

**THE SATURDAY LECTURES, DELIVERED IN
THE LECTURE-ROOM OF THE U. S.
NATIONAL MUSEUM, UNDER THE
AUSPICES OF THE ANTHROPOLOGICAL
AND BIOLOGICAL SOCIETIES OF
WASHINGTON, IN MARCH AND APRIL, 1882**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649698035

The Saturday Lectures, Delivered in the Lecture-Room of the U. S. National Museum, Under the Auspices of the Anthropological and Biological Societies of Washington, in March and April, 1882 by Various

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

VARIOUS

**THE SATURDAY LECTURES, DELIVERED IN
THE LECTURE-ROOM OF THE U. S.
NATIONAL MUSEUM, UNDER THE
AUSPICES OF THE ANTHROPOLOGICAL
AND BIOLOGICAL SOCIETIES OF
WASHINGTON, IN MARCH AND APRIL, 1882**

THE SATURDAY LECTURES,

DELIVERED IN THE

Lecture-Room of the U. S. National Museum,

UNDER THE AUSPICES OF THE

Anthropological and Biological Societies

OF WASHINGTON,

IN MARCH AND APRIL, 1882.

D. LOTHROP & CO.

30 & 32 FRANKLIN STREET, BOSTON, MASS.

WASHINGTON, D. C.:

JUDD & DETWEILER, PRINTERS AND PUBLISHERS.

1882.

CONTENTS.

	PAGE
Introductory Address. By Major J. W. Powell, Director U. S. Geological Survey.....	1
Scientific and Popular Views of Nature Contrasted. By Prof. Theo. Gill.	5
What is Anthropology? By Prof. Otis T. Mason	25
Contrasts of the Appalachian Mountains. By Prof. J. W. Chickering, Jr.	44
Outlines of Sociology. By Major J. W. Powell	60
Little Known Facts about Well Known Animals. By Prof. C. V. Riley.	83
Paul Broca and the French School of Anthropology. By Dr. Robert Fletcher.....	113
Deep-Sea Explorations. By Prof. Wm. H. Dall.....	143
How we See. By Dr. Swan M. Burnett.....	163

INTRODUCTORY ADDRESS

By J. W. POWELL,

Director, U. S. Geological Survey.

On the occasion of the delivery of the first of the Saturday Lectures, the following remarks were made by Major J. W. POWELL:

For many years the General Government has been prosecuting scientific research through various agencies. The field of these investigations is wide.

For a long time geological surveys have existed in various forms. In the study of the structure of the earth's crust—the mountains and plains, the hills and valleys have been traversed, and rocks, minerals and fossils collected; and by these fossils we come to a knowledge of the way in which the ancient earth was clothed with vegetation, and of the animals that lived in the ancient seas, lakes, and rivers, and roamed over the lands.

During all these years biologists have been at work studying the plants and animals that now live upon the earth and collecting biologic materials from every land.

During all these years anthropologists have been at work studying the native races of America and collecting their works of art.

Since the foundation of the Smithsonian Institution, it also has in all these departments promoted research and collected scientific materials for study, enlisting in its corps of collaborators men of every part of the United States—yes, of every land and every clime.

Since the organization of the Fish Commission, the nations of the seas, and the tribes of the lakes and the rivers, have been studied. Through these agencies, and yet many others, there has accumulated in Washington, in the custody of the Smithsonian Institution, a large body of material which has been the basis of a vast system of scientific research and publication. The General Government is now annually publishing from 20 to 50 large volumes—the monographs and memoirs of scientific research—and the rate of publication is rapidly increasing.

These materials have already performed an important purpose—greater than can be estimated, but their value is perennial.

With every advance made in science the old material must be re-examined for new facts, and to discover new relations. In this manner all are to go on increasing in value from decade to decade with the advance in human knowledge. In future years the scientific men of the world must resort to the National Museum at Washington, to pursue or to complete their studies. It was, therefore, the part of wisdom for the National Legislature to provide means for the preservation of this great collection, and to provide also, for its re-examination and increase.

These materials are not alone of interest to the scientific specialist. They have an interest and value to all intelligent people under whose eyes they fall—a value that depends largely on their orderly arrangement and classification; so that the great facts and principles of the many sciences represented, may be presented in birds-eye views to inquiring students.

Such are the functions of the National Museum, and the Institution is destined to exert an ever-increasing influence in the progress of science.

In order that all possible benefits may accrue from the enterprise it is proposed to establish a series of popular science lectures in this hall. Here, then, are presented the simpler lessons taught by the works of nature.

It is no easy task to explain the subject-matter of the various branches of science in such a manner that facts and principles may be easily grasped by those who are not specialists. A clear comprehension of any scientific subject is always accompanied by a power to clearly present the subject to scholars in the same department. A failure to present science to scientific men is fundamental evidence of failure in comprehension. But to present a scientific subject to those who are themselves not specialists or scholars in the specific department in such manner that they will be interested and instructed is no easy task. The man with this power, with this genius, is rare. He must be ready with illustration, apt in the selection of non-technical words, clear and forcible in his presentation, and especially must he be devoid of that pedantry which loves to revel in a wealth of details and technicalities, and he must so master his subject as to be thoroughly saturated with it. Then every word, every tone, and every gesture, will convey a thought.

The course is inaugurated this afternoon by a lecture on Scientific and Popular views of Nature Contrasted.

Since man first inhabited the earth, two methods of thought have

existed side by side—two ways of explaining things. In the Rocky Mountains you may hear an Indian explain the rainbow with all its beautiful colors as the serpent that abrades the firmament of ice to give us snow in Winter and rain in Summer. He sees its coil, he sees its stripes, he sees it against the sky of ice, and he sees it associated with rain which falls from above, and so he calls it the Great Serpent of the Storm. The method of thought by which he arrives at this conclusion is subjective and superficial analogies are used as the basis of conclusions. The man of science sees in the rainbow the analysis of white light into its constituent colors.

The method of thought is objective, and essential homologies are used as the basis of his explanation. But these two methods of thought appear in all stages of civilization and among all peoples. Subjective thought and analogic reasoning appear on the one hand, objective thought and homologic reasoning on the other; and it thus happens that in all the domain of Nature there is a vast body of phenomena that receives two explanations—a popular and a scientific. But, gradually, the scientific method is becoming the popular method, and scientific methods are being accepted and understood more and more, as the years pass, by the intelligent people of civilization; and it is the purpose of the lectures inaugurated this day to bring popular and scientific thought into harmony. Such is the task Professor Gill proposes for himself. May he abundantly succeed.

Ladies and gentlemen: I have the honor to present the learned and eloquent lecturer, Professor Gill.

