us breakfast—coffee and bacon—and it tasted awfully good. I told him I wanted to pay. "Oh," he said, "that's all right, Mr. Harvey; very glad to do it for you." I asked him if he had plenty of gasoline. "Well, yes," he replied, "I have plenty. Don't you bother at all." "Well, let me do something for you, anyhow," I insisted. "There is a supply store, an automobile supply store, here, and if there is anything you want, get it and charge it to me." I thought that was too small a compensation for so welcome a breakfast, but when I got the bill for the gasoline I changed my mind. He had purchased 10 gallons at a dollar and a half per gallon, which made my breakfast bill $15.

Well, I only mention these things because I want to say that it is expensive to provide for the class of travel and the class of visitors that I would represent, for example: Out of the 116,000 I think perhaps there are at least 100,000 that have to be taken care of when they go to the Grand Canyon. There must be some sort of a program for those people; there must be something conventional for them to do. To expect them to seek their own entertainment and take care of themselves is to expect the impossible, except in a very small number of cases.

And then the difficulty of the canyon problem is accentuated by the fact that there is no water up on the rim. We have to bring our

water in there from, oh, perhaps, a distance of a hundred and twenty miles by rail; and if you can't have water, of course you can't have camps. The few camps or ranges that are equipped for impounding water in small reservoirs do not have it for sale.

Now, it is only the Government or some other powerful agency that can take care of such situations; that is, take care of them in a large way. The Government is the proper agency and it is for that reason that I have spoken with some feeling about the fact that the Government has neglected to take hold of the situation.

The administration of the canyon at the present time is under the Forest Service, and I want to say that I have never come in contact with a cleaner, higher grade lot of men than the Forest Service people. But, as I understand it, they are not in position to get that kind of appropriations for the canyon, and I am not sure that their administrative rules are such as enable them to handle the sort of situation we have out there. I am not sure otherwise; it may be that they are; but the administration and the money ought to go together. You can not get very far with administration unless you have some money.

We are planning, and have been planning, to put at the canyon some cottages, or community cottages, which would be accessible to people of moderate means. Take your school-teaching class; there is no more desirable class to have visit the canyon than that. And take the many scientists that are not wealthy, men of letters, and artists—we should arrange that those people may have a cottage that they can rent for a very moderate sum; they can keep house there, we providing them with some sort of a store that will sell at moderate prices the particular things that will lend themselves to that mode of housekeeping. We would have to provide the water and to provide the people to care for the premises, leaving the occupant, as much as possible, independent.

The railroad company has already expended a large sum of money, and the work, as I said before, is very expensive at the canyon. They built a roadway of 9 miles to the west. It should have been built by the Government. It cost the railway upward of $200,000 to build that 9 miles of road. I have no doubt that if one went before Congress and asked for $200,000 to build 9 miles of road he would have to talk quite a while before he could convince Congress that it was a desirable appropriation. And yet the railroad company built the railroad.

They also built a trolley. I do not know whether this subject interests you, except those who are familiar with the canyon. It is really not easily understandable. But I simply say that the purpose was to round out a scheme so that, with various trails and with camps, it would be possible for people to visit the canyon and see it and its

beauties and appreciate its splendors and live its atmosphere at a reasonable price and in an instructive way. The situation, however, needs study and work. It will persist because the thing is so big. It will persist even if nothing is done. People will go there if there is not another dollar spent there; but it is not a fair thing to the canyon and it is not a fair thing to the people of the United States that the situation remains as it is. I thank you very much.

THE PRESIDING OFFICER, DR. SMITH.

There is nothing succeeds like success; but I think that more of us are just human enough, those of us who know of the successes that have been attained by the Harvey system, to thoroughly enjoy hearing from Mr. Harvey himself of one time when the Harvey system broke down. I referred to the fact that we do not yet know all about the Grand Canyon, of its beauties and of its charms. We have the opportunity to hear a little more about the glories of the Cataract Canyon from one who knows it at first hand. Mr. Charles Sheldon, the chairman of the game preservation committee of the Boone and Crockett Club, is with us, and we have the pleasure of listening to Mr. Sheldon at this time.

CHARLES SHELDON, CHAIRMAN OF THE GAME PRESERVATION COMMITTEE OF THE BOONE AND CROCKETT CLUB.

GLORIES OF THE CATARACT CANYON.

Mr. Chairman, ladies and gentlemen, in the plan to establish a national park of the Grand Canyon, I understand that it is not yet certain as to whether the Cataract Canyon and the adjacent vicinity will be included within the lines. I did not know that until Mr. Mather informed me of it a short time ago, whereupon I expressed very much surprise that there should be a thought of leaving out the Cataract Canyon. I have only made one trip there, but it was that remark of mine to Mr. Mather which led him to insist upon my saying a few words about it. So, I can't speak of the Cataract Canyon with any authority, when I consider those who are so much more familiar with it than I am. But there is one section of that region which I have traversed, and I do not believe that many men have been in the region which I am going to tell you about. What I am going to say is to be considered as a plea for all those interested to see to it that the Cataract Canyon is included within the lines of this proposed park when they are finally incorporated in a bill, which I hope will very soon be presented to Congress.

You have heard so much about the beauties and glory of the Grand Canyon. Nothing can be added to it. However, a national park,

as I conceive it, is all the more interesting to the public in proportion as you can increase its recreation facilities. The recreation facilities about the Grand Canyon are somewhat limited. The Cataract Canyon region, properly developed, offers a most wonderful and very wide field for recreation; that is, for camps, camping parties roaming for miles and miles within the outer walls of the canyon itself.

I did not label my address, did not know it until I read it in the program, "The glories of the Cataract Canyon." It is a very miniature addition to the Grand Canyon. You drive 35 miles from El Tovar, where most people, not all, would break the monotony by camping overnight at the head of a little side canyon without any comforts or accommodations whatsoever. You have to bring tents, and bring your own water; then you descend over a trail which has been somewhat repaired, but still a very crude trail, a very steep trail, down four or five hundred or more feet to a side canyon, and ride 2 or 3 miles into the Cataract Canyon, which is a very narrow canyon with the cliffs rising fifteen or eighteen hundred or more feet very close to you on both sides, and you can ride 12 miles down to the very interesting village of the Hava Supi Indians.

The sculpture along the sides of this canyon walls is similar to the Grand Canyon, and it is most marvelous to those who go through a region like that for the first time. The Hava Supi Indians are Indians of very extraordinary interest. They have a village there. Perhaps in early times they were driven down there. In talking with the Indians they seemed to emphasize that their early enemies were the Mojaves, also the Apaches; but ethnologists and those more familiar with the western Indians could decide that question much better than I can. When well down the canyon the river bursts out through the gravels and flows rapidly with a good volume of water, and the land where the village is located at present lends itself to the irrigation ditches, and under the supervision of the Government agents, the Indians have cultivated the land, and they grow a large variety of vegetables and fig trees, and I should say that they stick to their work of irrigation and cultivation pretty well. In the winter they all go above the canyon and roam around the plateau of Coconino forest above, camping, and I suppose they shoot some of the deer and enjoy the sort of a life that perhaps Indians most enjoy. I have been unable, in searching the literature, to find any ethnological information of value about the Hava Supi Indians, but possibly a specialist might do so. Mr. Cushing in the eighties went down there and wrote an article in one of the magazines, but that gives very little information about them.

So, as a central feature of things down there, there are these Indians, and I am positively certain that there is a wide field for

ethnological investigation among them to record their folklore and their history and various things of that sort.

Now, should this region be included in the park there is a fairly good road to the head of the side canyon by which one must enter the Cataract Canyon. It would be a very simple matter and an inexpensive matter to develop accommodations there, to pass the night before you proceed into the canyon. It would be a very simple matter. The road to the Havasupi village is a natural road, and it would be a very simple matter to place accommodations in the Hava Supi village which would be a headquarters for roaming about that territory. I have not been below the Havasupi village in the Cataract Canyon, but I believe that the beauties down there in some of the features are of surpassing interest. But I went into the region to investigate the status of the magnificent animal—that animal which adorns the canyon, and will do so more in the future, I hope, when it increases—the mountain sheep. Above the walls of the Cataract Canyon, I do not recall the exact height—1,800 to 2,000 feet—is the red sandstone of the canyon. It is a plain existing for many, many miles. I traversed the plain for 20 to 25 miles. It is from 4 to 6 and 8 miles distant from the outer wall of the Grand Canyon, which rises 3,000 feet in that section.

The Grand Canyon is completely different in its aspects from that which you view from El Tovar. At El Tovar you look down and you see this outer wall of the canyon; then you see a sort of plain, above which rises your towers and castles and real mountains existing below the earth. But in this region there is the outer wall, and here the plain that you see broken below at El Tovar is perfectly flat. When I say "flat," of course, there is a roll here and there, but looking at it from above it gives you the impression of a perfectly flat plain. At present, to reach it there is only one place from which you can reach that plain, and that is in a side canyon from the Havasupi village. There you climb along the wall of this canyon for 4 miles to the head of this side canyon over a trail, which to the average tourist would be very difficult and seemingly dangerous, for it is a trail simply worn in the rock by Indian ponies. There are places where they go along with but 3 feet of width on a slope, and there are five or six or eight hundred feet below you on the perpendicular, and these ponies can scramble along that trail. It is a perfectly simply thing for persons working with horses in that region, but I think the average tourist would hesitate to take it. But that is necessary to get out in this region above, and once you reach it the first thing that obtrudes itself on the vision was what I found—the most striking and magnificent mountain or butte within the Grand Canyon.

Now, this region where you find this butte—I have been unable to find it on any map—I have been unable to find any of the geologists who have been in that region and studied it. I have been unable to find any allusion to this magnificent butte, which is an isolated remnant of the original plateau. It is magnificent because of its isolation. It is 3 miles from the tower wall and 2 miles from the river, and there you see a section of the original plateau. I suppose the circumference of it would be 2½ or 3 miles, but there it stands in this flat region, this magnificent butte, rising up to a level of the plateau beyond. In other words, the whole plateau around it has been eroded to this flat plain, leaving this island in the center, and that's what makes it so impressive. All around its slopes it is similar to the outer wall of the Grand Canyon. I was tempted to name it; it deserves to be named; it would be a very simple thing for anybody to go in there, and possibly a good many would give it a name, but I do not believe, and I will make that suggestion here, that if that is made a national park, that magnificent butte should be named until the Indian name of it can be found. I heard a name for it, which was We-ke-le-la, but later I learned that was the generic Indian term for butte, and those who know Indians much better than I do assure me that the Hava Supi Indians have a special name for that mountain, and therefore I make this plea, and I hope it will be recorded, that when the butte is named it should be the Hava Supi name.

Now, this region has in its center a very good spring of water. Camping parties could go there with a great many horses and get abundant water. Usually scattered about this plateau are tinajas. There are tinajas in the side canyons, and in some of the rocks, which remain there for a long time. I was there, I think, in the latter part of November, and it had not rained for a long time, and there was abundant water everywhere. It is unfit for grazing and would support very few animals, but the Hava Supi Indians do have a few horses in there—5 or 10 horses here and there are grazing. Some of the striking features of it which you can not experience elsewhere in the Grand Canyon are the side canyons. From this plain you can ride a few miles to the main inner gorge of the Colorado River, and look down 3,000 feet and get a view of several miles of the river.

One night in the bright moonlight, which was so bright I intended to go out of the side canyon in the moonlight, which was a perfectly simple thing, but I had forgotten that one side of the canyon was in the shadow, and the only way I could approach the upper part, was in the shadow, which was utterly dark. So, I had to turn around and walk about 10 miles along the brink of the inner gorge of the canyon, to come up to another side canyon. I did not get back until

early in the morning; but the glories and the wonders of walking right along the brink looking down about 3,000 feet upon that roaring river, with the moonlight glinting on the water and giving back coloration to the walls of the canyon, and the surrounding region, was almost as fascinating as anything I have ever experienced. But these side canyons are numerous. They are 3,000 feet or more perhaps near the mouth of the canyon. They are very narrow, and they extend back from 4 to 8 and 10 miles from the outer wall, and persons can walk along the brink of them and look down and see all the interesting formations and various things of extraordinary interest, of great interest, and roam about examining these canyons.

I had with me fortunately the type of the old Indian, a most lovable fellow, who was thoroughly familiar with the whole region, as I learned, and he told me of one long side canyon, about 8 or 9 miles long, which can be entered midway. You can reach the bottom of it, if an Indian shows you the trail. No white man knows it now. But in the bottom of that canyon a person can walk clear down to the river. Who can imagine a more interesting thing than to walk down a very narrow canyon until the walls inclose you very close, almost 3,000 feet above you, to the main river, at the bottom of the inner gorge of the canyon.

There are undoubtedly other canyons there where that can be done. Now, with this magnificent mountain, and with the possibilities, I think you can roam 20 or 30 or 40 miles on this plateau. These canyons are so narrow in places that they could be inexpensively bridged, and this whole region can be opened up as a recreation ground, as convenience and attendance and interest in the region as a canyon justify it in the future.

Now in this section there are, I was surprised to find, a great many mountain sheep, and I never felt more gratified in my life than to realize that those mountain sheep inhabit the inner gorge of the canyon. They inhabit the slopes of these side canyons, the tala slopes, and they live mostly in a region which is and always will be inaccessible to man. You can reach their feeding ground in small sections. Now, it could only be reached by having those Indians show you how to get down there, and only in one or two places can you get down where the sheep feed. And then when you get down there you go a short distance and you are shut off by a side canyon from proceeding further.

Now, man is never going to erect derricks to let people down several hundred feet for the sake of hunting mountain sheep, nor is he going to construct special trails to hunt and kill out these sheep. So, barring the dreaded enemy of western mountain sheep, domestic disease, I feel certain that this animal which we thought was going to be extinct very soon will be surviving in the Grand Canyon region many

years after some of our other animals that we believe now to be abundant—the mule deer, for instance. I believe the sheep in the Grand Canyon will survive the mule deer of this country, unless extraordinary precautions are taken to preserve the mule deer. These sheep are at present killed frequently by the Indians. They keep perhaps the numbers in this immediate region somewhat thinned out, although I am glad to say that only the older Indians do it; the younger Indians who have been on the reservation and subjected to the influences of the reservation do not often attempt such an arduous trip as to kill the mountain sheep; and the old Indians will not survive much longer, and I doubt if there will be many Indian hunters who will kill the sheep.

Now this, in general, is the region that is under discussion as to whether it should be included in this park; and it is of the utmost importance that everybody interested in the Grand Canyon park should lend their influence to including it. The Hava Supi Canyon is not a grazing country. The region above could never be a grazing country, except to a most limited extent, and at present it is inaccessible. I suppose that sheep might be driven up there, but although they clean things up they would not find very much grazing in there; and the only reason why I am bringing this region to your attention is in the hope that everybody interested in that region will lend his influence to having the Cataract Canyon included.

Now, that is all I wish to say upon this subject, but I have for many years felt an extreme regret that one field of the Geological Survey has not been sufficiently regarded; and I am going to take this occasion to record it as a field of endeavor, effort, and achievement with which I am familiar—that is, the achievement of the Geological Survey in Alaska. The Geological Survey broke the way to Mount McKinley and called attention to the region through Mr. Brooks and Mr. Raeburn, the topographical engineer of that expedition, whom I see in the audience here. It was this exploration that led to that region becoming familiar, and it directly led to the conception of it being made a national park.

The work of the Geological Survey, their exploits, and their explorations are not recorded. Limited appropriations in Congress have permitted them merely to record an outline of their expeditions, and the cold, uninteresting to most people, geological facts and economic possibilities; but the difficulties that they have overcome, the remarkable explorations that they have made, and the remarkable work which they have done in their map making and surveying of the region—had they written books, or had it been described in detail, as we perhaps like to read books on travel, they would be marked as among the remarkable explorations in the world; and I hope that the time has come when the whole American public, when

they hear of the Geological Survey going into a certain region, that they will not think it is an ordinary trip on horseback, which you can make on western plains, but they will realize that every expedition they have made into this country has been in itself a very remarkable and difficult exploration worthy of record, and practically most that we know about the interior of Alaska in its geological and topographical aspect was due to the Geological Survey.

The Presiding Officer, Dr. Smith.

Of course, I want to express my keen appreciation of what Mr. Sheldon has said in this last passage of his very interesting address. While self-appreciation is a habit that is very easy to acquire, I think it is true of the men of the Geological Survey who have been out on the frontier that they have not acquired that habit to any large extent. It is very difficult to get any tales that have anything of the heroic in them, because these men who have worked in Alaska and in our Western States simply regard those adventures as part of the day's work.

I am glad that Mr. Sheldon made his appeal for the priority of Indian names. I think it was timely, especially as two members of the National Board of Geographic Names are fortunately present in this audience.

In speaking of the Rocky Mountain National Park, I neglected to mention the fact that the National Park Service have in preparation an interesting popular geological account of this region, the result of the work last summer of one of the Survey geologists, Mr. Willis T. Lee. That is the record of the past in the area, but of course there are problems of the present, administrative problems, and to-day we have, as one of our speakers, a gentleman who is the representative of the Interior Department in the Rocky Mountain National Park, Mr. L. Claude Way, who also has had experience in the Grand Canyon region as the representative of the Forest Service. Mr. Way will speak to us on practical problems.

Mr. L. Claude Way.

PRACTICAL CANYON PROBLEMS.

Mr. Chairman, ladies and gentlemen, I recall the story of an Englishman, a remittance man, who visited the West. In telling of his experience on his return to England, he cited the following fact: He had been requested to ride a pitching horse. His friends asked him to tell them about it, which he endeavored to do by stating that they had asked him to ride the beast. He said: "I did not want to, but really they chaffed me so much that I could not refuse. We

went to the corral. They threw a rope on the beast, adjusted the saddle, and signified that they were ready for me to mount. Now really I did not want to, but they chaffed me so much that I couldn't refuse. One man held him by the ears until I had climbed into the saddle. Whereupon one of the ruffians threw his hat under the beast, and the man holding his ears released him. Why, he bounded a while, and he up-ed a bit, and I just couldn't remain."

I can appreciate with what fear and reluctance the Englishman approached the horse. I approach this audience with as much fear and reluctance as the Englishman.

I was stationed at the Grand Canyon under the Department of Agriculture in the Forest Service for three years. Mr. Harvey has stated that in 1915 the registered visitors at the canyon were 116,000. Hundreds of people who were not registered visited the Grand Canyon during that year. Our estimates are that 150,000 people visited the Grand Canyon in 1915. I believe that I am safe in saying that a large number of people left the Grand Canyon and condemned the United States Government for conditions as they existed at that time.

That is a broad statement, but I make it in all sincerity, since I was in a position to know. It was my place to hear the many complaints of the visitors; some who had traveled thousands of miles, in many cases from abroad, to see this greatest of all of nature's wonders.

The Grand Canyon National Monument is at the present time under the jurisdiction of the Department of Agriculture, Forest Service, which is not to blame for this condition, for the reason that the act creating national forests does not give authority to the Forest Service to regulate personal conduct. It only grants authority to cancel a permit. A man attempted to come in with a team consisting of one burro and a horse and a carriage that had been consigned to the scrap pile years ago and purchased for perhaps 4 or 6 bits. That man thought that he could go to the Grand Canyon with such an outfit, take tourists over the trails, and make a fortune.

Now, the cancellation of the permits to this class of men means nothing whatsoever. He simply moves along when his permit is canceled, which I did in every case, but it was a case of locking the barn after the horse had been stolen. During the rush days we had not sufficient equipment to take care of the many visitors. I have seen tourists who were compelled to pay $10 per head for a trip for which the average and reasonable charge was $3. The injustice of it. Merely because there was not sufficent accommodation, they had to pay $10 to the "fly-by-night" liverymen, where the reliable, responsible liverymen at the Grand Canyon were taking the people for $3.

The next problem that we had to contend with was the mining claim problem. There have been several examinations made of this region by the Geological Survey. In the spring of 1915, 17 so-called mining claims were examined by expert geologists. The greatest amount found from the assay was, if I am not mistaken, one-tenth of 1 per cent copper in a ton of ore. It was claimed that gold, silver, platinum, and copper could be found in that region. As Charles Van Loan in an article in the Saturday Evening Post, brings out, in almost every case, the essays read "gold, none; silver, trace; copper, none; platinum, none," which proves, I think, that this can not be considered mineral land; therefore, not subject to location under the mineral laws of the United States.

At the Indian gardens they have mill-site locations on top of mill-site locations. We have lode locations on top of the lode locations. We have placer locations and mining locations, three deep in one spot. It is significant that every strategical spot from a tourist standpoint within a day's ride or drive of the Grand Canyon termini of the railroad is covered by mining locations, all controlled by one man. For instance, to the east of the El Tovar Hotel and the railroad station grounds, the first claim which adjoins the railroad station grounds is named "The Butt-in-sky," which was very appropriate. Following the rim of the Grand Canyon we have five additional claims overlapping the rim of the Grand Canyon; lode claims which are supposed to follow a lode or a vein. This condition extends to what is known as Yavapai Point. It was the desire of the Forest Service to build a footpath along the rim of the Grand Canyon for the convenience of visitors. The rocks are so sharp along this rim that I have seen women return from this trip of 1¼ miles with their shoes literally torn from their feet.

At the west of the railroad station grounds we have two claims which have been canceled by the Secretary of the Interior and restored to the Grand Canyon National Monument. Still, the locator retains possession of these two claims and blocks any development that we desire to make.

The next point is Hopi Point, also known as Sunset Point, that is perhaps visited by more people than any other point at the Grand Canyon, since here you get a magnificent view both up and down the river. In the construction of the road mentioned by Mr. Harvey they reached Hopi Point. Here they were stopped by an injunction, which restrained them from proceeding with the road. As a result, during the wet season of the year, carriages sank to their hubs. We start next down the Bright Angel Trail to the Colorado River. From the rim of the Grand Canyon to the Colorado River there is a string of lode claims covering every foot of the ground. Every foot of the plateau under the El Tovar Hotel is covered by mining

claims. In fact, if I remember correctly, there are something like 225 locations in this neighborhood, all controlled by one man.

At Hermit Creek we have the same condition—three placer claims extending for a mile and a half up and down the Hermit Creek. We desired to build a camp for the convenience of tourists. The ground was laid out. An injunction was secured restraining the men from building, because we were on the mining claim. We desired to run a pipe line across the claim to Hermit Camp from Hermit Creek. This could not be done because of the injunction before mentioned. So our only means of getting water from the creek to the camp is by packing it on the backs of burros.

As I have stated before, the Forest Service is not to blame for this condition, because it has not adequate authority under the act creating national forests to enforce necessary and adequate regulations to handle the situation. On the other hand, by the creation of a national park at the Grand Canyon, these conditions will be eliminated, the act creating the Parks Bureau gives authority to the Secretary of the Interior to draw up and enforce regulations, and I may say, in conclusion, that the Forest Service is just as anxious to have this made a national park as the National Park Service is, every bit. I thank you.

THE PRESIDING OFFICER, DR. SMITH.

I think Mr. Way has presented to us the practical problems connected with the efforts of the United States Government to serve and protect the traveling public. As one interested in the mineral development of the country, I can only add to what he has said that, as I know it, all that is lacking in the making of El Tovar an important mining center is the absolute absence of ore.

There are two announcements that I have been asked to make; one that any speaker at a previous meeting who has not given to the stenographer any written material, or especially any printed material, to which he has made reference, such as poems, etc., will please see that they are handed to the shorthand reporter. For myself I do not quote any poems, so I have no poems to pass in, but anyone who has any such material will please assist by giving this material to the stenographer. I call your attention to this afternoon's program on the Greater Sequoia, concerning which it is hoped that Congressman Gillett, who himself knows of the attractions of that region, and other speakers who have been there and enjoyed and come away loving the region, will address this conference.

(Whereupon the Saturday morning session was adjourned.)

SATURDAY, JANUARY 19—AFTERNOON SESSION.

SUBJECT, "THE GREATER SEQUOIA."

The Saturday afternoon session was convened at 2.29 o'clock, with Assistant Secretary to the Secretary of the Interior presiding.

THE PRESIDING OFFICER, MR. MATHER.

The topic for this afternoon, as you probably noticed from the program, is "The greater Sequoia." Those of you who attended the lecture the other night at which Mr. Gleason spoke and showed his beautiful pictures got a glimpse of some of that greater Sequoia country. The Sequoia National Park as it exists to-day is relatively small. The plan for the greater Sequoia includes the Kings River country, the South Fork of the Kings, and the Kern River country to the south; it extends eastward to the summit of the Sierra Nevada.

Before the speaking begins, I shall ask the operator to throw the map of the greater Sequoia on the screen. Perhaps it is not available. If not, we will have it a little later, and I will ask you to keep in mind the various points that are brought out by the speakers, and when the map is thrown on I think you will be able to locate the different points that are indicated.

The Sequoia National Park lies about 150 miles south of the Yosemite National Park, in the Sierra Nevada. I generally identify it that way, as most people who have not been in California do not sense its exact location. In the summer of 1915 a party made a trip from Visalia to the wonderful Giant Forest, which is the heart of the present Sequoia Park, and from there through the Kern River country to the summit of Mount Whitney and over into the Owens River country beyond.

One of the most active members of that party, living out in the open with us for a period of two weeks, sleeping on the ground as all of us did, was one of the most distinguished Representatives in the Lower House, Representative Frederick H. Gillett, of Massachusetts. Congressman Gillett has kindly offered to come here to-day and say a few words to us from his viewpoint as to the value of a greater Sequoia National Park—particularly in its bearing on the country which he was able to observe for himself.

I want to say right here that we owe a great deal of consideration to Congressman Gillett for the part that he has played in assisting toward securing appropriations for parks like the Yosemite and the Sequoia. I feel sure that this item of $50,000 which was secured last summer toward the purchase of the private holdings in the Giant Forest would not have been secured had it not been for the earnest

support that Congressman Gillett gave it in the conference between the Senate and the House. It is work like that which really brings the results.

The statement is made, of course, that Congress has given this money, but when it comes right down to the fact, it is the interest of one or two men like Congressmen Gillett that actually produces the results. I have great pleasure in introducing to you Representative Frederick H. Gillett, of Massachusetts.

HON. FREDERICK H. GILLETT, REPRESENTATIVE FROM MASSACHUSETTS.

THE PROBLEM OF THE GREATER SEQUOIA.

Mr. Chairman, ladies, and gentlemen, I have run away for a few minutes from my duties at the Capitol, and from the general way those duties are looked upon by the country, I do not suppose you will think that is much of a sacrifice. But what is more important, I have left a hard-working committee. But I could not refuse the request of Mr. Mather to say a few words about the Sequoia Park, because it was entirely due to his generous hospitality that I was introduced to its wonders and imbued with some of the enthusiasm for the development of all our national parks which he has shown so characteristically since he has been in office. He thought, I suppose, that it was well that the Sequoia, which is rather the least known of all the parks, should be better known by the public, and so a year ago last summer he invited a party of about 15 as his guests to go through the park. He picked out men of success in various lines of life, scientists, literary men, editors, and I was the lone Congressman; and I had the most superb vacation which it has ever been my good luck to enjoy, and it is certainly a very small repayment of it for me to comply with his request to-day.

I presume most of you know that the Sequoia Park is situated in southern California. It is at the lower end of our most picturesque range of mountains, the Sierras, and it is just where they swell into their boldest forms and attain their highest altitudes, because right at the edge—not in the park but at its edge—is Mount Whitney, the highest mountain in the United States proper. It is rather singular that we have a number of mountains more than 14,000 feet high, but Mount Whitney is the only one of them that reaches 14,500 feet. There are Rainier and Shasta and Pikes Peak and several others just above 14,000, but Mount Whitney soars a little above them all, although, because it is in a southern latitude, I suppose, it does not begin to be as impressive as mountains like Shasta and Rainier, which are always covered with snow and ice.

We entered the park from Visalia, in southern California, by an auto ride of about 60 miles over tolerable roads, not much like our Washington boulevards, but very comfortable.

The first night we camped in the Giant Forest, 5,000 feet above the sea. I selected for my bed a spot beside the trunk of a tree some 30 feet in diameter, and after I was wrapped in my blankets looked up through branches 150 feet above me at the stars and they never before looked to me so bright and numerous. This is incomparably the most magnificent forest in existence. The groves of big trees which lie on both the north and south sides of the Yosemite are of the same species and about the same size, but in each of those groves there are but a few trees and they are all full grown. They seem to be relics of another era. But here are thousands of trees of all sizes and ages. There are sturdy infants from 5 to 100 years old; boys and girls 1,000 years old; and there are plenty of magnificent specimens of the mature adult 4,000 or 5,000 years old, 30 to 40 feet in diameter, and 200 feet high. And yet, wonderful as are all these giants, surpassing so far in size anything else that grows that you never lose a feeling of awe as you look at them, I am not sure that they are as beautiful as the superb sugar pines which grow in this same region to a circumference of 40 to 50 feet at the base, and then taper upward in perfect symmetry of trunk and branches to a height of 300 feet. They lack the size of their stupendous neighbors, but they surpass them in height and erectness and grace of form. The whole forest, miles in extent, is full of prodigies which never cease to excite your wonder.

During our two weeks in the mountains we traversed some of the most glorious scenery in the United States or any other country. The valley of the Kern alone presents in its 30 miles a combination of the beauties of the Yosemite and Yellowstone Canyons, though perhaps it has no one spot as fine as either. There was an endless variety of mountain and valley and stream and lake, culminating in the ascent of Mount Whitney, the highest mountain in the United States, though it has not the snow and glaciers of lower mountains farther north, and so is easier to climb and is less impressive.

On the last morning we were waked an hour earlier than usual, shivered through breakfast, and left camp shortly after 5 o'clock, with water frozen in the pails, and after five hours of steady and sharp descent, found ourselves out of the mountains with the mercury at 100 in the shade. From there we took a most wonderful auto ride of 100 miles, first up Owen Valley, which is about 10 miles wide, and has the lofty and serrated Sierra on the west, and the equally picturesque and precipitous though somewhat lower White Mountain chain on the east. After about 50 miles the White Mountains lost their regularity, but the Sierra still apparently for-

bade all passage to the west. Finally, however, we plunged into them up the narrow valley of the Leevining River, where a daring road has been built along the sides of the mountains following the windings of the stream and climbing upward by zigzags and curves blasted out of the sides of the rock, till at last we found ourselves once more on the summit of the Sierra just behind the Yosemite Valley.

I came home in love with California. The climate of the southern part of the State seems to me the nearest approach to perfection I have ever heard of outside of Eden, and its picturesque mountains and valleys offer a playground which can satisfy the vacation longings of the whole United States. It exasperates me to think of the hundreds of millions we spent annually in Switzerland when nature offers in our own West all the beauties of Europe, though we have not made the roads as smooth or the hotels as comfortable. I can think of no more interesting or patriotic project for one of our public-spirited multimillionaires who is looking for a beneficent way to invest his earnings than to develop a series of fine hotels in our scenic west connected by paved roads. While I do not believe they would be profitable at first, I think they might ultimately, and they would at any rate extend a knowledge and an enthusiasm for our country, besides the more practical benefit of keeping travelers here instead of in Europe.

These mountains and valleys are of little practical value to-day. Tracts are used for grazing and there is, of course, a vast amount of timber, but most of it too inaccessible at present to be of any value, and it seems to me Sequoia Park ought to be greatly enlarged. The whole region of the King Valley and the Kern Valley and Mount Whitney ought to be embraced in the park. Their acquisition ought not to cost much now and 100 years hence they would be of enormous value and enjoyment to the people of this continent.

Congress last year appropriated $50,000 for rounding out the Forest of the Great Trees, and the National Geographic Society generously contributed $20,000 to complete the purchase, so that the Government now owns all of that wonderful forest; but the whole region, with its marvelous scenery and picturesqueness, ought to be preserved as a perpetual camping ground for the people of the United States.

The Presiding Officer, Mr. Mather.

I wish we could only have all the Members of Congress, both the Senators and Representatives, as interested as Mr. Gillett; it was that intimate acquaintance, that intimate knowledge that he has had first-hand with the parks which has made him such an enthusiast.

Of course, we must not blame him too much for preferring Sequoia to the other parks. He saw Sequoia in a way that he did not see the other parks, and got that knowledge of it which has made him so fond of it.

It is a great thing to have a man from the East take this deep interest in our wonderful scenery of the West. Really I sometimes think that when an eastern man like Mr. Gillett comes out there to the West he gets an inspiration that perhaps those of us who have lived in the West all our lives, or a great part of our lives, do not get directly ourselves. I have seen so often the tremendous enthusiasm that has been aroused by the western scenery in eastern people. They become really appreciative when they once get out and live with it in the way that you have just heard Mr. Gillett explain.

I was very much interested in his suggestion that perhaps some millionaires might be found who would put up the money for the necessary hotels and camps, so that we could have the creature comfort which ought to go with the proper enjoyment of scenery. The great trouble is that it is very hard to find the right kind of person or company to go in and make the developments which must be made in these parks. We have it in a measure now worked out in Yosemite and in Rainier, as well of course as in Glacier and in Yellowstone. But these newer parks, parks like the Sequoia, are a little too far perhaps from the centers of civilization for the hotel builder to get interested in making the proper development.

We see in some of our southern resorts beautiful hostelries which are really monuments to the men who put them up, and which in a way take care of a relatively small number of people. How much finer monument could be built by those same men themselves if they would only consider the possibilities of the construction of comfortable camps! And at far less expense, too, than some of these splendid buildings that have been put up in the fashionable resorts! How much larger returns would they be able to make for themselves in the service that they could give to the American people! I feel that the good time is coming. As men and women become inspired with the value of the parks we shall have just that type of men presenting themselves; not necessarily looking for the returns that are in it, but for the enjoyment that they will get out of serving the people.

I think perhaps the railroads have made the largest development in connection with providing the parks with proper accommodations. Of course, we all know what was done by the Northern Pacific in starting a development in Yellowstone which was afterwards turned over to other men, but in which the railroad has always had considerable interest. Probably the most remarkable evidence of what the railroads thought they could do through auxiliary companies has been seen in the Glacier National Park, where the Hill interests have

done and are doing a very large, a very splendid piece of work—one that will not have any direct pecuniary return except as it greatly builds up business for the railroad company itself.

We have not had at this conference a word from the railroad man direct, one of those who have been in the forefront of developing traffic for their companies. We are fortunate this afternoon in having a man here, the vice president in charge of traffic of one of the great railroad systems of the country, who has given in the last few years a great deal of attention to the development of business with special reference to the national parks to which his own road is tributary. I refer to Mr. E. O. McCormick, vice president of the Southern Pacific Co. His railroad serves all our national parks that are located on the Pacific slope—Mount Rainier, Crater Lake, Yosemite, and Sequoia. It was my privilege a year ago last summer to accompany Mr. McCormick to all of those four parks. He had not really seen them before that time, and I think he got an inspiration from that trip, which has been of great assistance.

I know that we have been greatly assisted in our work here in the department by the zealous way in which he has followed up other railroad men, convincing them that they should do their part. His sinking the question of his own railroad's point of view and looking at it from the broader standpoint of the whole transportation requirements has been very helpful to us indeed. Mr. McCormick knows the Sequoia Park and its proposed extension just as thoroughly as does Representative Gillett, because he was a member of the same party; and while I would like to have a word from him on what he thinks of the greater Sequoia, which is our topic to-day, I want to hear from him from that larger point of view of the railroad company's and the railroad man's interests in the development of our national parks.

Mr. E. O. McCormick, Vice President of the Southern Pacific Company.

THE NATIONAL PARKS FROM THE RAILROAD POINT OF VIEW.

Mr. Chairman, ladies, and gentlemen, I was with Mr. Gillett the night that he took off the "clothes" of a perfect day. Having been through that country some time before, I suggested to him that in so frigid an atmosphere we need not take off everything, and that he need only prepare himself for bed just as he did at home. But you know what a chance you have of impressing a Congressman of the United States with anything, and he proceeded to do exactly as he pleased! It took all the coverings of our whole camp to make him comfortable along toward early in the morning!

Fortunately, we had been provided by Lady Bountiful—Mr. Mather—with almost everything that we needed, so we had plenty of covering.

I am not on the regular program; it is dangerous to put me on for a talk when the subject is the big things of nature.

The only government that I know of where they have been properly convinced that their scenery could be made available as an asset or capitalized as they ought to capitalize it is Switzerland. They get large returns for the money that they have expended in little Swiss chalets and a provender of good soup and hot biscuit and honey—and that is all you get from the Swiss people that I have ever known. The Lord did the rest. And they took advantage of what He did; they have made much of it; they have made a whole lot out of it.

Now California, you know, is the American Switzerland. They say that a native son grabs off everything—so we are going to do just exactly that same thing, and we are going to do it as long as we can. California claims the best fruit, the sunniest skies, and the most beautiful scenery of any State in the Union. But there's scenery north of California, too. Our starting point, as Mr. Gillett said, is the north. There is Mount Rainier. Think of standing on a glacier which, according to statistics, has more ice in it than all the glaciers in the Swiss and Italian Alps. I do not mean that there is more ice and snow in that immediate vicinity than all the Alps possess; but there is more ice in that particular glacier than they have over there in all of their glaciers.

Then you go down to Mount Hood—and shortly you will be able to leave Portland, Oreg., in the morning at 7.30 and go 280 miles and be back there in the evening, having seen the Columbia Highway and Mount Hood and all that is tributary to it.

And then you come to Crater Lake, and so on down to the Yosemite, the Kings, and the Kern, and the magnificent Tehipite Valley—which I had the pleasure of passing through last year, again the member of a party got together by Mr. Mather—which is as big as six Yosemites, not as beautiful but of tremendous importance.

And then down around to Mesa Verde, which I visited the other day, where, lying there open to your touch, to your very hand, to your picking up, are evidences of a civilization that was old when Cleopatra was young. It is the oldest country known. There you will find pieces of ancient pottery and sometimes household utensils and implements made of stone and saws that will saw the hardest wood, and hatchets that will put nails or bolts through them if you choose to use them; and there one may see rooms that were fashioned by the hand of architects who knew how to make them attractive and safe from the depredations of surrounding tribes.

And, moving on just a little bit to the cliff dwellings, we may guess how old those dwellings are. We do not know; we have not discovered, but there are evidences there of a very advanced civilization. There remain the evidences of old irrigation ditches, and in some places the remains of men smaller but similar to our own race. These cliff dwellings are within 4 miles easy walking distance of an automobile road that leads up there to that wonderful work of man—and all you have to do is to get off at a railroad station, take an automobile, and join on your ticket at another railroad station; and meantime see those things which people have journeyed so much farther to see in foreign countries and then not seen so much.

And then you begin to realize that you do not know your America. And we never would have known our America, never would have got acquainted with it, had it not been for the awful happenings which I try to forget are going on abroad, happenings which form the only deterrent to Europe making further money out of Americans. Meantime, let us see what we can of our own antiquities which are doubly discounted as to beauty and grandeur. I do not refer now to the cathedral country of England, nor to the chateau country of France. They have their interests. But we have our mission country, which is equally as interesting and entertaining, and we have these big trees that were spoken of a moment ago, that were thousands of years old, as Prof. David Starr Jordan and John Muir say, when our Saviour was born.

One tree that we stood under last summer you could plant by the Flatiron Building in New York and it would rise 114 feet higher than that building. You could run side by side two lines of street cars and a carriageway through it. Now you won't believe it if any of you have not seen it. Well, I may just tell you that I came from California! But we do not make matches out of those trees, either. But for a moment just let your mind revert to the size of your dining room or living room at home—a good-sized dining or living room might be 25 by 25 or 20 by 20. Now, if you will assume a room 31 by 31, that would be only 93 feet in circumference, if it were a tree. Then imagine one—and that's the largest known—39 by 39; and there is a tree in California so big that if planted in that room it would touch on all sides.

You can not comprehend it, you can not conceive of it. I have the most absolute faith in the woman I love best, but some idiots got me out there to take the end of a tape and got her to take the other end; they had us walk around this tree until we met in order to see how great the circumference of the tree was. And ever since that time any statement of mine does not go! And I have not the

slightest confidence in anything the family says! I know they put a job up on me, and she knows I put up one on her. But if it is true that 109 feet is the distance that it took to go around this tree, my talk would be 109 feet long, if they did not stop me, because I am chuck full of it.

We live in a State over there which contains the highest point in the United States and the lowest inhabited point in the United States, 286 feet below the level of the sea.

You can grow everything that is known in the world in California from hickory wood to tea and coffee, from the plantain to the eidelweiss or snow flower. About the only thing that does not come to fruition is the banana, but it flourishes there, only it will not fruit as it should. Fruit ripens in the northern part of that State sooner than in other parts of the State.

There is more hot weather in California than anywhere else in the United States, and there was more hot air there until I came away. There is one spring in my State that throws more water through one pipe than all that our Government owns at Hot Springs, Ark.; and we own enough there to serve the needs of the people. So you get some idea of that country. It is volcanic, and it certainly does raise hell sometimes. It did when it destroyed San Francisco—and yet, if you go out there again there is San Francisco bigger and prouder and better and more competent than ever.

In closing and in thanking you for giving me these few moments, because I was not on the program and I am here unexpectedly, I want to say one word on the subject which Mr. Mather has so deeply at heart. It is necessarily transportation. Now you may have all the diamonds and feathers and jewelry and luxuries in the world, and if you do not have transportation they are not worth anything. They are worth nothing more than the personal adornment of the Indians, or what you could consume yourself. Without transportation a greater curiosity than has been touched on here to-day, Mammoth Cave, Ky., has lain dormant. No one knows what we have there—a hole in the ground where you may walk for eleven hours and not retrace your steps or recross your paths; 55 miles of underground passage in that one cave, and still undeveloped; and yet the people do not know anything about it. Transportation is at fault there. I do not mean railroad transportation.

The State of California last year spent $18,000,000 in highways and will spend over $15,000,000 this year in highways. They are spending their money on good roads to let the people go and see the Yosemite. The automobile will be a favorite method of transportation to all of these parks if Mr. Mather and the gentlemen who are working with him have their way. The railroads, all of them, will and have done their part. The line that leads to the Grand

Canyon has certainly done its part by building nine miles of road costing $300,000.

The Santa Fe did a wonderful thing to get people up there in the country, far more than the Government has done as yet to make them comfortable or safe after they get there. The Apache Trail, which is going to lead from Roosevelt Dam to Phoenix, Ariz., opens up one canyon that I have stood on the brink of that is 40 miles straight across. That is three times as wide as the Grand Canyon. It has not the beauty of architecture or coloring of the Grand Canyon, any more than Tehipite has the beauty and the color of the Yosemite, but it is going to be the most tremendously interesting thing outside of the Grand Canyon, I believe. And it took a firm of tourist guides to discover it! They forced it on the public.

There must be better roads to the Giant Forest and Sequoia. The Yosemite roads are good. Crater Lake is becoming improved. Roads and the transportation problem constitute one of the greatest problems that the people have to deal with.

The company that I represent proposes to do all it can in the matter of good roads, both of steel and of gravel and concrete; and I know it is in the mind of the other railroads to do the same thing.

I want to say that the present administration—Mr. Franklin K. Lane, Mr. Mather, our friends in Congress, and the people with whom they are associated—represent the country in a way that will certainly result in success for the national parks system. It is they who will have to take these matters in charge and make available these beauty spots for you, whether by railroad or just good roads, aided and abetted by such men as the Interior Department and the Forestry people have up there. You will succeed, and then we will in the main have what Switzerland has had for so many years, and what Spain has just determined to have by appointing a personal friend of the King of Spain to bring about better roads and better hostelries, so as to make Spain's beauty spots reachable.

I bespeak for the support of these men the heartiest sort of work on the part of every man, woman, and child, from the school child to the college student, and the warm indorsement of their plans. When you hear of $50,000 from Congress for the maintenance of the security of one of these things, the Giant Forest, think of the infinitesimal amount it is compared with the other expenditures that are being made all over the country by private individuals! Yes, and by the Government in other directions. Why, it is but little more than the price to-day—in fact, it is less than the price—of two Pullman sleepers; it is about equal to the price of two first-class coaches. So do not become alarmed when $50,000 is mentioned as an endowment from the Government. The twenty thousand given by the Geographic Society for the same purpose is twenty times,

one hundred times more than fifty thousand Government dollars. Go out and see us and stop at these places as you go along, and then I probably will tell you, as the Italian man said the other day, "Why, Italy has not anything compared to the Italian quarter of San Francisco."

The Presiding Officer, Mr. Mather.

Of course, Mr. McCormick had to get in a good word for California. I knew he would do that, but I think we will forgive him in view of what he has done in that State. It is an inspiration to have a man of his type so deeply interested in all of our national parks projects.

I am going to throw on the screen here a map of the Greater Sequoia, so that you will get a glimpse of it for a minute.

(The map was thereupon thrown on the screen and described by the presiding officer.)

I want to say for the benefit of the children who are coming in that those bear stories that have been promised them will come at half past 4 as planned. Mr. Mills will tell some of his inimitable bear stories at that time, so, if they will possess themselves in patience, they will be sure to have their treat. I would like to remind those who do not know of it of the interesting collections on either side of the corridor as they go out, the scenes depicted by photographs and other pictures of the different parks; and, if you are out before the gallery closes upstairs, you will have a chance to see that wonderful exhibition of canvases by painters from different parts of the country, which is so well worth looking at. I am going to ask Mr. Enos Mills to say something to us now on a topic which I see is indicated here as "Perhaps our greatest national park." Mr. Mills.

Mr. Enos Mills.

PERHAPS OUR GREATEST NATIONAL PARK.

Mr. Chairman, ladies and gentlemen, it is a profound pleasure to say a few words, and I shall speak but briefly concerning the Greater Sequoia Park, perhaps our greatest national park. The speakers who have preceded me have given you some idea of it. Those who follow me will give you still other ideas of it. So I shall try to be brief. When it comes to a variety of scenes in one locality, scenes which embrace, you might say, almost every class of outdoor beauty, you will find them in the region proposed for the Greater Sequoia National Park.

Three years ago, in addressing an audience concerning national parks, I had been describing all the places that are national parks,

and some that I thought should be, some one in the audience asked me this unusual question: "Mr. Mills, if you were sentenced to serve the rest of your life in one of the national parks, which one would you select?" Without the slightest hesitation I said, "The Sequoia National Park." Of course, the supreme attractions in that park are the big trees. Let us notice this park region at the present time. The Sequoia National Park embraces about 265 square miles. The proposed park would include an area of 1,600 square miles; the region included would be one which you would classify as a scenic one. You have been hearing a great deal about land classification. Land has been classified as agricultural, forest, mineral, or high land, and all that sort of thing; but from now on, ladies and gentlemen, it is time to make a higher classification—that is, a scenic classification of land—because from scenery we get the greatest benefits to mankind; and, after all, scenic land has higher value if used for the benefit of men, women, and children than any other land known.

This region of 1,600 square miles lies at the southern end of the Sierras, approximately 100 miles north of Los Angeles. All of you have heard of the Death Valley. In a straight line about 70 miles from the Death Valley is Mount Whitney. It is an interesting fact that the lowest point in the United States should be within 70 miles of the highest point; that the lowest point, the Death Valley, which is not a very poetical looking place, did not look to me, when I was there as a young man, as though it was a good place in which to grow up with the country. At any rate, move just a short distance westward from Death Valley and you get a very radical change, not so much of latitude as differences. It seemed to when I first visited the Sequoia Park region that all of the great wonders of the world had been piled in that locality. Incidentally, I may say that as a boy, wandering in the wilds because I enjoyed it, one September evening, I found myself in the Giant Forest in the Sequoia National Park. This was just about at the time it was made a national park, in 1890, and although I have stood in many wonderful places, although I have looked upon the high central peaks in Alaska as they rise above the white clouds, although I have stood by that brilliantly colored canyon in the Yellowstone and looked upon the wonderful scenes in Mount Rainier, yet never, any place, have I stood where I felt so a part of the Infinite as I felt when I stood in the Giant Forest in the Sequoia National Park.

In this park, as I have already said, was a great range of attractions. First of all there is the high peak, Mount Whitney, 14,501 feet high. Now there are in the United States more than 100 peaks that are above 14,000 feet, but only one that rises above 14,500. There you have a high peak. Then in this same region you have the Kings and Kern Canyons, unrivaled in the world as canyons of their kind. And then, best of all, are these big trees.

A tree is the best friend that a man has. The human race, all the way from cave to college, has been benefited by the trees in the United States, but in this park the trees attain their highest developments. A tree lives longer and grows larger than any other living thing. In this park as it now stands, there are about 1,000,000 big trees. Some of them are of simply stupendous size. This park, if extended, will of course include the General Grant National Park, in which stands the largest tree in the world, the General Sherman, a tree old certainly, known in story, probably 6,000 years of age. I wonder if the boys and girls in the room at the present time have ever stopped to think that the tree has to stand in one place all of its life, although it may live hundreds and thousands of years. A little tree may start to grow; it grows a few inches, then it grows a few inches more; then a few feet more. But in the spring and summer and winter there it stands in one place. In its top the birds nest and sing; around it animals live and play. As a matter of fact a forest springs up around the tree. The tree watches the ever-changing struggle for existence. Our animals fight and frolic, live and love. It is one of the strangest places in all the world. For what a long, long time this splendid big tree, the General Sherman, has witnessed through the centuries, and let us hope it will still witness there for centuries yet to come.

There are the higher mountains, and streams and canyons, and then there are many beautiful lakes in this region. The ice king, who chiseled California on such a magnificent scale, did some of his best and grandest work. He chiseled the canyon, the peaks, the lakes, and gave to this park region many of its flowing lines and beauty. Within this proposed park you will find as interesting a glacier record as you will find any place on earth. As the great John Muir has pointed out, the Sequoia forests are growing in those places which were first laid bare by the ice at the close of the great ice period. Here in many ways you will find an ever-interesting story of nature in this Sequoia Park.

In the streams you will find fish. Let us remember that in this region the golden trout originated. Within this park there are the mountain sheep, there are bear and deer. There are many kinds of birds, and then, too, there is an exceeding wealth and variety of wild flowers, and then over all, and ever with it is a climate equal to any in the world.

This region, with its varied beauty and size, is, I believe, the greatest in all the world. Why it would be a disgrace to civilization, ladies and gentlemen, if we let it be destroyed. We ought to save it for our better selves and our greater Nation, and we shall save it.

There used to be a race of people in Africa called the Hottentots. They have been forgotten. The Hottentots had a strange idea.

They considered that a woman was not beautiful until she had both cheeks scarred and her front teeth knocked out! I sometimes think that pioneer people—not all of them—are so forgetful of the beauty of their country that they consider it is not beautiful until it is all scarred and its front teeth knocked out. Many years ago that genius, Horace Greeley, went West, and he almost typified the typical pioneer. When he arrived by one of those big trees it did not seem to appeal to his imagination at all. As a matter of fact, too often people do not have imagination. But at any rate Horace Greeley, instead of thinking of the wonders it might look upon and had looked upon, simply walked up to it, pulled out a pencil and paper and figured how much lumber could be obtained from it.

Ladies and gentlemen, we have passed too many milestones to figure how many feet of lumber may be obtained from one of these big trees. We had just as well think of how many paving stones could be obtained by tearing down the Congressional Library.

So let us hope and believe from now on we will appreciate the value of scenery and its benefit to mankind, and that appreciating it we shall preserve it.

Now, briefly to restate the points that I have tried to make: The region enlarged would include scenery land; that would be its best classification. Used scenically, it will give it a very high economic value, and still higher values which you can not measure by gold. Within this region are extensive areas of such lands. They will be lost to the public, I fear, if the region is not made a national park, because California may sell or lease this land to private individuals and thus cut the park all up, if the making of the national park is delayed.

So this in turn urges us forward in making this region a park. Is there any reasonable objection to making this a national park? Absolutely none that I know of. So if you are in favor of it I hope you will tell your children about the Sequoia National Park region. I hope you will tell your neighbors; I hope you will tell everyone that one of the great duties of everyone, and it ought to be a pleasure, is to help bring about the creation of the greater Sequoia National Park, or, to use the words of John Muir, "national parks should give glory to the country, and our national parks should make our country the glory of the world." I thank you.

THE PRESIDING OFFICER, MR. MATHER.

There is a man here who has been to the top of Mount Whitney, and who, when he stood on one of the great passes on his way, took a long breath and said it was one of the most wonderful sights he had ever seen in his experience, and he has seen a great many the

world over. I am going to ask Mr. Emerson Hough to speak on the subject, "The Top of America—Mount Whitney."

MR. EMERSON HOUGH.

THE TOP OF AMERICA—MOUNT WHITNEY.

Mr. Chairman, ladies and gentlemen. I know how Mr. Mather must feel upon being called to introduce one more speaker—even almost the last one; in these closing hours of the conference he just naturally hates to do it! He is like the Lord Mayor of London, who was presiding at a banquet which was attended by a number of certain prosy personages like myself, and along late in the evening, at the time when the walnuts and wine were doing their work and everybody was happy, leaned over to his coming orator and said: "My Lord, shall I introduce you now, or shall we just let the ladies and gentlemen enjoy themselves a little while longer?" We have certainly been enjoying ourselves here this week, and up to this time I have been enjoying myself. I like to hear that dear gentleman, Congressman Gillette, and would much rather listen to him than to listen to myself, and I like to hear that prince of all good people, Mr. McCormick, and Enos Mills, whom we all know and love. We were enjoying ourselves, and I am sorry to disturb the enjoyment.

It is quite a credit, gentlemen, to have a place on this program of specialists and scientists. I can only claim a place there on the ground of being a scientist myself. At one time in my earliest youth I was a scientist. I was engaged in astrology in combination with astronomy, and was instituting certain researches as to the relative speeds of objects traversing elliptical orbits; that is to say, I was studying the relative speeds of running horses. And sometimes I had even to predicate something, or perhaps to hypothecate something, to confirm my own judgment in the matter, and I was disposed upon occasions to take counsel with the powers of another scientist, whom we knew by the name of little Sam, a little darkey about this high [indicating]—the seventh son of a seventh son, and also an astrologist who knew, or professed to know, everything about the relative speed of objects traversing elliptical orbits. Little Sam came to me one day with his eyes hanging out on his face, and he said: "Boss, if you all and me just had a hunnerd an' fifty dollahs, knowin' what I does about a suhtin hoss wot's gwine to run dis Sat'day at noon, we all could make all de money dere is in de whole worl'. Of course, de odder people might habe *some* money, but it would be on'y wat we seed fit to give 'em; fo', Marse Boss, aftah dat race we'd hab all de money dere *wuz!*"

I said, "Sam, tell me about this horse"; and he said, "I'se kaint tell yo' much about dis heah hoss, 'cept he's gwine to come in at least

a half mile ahead ob all de odder hosses. Of co's it may be moh dan dat, but I'se a consuhtiv, Boss, and I sez at least a half mile." He said, "Its all ovah, Boss, 'cept the fohmahlties."

I regret to state on this occasion that something seemed to go wrong with the aforesaid "fohmahlties," because at the conclusion of our scientific researches after that Saturday our "hoss" was far from coming in a half mile ahead of the other horses.

To be perfectly truthful, it came in about that distance behind the rest of the string. Whereupon I reproached Sam very bitterly for his lack of scientific wisdom. I recall now with sadness that I did not myself eat for about a week after this occurrence, and I am not sure that Sam did either. I felt that it was necessary to reproach Samuel for his part in the episode, and Sam replied, "Ah kaint un'stan 'bout dat hoss; but at least you hab to admit dat you and me hab de sat'sfackshun of seein' our hoss dribe all dem odder hosses home."

Now, Mr. Yard told me to come down here, and he put my name on the last part of the last page of the program, where it is just hanging on by its eyebrows at this minute; and he told me I was to drive you all home. I understand he is now intending to do that himself; but you are going home after a week of great enjoyment. Mr. Yard telegraphed me and said, "I want you to come and make a glowing speech about Sequoia Park and its extension and tell them something more about Mount Whitney." I am obliged to advise Mr. Yard that my days for glowing speeches are Tuesdays and Fridays, and not Saturdays; and yet I do want to tell you something; I do want to talk to you a little while about this important question of our national parks. All of us who appear before you this week qualify on some basis of special attainment or special opportunity or special study, not by any virtue of special gifts on our part, or on my part, at least. But by virtue of special opportunity in the practice of my profession I have learned something about Mount Whitney and about others of the national parks.

Awhile ago the editor of one of the greatest magazines, with the largest circulation, appeared on this platform; he is the editor of a magazine which is not second to any periodical in this country, nor is the editor second to any other editor in this country.

This man came to me and said to me: "I want you to go out"—this was about two and a half or three years ago—"I want you to go out and study all the national parks that we have. I want you to see what they are and where they are, and I want you to see if you can not bring these parks into greater understanding and greater use by the American people." I do not believe that the intention of that editor at that time was so much to increase circulation as it was to do some good to the people of America. He

wanted the people to know more about a subject in which they were not very well informed at that time, and never have been since, for that matter. Very well; I went out and studied these parks the best that I knew how.

No honest reporter at that time could have spoken with unqualified approval of the condition of the parks. To-day is the time to write that series of stories. In the short period of two years and a half changes bordering on the miraculous have taken place in the entire administration of our system of parks, and the park system has gone forward in a way which speaks more to the credit of departmental work at Washington than I can mention with regard to any other thing of which I know. And we all know very largely where the credit for that work should be placed.

If you will go out to Glacier Park, I fancy you will find the flag of this Republic flying there. You will see better transportation there. You will have your privilege to travel as an individual. You can go and come there with more freedom and with more independence than you ever could have done before. If you go down to the Yellowstone, you will find full-fledged and in perfect operation that so much dreaded question of motor-vehicle transportation in the parks. It had to come, and it has come. I know, and I think you know, who is responsible for that. Congressman Gillett told you of some of the changes which have gone on in Rainier Park; changes very much needed. The homestead proposition inside the lines of that park in time will be corrected. There will be a tremendous circumnavigating motor road built around that mountain some time. That's on the cards. That will come to pass. There is a new entrance to that park now established. All those things now, mind you, have taken place in the last two or three years, and did not exist at the time I studied the parks.

I was looking at the pictures outside there, and Mr. Mather showed me changes in the parks that surprised me. I did not know so much could be done in so short a time. It certainly has been brought about by Mr. Mather's scheme of giving the parks more publicity, more transportation, and a wider and more flexible use by the individuals visiting in the parks.

The thing that struck me as being least desirable when I was making my study was the custom which some concessionaires had of treating us Americans just as the hotel keepers of Europe have been accustomed to do—as articles of merchandise. They sent us through ticketed on a schedule. I did not like that, and never will like it. But under the system of transportation and accommodation in the parks as it exists to-day, and as it will exist in the future years when more of us can go there and enjoy ourselves, we can go out and look at the sunset and have a good time and not have to go home to 7

o'clock dinner unless we feel like it. We can take our own system of transportation into the parks, and live on an independent basis. I consider that one of the greatest achievements in the national parks—this treating an individual American as an individual.

If you go down to Yosemite Park you will see an attempt there to bring about a much better system of transportation and accommodation than was known three years ago. That great national highway that I traversed, away up in the clouds, belongs to you and it belongs to all of us, not by the generosity of the Department of the Interior altogether, and not by the wisdom of this Government altogether, but very largely by reason of the large heart and the fertile brain and the very generously elastic pocketbook of one private citizen who certainly is within reach of the sound of my voice and the sight of your eyes to-day.

Now, at the time I visited Sequoia Park I looked over the register of the visitors who had been there within the preceding year. That was in June, I think, of 1914. There had been just four people in that park the preceding year, who lived east of the Mississippi River. The park was not known, and it was not being used. That country had been known and used commercially for a long time, and you could tell the dividing line, the edge between Sequoia Park and the open country, where lumbering operations had gone on, and where private enterprise had used the resources of nature as they pleased. Now, I reckon I am about as hard a man as the next. I do not suppose any of the speakers on this program are particularly maudlin or sentimental. We all ought to claim to be hard-headed business men. But I am telling you if you go out to that country, and you see the ruin of redwood lumbering, it will come mighty nigh bringing the tears to your eyes—to see one of those tremendous trees butchered, its remains filling up canyons and littering mountain sides, cut into parts, distributed, scattered over all the country, perhaps to make roofs for temples of human gain. I tell you if you look at that thing in the process of its happening it will come mighty near bringing tears to your eyes, and it will make a convert of you to the whole principle of national parks and the preservation of that country from all operations of that kind in the future. One of those trees is not a tree; it is something more than that; it's a creature.

It is something more even than a creature; it's a temple, a temple of the living God. It came out of the past and was given to us not to destroy, not to use in any save one way. One thousand, two thousand, or three or four or five thousand years of age—its roots were going down into the mountains before the first stone was laid in the foundation of the oldest temple built by man of which we have any knowledge to-day. It wasn't meant to be destroyed. It

came out of the past and it belongs to the future. And I call that a great work which looks toward the preservation of such monuments for those who are to follow us.

Now it was my good fortune to be with the Mather party when we made that wonderful journey from Sequoia Park across to Mount Whitney. I wish Mr. Yard had been with us then. Different speakers have told you what a wonderful enterprise that was, how enjoyable it was in every regard. In that journey I obtained two pictures which will remain in my mind as long as I live, and I hold those two pictures as the dearest and the most splendid of my collection of mental images, embracing not only these two beautiful summers in the Sierras but many other summers, because I have always loved the mountains. I have been a big game hunter, and something of a traveler all my life, and out of all the times I have had in the Sierras and Rockies, and out of all these tremendous spectacles I have seen, I retain those two pictures. Now one of them is a picture of a tree, and the other is the picture of that mountain regarding which Mr. Yard and Mr. Mather have asked me to speak to-day.

We were lying one morning in the redwood meadows. We slept in our sleeping bags—did not have any tents, and lay flat on the ground; and I remember in early dawn I woke up as I lay in my blankets, and I gave a look out and up against the sky, and the pink of the Sierra dawn was just coming, changing from the black of the Sierra night. My comrades lay about me at different distances, scattered over the ground. Mr. Mather was, I believe, asleep at that time in the hollow of one of those big trees. They had the carcass of a deer hung up in there that night, and a lot of pack saddles. I do not know but two or three were sleeping in the tree.

Mr. McCormick was just now telling about the measurements of a tree. He measured it 109 feet around; and as he was speaking, I asked Mr. Mather right suddenly how far to the back of this hall it was. He said, "I think it is 90 feet, about." Now, measure the depth of this hall, and add 20 feet or more, say, and make your circle, and you will get some idea of these trees! You can not imagine their size. It is no use trying to tell you. But look up at the circle of the dome in this ceiling, multiply by two or three, and you will get something of the size of those great trees.

In the Redwood Meadows there were numbers of these trees standing about and I waked up and looked about. Off to the left was Gilbert Grosvenor, of the Geographic Magazine, and over here Congressman Gillette was standing on one foot trying to get into his riding togs for the duties of the day, and if you have once seen a Congressman in that attitude you will never forget him afterwards! [Laughter.] If you have once seen a tree like this you could not

forget that either. I looked up at it as I lay there, and you have to look up and up and up in order to see the summit of one of these mighty trees—a very wide angle lens is the only thing with which you may photograph one of them at all.

That tree stood above me. I brushed some ants aside that were promenading around on top of my sleeping bag, and I think that tree looked down on us as though we were so many ants also, and it must have felt like brushing us aside.

I do not know how big or how tall that tree was, but I remember it and shall always remember it so long as I have any mental pictures remaining to me, as it stood there that morning in its tremendous dignity and tremendous indifference, over against the pink of the Sierra dawn. I suppose branches of a tree like that are bigger than a man's body, 100 feet above the ground, but this means nothing to the average person. Clear up to the top of that tree it was as motionless as though made out of bronze. It did not move. It looked down on us. I said it brushed us aside like so many ants.

Now, that's one of the pictures I gathered out of that Greater Sequoia Park. I looked on that tree as an index, a sort of a finger, a sort of a milepost, pointing, we will say, onward and pointing upward to a still higher sphere of action. It pointed as a milestone our way over to Mount Whitney.

Presently we arrived at our last camp, for we were to ascend the mountain itself from the Crabtree Meadows. Mount Whitney itself is not a difficult mountain to climb—on the contrary, it is one of the easiest. It is the highest mountain in the United States, and perhaps the easiest to ascend for a man in ordinary good health. We had with us a doctor who was somewhat of a spoil-sport himself, and it was his greatest delight on the evening before we were to undertake the ascent of Mount Whitney to tell us that certain of us, if we undertook to go up that mountain, would never come down alive. There were tears in his voice when he spoke. He told me, I remember, "If you go up there you do so at your own risk. You had better arrange to have a decent human burial, because somewhere on that rocky slope you will find your last resting place." And in view of those advices I went to the head packer of our pack train and I said, "Frank, what will you take to get me up on top of Mount Whitney?" "Ten dollars," he replied, "if I have to take you apart and carry you up on the installment plan!" At any rate, by the kind assistance of Mr. Mather and the head packer I did get up on top of Mount Whitney, and I saw there what indeed would in the prose of some other writer perhaps afford material for the glowing speech I can not give to you.

I can not tell you what we saw; you will have to go there yourselves. You will have to see the national parks of this country to

enjoy them. You will have to climb to the summit of Mount Whitney to know about it yourselves. I recall that there was a great dark cloud bank coming on at one side. Soon it was to snow and drive us down from the mountain, and, as you were told this afternoon, we could see the Panamints and the Funeral Range, and back of us to the west we knew somewhere there ran the deep canyon of the Kern River. It was all no more than a stone's throw from where we stood.

It was a tremendous scene. It was a tremendous place. That's as high as you can go in America. That's the top of America! But I should be a poor speaker indeed if I undertook for one moment to paint you any picture of that which we saw. To me, to stand there with these gentlemen, my friends, around me, was indeed the climax of my long life in the practice of my own profession, which has taken me in many different corners of the wilderness world.

My friends, there are two ways of looking at these things. There is a material tree, a material Sequoia, and a spiritual Sequoia; there is a material Mount Whitney, and there is a spiritual Mount Whitney. There are certain eminences in human lives from which we look out. Only imagination gives us the real outlook, the real vision, from a point which we are entitled to call the top of America. Only a splendid imagination could make these parks what they are or what they are going to be. Without imagination you can not build up even a great business. Without constructive imagination to push behind that business, and to get on both sides of it, and to lead it—without suggestions and support you can not even build up a material business in this world.

You can not make a system of parks in this country without imagination. You can not stand on the top of America, on the real top of America, without imagination; and you can not look out from that place and see what America is and what America ought to be, and, praise God, what America's going to be, unless you have imagination!

I thank you very much.

THE PRESIDING OFFICER, MR. MATHER.

The time is passing. It had been planned that Mr. Hough should finish off this afternoon before we had the stories for the benefit of the children, which must come very soon, so I hope Mr. Yard will forgive me for having to call on him out of his order as the last speaker. I know it is only proper, from one point of view, for the work and effort and labor of love on his part—for to him we owe a debt of gratitude for the splendid accomplishments that have been made possible this week.

ROBERT STERLING YARD, OF THE DEPARTMENT OF THE INTERIOR.

THE TEHIPITE VALLEY AND KINGS RIVER CANYON.

Ladies and gentlemen, I have a message, and I think I can make it a brief message. At half-past 4 the children's hour begins, and I shall be through at that time. During that hour the children should have the right of way. There are many vacant seats through the auditorium and there are 50 seats in front to be occupied; Mr. Mills has gone back to provide some ushers to see that these little folks get these seats. If there are any little folks left standing after all the seats are filled, I am going to appeal to the chivalry of the adults here to give up their seats to the little folks.

Meantime, the operator will show you again the map of the Greater Sequoia. [Shows map.]

When I began to study our national parks in preparation for the great work we had undertaken, the glories of the Sierra stood out before my mental vision perhaps in more stupendous relief than any other feature. At this time I was drawing my knowledge from books and men; as yet I had visited no national parks; and the men were enthusiasts.

Almost from the first I learned of the great country between Yosemite and Sequoia, which ought to be a national park some day. In fact that is what I called it, the Ought-to-be-Sequoia, before the name Greater Sequoia was devised. Before I knew anything definite about any other valley in our national parks besides the Yosemite Valley, I was familiar with the fact that the Kings River Canyon and the Tehipite Valley were, next to Yosemite, the grandest valleys on this continent. My teacher was Robert Bradford Marshall, Chief Geographer of the United States Geological Survey, and chief lover of national parks. His splendid enthusiasm kindled the fires in me.

Few whom I had then met had yet seen these valleys, and few I have met since have seen them. They are almost unknown to-day outside of California, and little known there. Not even Muir, so far as I know, described them, though I have found various references to both in his writings. Yet they are destined to become celebrated next to Yosemite's incomparable valley. I expect to see the day when the three shall inevitably be mentioned together.

Both originate in the everlasting snows of the Sierra summits. The Middle Fork and the South Fork of the Kings River, respectively, have carved them from the living granite. Each lies east and west, a short day's journey, as the trail winds, apart. It was my great fortune to see both last summer, and I can best picture them by reading brief extracts from a record of that trip. (Reads:)

Time will not dim our memory of Tehipite or the august valley or the leaping, singing river as we saw them on that charmed day. Well short of Yosemite in the kind of beauty that startles and bewilders, the Tehipite Valley nevertheless far excels it in bigness and power and majesty.

Lookout Point, a couple of miles south, afforded our first sensation. Here the rising trail emerged upon a broken mass of rock standing well out over the head of the canyon and 3,000 feet above it, disclosing Tehipite Dome in full relief. It is one of the great views, in fact it is one of the very greatest of all our views, and by far the grandest valley view I have looked upon, for the rim view into Yosemite by comparison is not so grand as it is beautiful.

The canyon revealed itself to the east as far as Mount Woodworth, its lofty diversified walls lifting percipitously from the heavy forests of the floor and sides, and, from our high view point, yielding to still greater heights above. Enormous cliffs abutted, Yosemitelike, at intervals. South of us, directly across the canyon, rose the strenuous heights of the Monarch Divide, Mount Harrington towering 1,000 feet higher above the valley floor than Clouds Rest above the Yosemite.

Down the slopes of the Monarch Divide, seemingly from its turreted summits, cascaded many frothing streams. Happy Gap, the Eagle Peaks, Blue Canyon Falls, Silver Spur, the Gorge of Despair, Lost Canyon—these were some of the romantic and appropriate titles we found on the Geological Survey map.

And, close at hand, opposite Mount Harrington and just across Crown Creek Canyon, rose mighty Tehipite. We looked down upon its rounded glistening dome. The Tehipite Dome is a true Yosemite feature. It compares in height and prominence with El Capitan. In fact, it stands higher above the valley floor and occupies a similar position at the valley's western gate. It is not so massive as El Capitan and, therefore, not so impressive; but it is superb. It is better compared with Half Dome, though again not so impressive. But it has its own august personality, as notably so as either of these world-famed rocks; and, if it stood in the Yosemite, would share with them the incomparable valley's highest honors.

From the floor, the whole aspect of the valley changed. Looking up, Tehipite Dome, now outlined against the sky, and the neighboring abrupt castellated walls, towered more hugely than ever. We did not need the map to know that some of these heights exceeded Yosemite's. The skyline was fantastically carved into spires and domes, a counterpart in gigantic miniature of the Great Sierra of which it was the valley climax. The Yosemite measure of sublimity, perhaps, lacked, but in its place was a more rugged grandeur, a

certain suggestion of vastness and power that I have not seen elsewhere.

This impression was strengthened by the floor itself, which contains no suggestion whatever of Yosemite's exquisiteness. Instead, it offers rugged spaciousness. In place of Yosemite's peaceful woods and meadows, here were tangled giant-studded thickets and mountainous masses of enormous broken talus. Instead of the quiet winding Merced, here was a surging, smashing, frothing, cascading, roaring torrent, several times its volume, which filled the valley with its turbulence.

Once step foot on the valley floor and all thought of comparison with Yosemite vanishes forever. This is a different thing altogether, but a thing in its own way no less superlative in its distinction. The keynote of the Tehipite Valley is wild exuberance. It thrills where Yosemite enervates. Yet its temperature is quite as mild.

The Kings contains more trout than any other stream I have fished. We found them in pools and riffles everywhere; no water was too white to get a rise. In the long greenish-white borders of fast rapids they floated continually into view. In five minutes watching I could count a dozen or more such appearances within a few feet of water. They ran from 8 to 14 inches. No doubt larger ones lay below.

So I got great fun out of picking my particular trout and casting specially for him. Stop your fly's motion and the pursuing fish instantly stops, backs, swims round the lure in a tour of examination and disappears. Start it moving and he instantly reappears from the white depth where no doubt he has been cautiously watching. A pause and a swift start often tempted to a strike.

These rainbows of the torrents are hard fighters. And many of them, if ungently handled, availed of swift currents to thresh themselves free.

You must fish a river to appreciate it. Standing on its edges, leaping from rock to rock, slipping thigh deep at times, wading recklessly to reach some pool or eddy of special promise, searching the rapids, peering under the alders, testing the pools; that's the way to make friends with a river. You study its moods and its ways as those of a mettlesome horse.

And after a while its spirit seeps through and finds your soul. Its personality unveils. A sweet friendliness unites you, a sense of mutual understanding. There follows the completest detachment that I know. Years and the worries disappear. You and the river dream away the unnoted hours.

The approach to Granite Pass en route from the Tehipite Valley to the Kings River Canyon was nothing short of magnificent. We entered a superb cirque studded with lakelets. It was a noble set-

ting. We could see the pass ahead of us on a fine snow-crowned bench. We ascended the bench and found ourselves, not in the pass, but in the entrance to another cirque, also lake-studded, a loftier, nobler cirque encircling the one below.

But surely we were there. Those inspiring snow-daubed heights whose sharply serrated edges cut sharply into the sky certainly marked the supreme summit. Our winding trail up sharp rocky ascents pointed straight to the shelf which must be our pass. An hour's toil would carry us over.

The hour passed and the crossing of the shelf disclosed, not the glowing valley of the South Fork across the pass, but still a vaster, nobler cirque, sublime in Arctic glory!

How the vast glaciers that cut these titanic carvings must have swirled among these huge concentric walls, pouring over this shelf and that, piling together around these uplifting granite peaks, concentrating combined effort upon this unyielding mass and that, and, beaten back, pouring down the tortuous main channel with rendings and tearings unimaginable!

Granite Pass is astonishing! We saw no less than four of these vast concentric cirques, through three of which we passed. And the Geological Survey map discloses a tributary basin to the east inclosing a group of large volcanic lakes and doubtless other vast cirque-like chambers.

We took photographs, but knew them vain.

A long, dusty descent of Copper Creek, which MrCormick correctly diagnosed as something fierce, brought us, near day's end, into the exquisite valley of the South Fork of the Kings River—the Kings River Canyon.

Still another Yosemite!

It is not so easy to differentiate the two canyons of the Kings. They are similar and yet very different. Perhaps the difference lies chiefly in degree. Both lie east and west, with enormous rocky bluffs rising on either side of rivers of quite extraordinary beauty. Both present carved and castellated walls of exceptional boldness of design. Both are heavily and magnificently wooded, the forests reaching up sharp slopes on either side. Both possess to a marked degree the quality that lifts them above the average of even the Sierra's glacial valleys.

But the outlines here seem to be softer, the valley floor broader, the river less turbulent. If the keynote of the Tehipite Valley is wild exuberance, that of the Kings River Canyon is wild beauty. The one excites, the other lulls. The one shares with Yosemite the distinction of extraordinary outline, the other shares with Yosemite the distinction of extraordinary charm.

The greater of these two canyons is destined to become famous under the name of its part, the Tehipite Valley; the lesser will have the undivided posession of the title Kings Canyon. Tehipite is as distinctive and unusual a name as Yosemite. But the Middle Fork of the Kings is by far a greater stream from every point of view than the beautiful South Fork.

Looking ahead, this canyon of the South Fork seems destined to the quicker and the greater development. It is broader, flatter, and more livable. It lends itself to hostelries, of which two already exist. It is more easily reached and already has some patronage. Moreover, from its name and position, it is the natural recipient of whatever publicity grows out of both. Tehipite has to build from the ground up.

There are few nobler spots than the junction of Copper Creek with the Kings. The Grand Sentinel is seldom surpassed. It fails of the personality of El Capitan, Half Dome, and Tehipite, but it only just fails. If they did not exist, it would become the most celebrated rock in the Sierra, at least. The view up the canyon from this spot has few equals. The view down the canyon is not often excelled. When the day of the Kings River Canyon dawns, it will dawn brilliantly.

We loped and ambled and galloped down this gorgeous valley, filled to the brim with the joy of its broad forested flats and its soft invigorating air.

The walls were glorious. Those in shadow were clothed in purple, streaked and blotched with yellows and many dark ochers. Large areas were frosted with grays of many shades, some on abutting cliffs shining like silver. The walls in sunlight showed interesting differences. The purples of the shaded side now became dark grays; the light grays, white. The yellows faded or acquired greenish tints. Here and there in broad sunlight appeared splotches of vivid green, probably stains of copper salts.

This closed the afternoon session. The conference closed in the evening after hearing Enos Mills tell bear stories and Dr. Harry O. Reik, of Baltimore, describe the process of color photography as applicable to national parks condition. Dr. Reik exhibited some remarkable examples of color photography.

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