

**LECTURES ON NATURAL  
THEOLOGY: OR,  
NATURE AND THE BIBLE**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649746781

Lectures on Natural Theology: Or, Nature and the Bible by P. A. Chadbourne

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](http://www.triestepublishing.com)

**P. A. CHADBOURNE**

**LECTURES ON NATURAL  
THEOLOGY: OR,  
NATURE AND THE BIBLE**



LECTURES ON  
NATURAL THEOLOGY.

LECTURES  
ON  
NATURAL THEOLOGY;  
OR,  
NATURE AND THE BIBLE FROM THE SAME AUTHOR.

DELIVERED BEFORE THE  
LOWELL INSTITUTE, BOSTON.

BY  
P. A. CHADBOURNE, A.M., M.D.,  
*Professor of Natural History in Williams College; Author of Lectures on  
the "Relations of Natural History," etc.*



NEW YORK:  
G. P. PUTNAM & SON, 661 BROADWAY.  
1869.

Entered according to Act of Congress, in the year 1867, by  
G. P. PUTNAM & SON,  
In the Clerk's Office of the District Court of the United States, for the Southern  
District of New York.

THE NEW YORK PRINTING COMPANY,  
31, 33, and 35 Centre Street,  
NEW YORK.

To

REV. MARK HOPKINS, DD., LL.D.,

PRESIDENT OF WILLIAMS COLLEGE.

SIR—It is not as a mere formality, nor from a desire to connect my name with one so distinguished in the higher departments of Philosophy, that I inscribe these Lectures to you. It is especially fitting that I should now acknowledge my indebtedness to you for that kindness which is the most pleasant remembrance of my student life, and which has remained unchanged through all the relations of fifteen years of official labor. It was at your suggestion, that I first commenced a distinct work on Natural Theology. It has taken its present form in the moments snatched from the varied duties that have daily demanded my time and strength. And whatever may now be its value depends much upon the counsel and encouragement which you have given me during the whole course of its preparation.

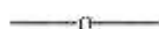
With great respect and esteem,

I am most truly yours,

P. A. CHADBOURNE.



## ADVERTISEMENT.



THE Lectures are published in the form and order in which they were originally delivered. Nothing would be gained for the general reader by dividing them into chapters. For the convenience of students and teachers a very full Table of Contents has been prepared, which will materially aid the teacher in recitation, and render frequent reviews easy for the student. It is hoped that while the Lectures present the great outlines of Natural Theology in a form easily understood by all, they will also awaken in the student a love for the study of Nature, and lead him on to independent observation in this most profitable field of human thought.

# CONTENTS.



## LECTURE I.

### INTRODUCTORY.

Man's Origin and Destiny.—Questions presented for study.—Effect of superstition.—Religious nature.—The great questions in reference to man.—Man naturally seeks to know if there is a God.—Sufficiency of the proof of His existence.—Theory of our case.—Answers that have been given from nature. The Bible.—It must stand the test of science.—Natural Religion defined.—Design of the Lowell Lectures.—Our situation in this world like that of children in a palace.—Knowledge of Religion which men can obtain from nature alone.—Difficulty of deciding the question.—All that Natural Religion has done.—Man without the Bible unprovided for.—Civilization without it self-destructive.—Religion implies relationship to a Higher Being.—Topics presented.—Amount of science required for the study.—Conditions necessary for fair discussion. . . . .	PAGE 17
---	------------

## LECTURE II.

### PRINCIPLES OF BELIEF.—ADAPTATION OF OUR BODIES TO OUR WANTS AND TO THE WORLD.

Perfect provision for organic beings.—No provision in material world for man's highest nature.—Claims of the Bible.—A rational provision for man.—Principles of belief.—Theories of creation.—First cause.—Matter might be eternal.—Beginning of life.—Antagonism of physical forces and vitality.—Apparent harmony between them.—Man an object.—His creation to be accounted for. The germ as wonderful as the developed being.—Bible account of creation.—What we should expect to find in such a creation.—Nature an unchangeable record.—Questions that would arise without the Bible.—Aid of Geology.—The existence of beings, and not their mode of origin, proof of skill and power.—Adaptation of our bodies to our use and to the world.—Relations to the world established through the senses.—Distinctive use of each sense.—Conditions necessary for sight.—Relation of light to the atmosphere.—Form of objects and effects of surface.—Structure of the eye.—Sense of hearing gives knowledge of objects beyond the range of vision.—Mechanism of the ear.—Taste and smell.—No special mechanism.—Design shown by the use.—Touch.—Kinds of knowledge given by it.—All the senses connected with the nervous system.—Vegetative life.—Relation of the body to the world considered.—The atmosphere.—Structure of the lung.—Nutrition.—Sleep.—Animals fitted for particular zones.—Man, for all.—No special sciences needed to show our adaptation to the world.—Personality of the Creator inferred from the provision for our personality.—Antagonism in nature. . . . .	46
--	----

## LECTURE III.

ADAPTATION OF ANIMALS TO THE WORLD BY STRUCTURE,  
FUNCTION, AND INSTINCT.

	PAGE
Adaptation of Animals to the World.—Special adaptations.—Chance excluded.—Man as a physical being differs only in degree.—His sources of enjoyment complex.—In animals nothing but adaptations to this world.—Whole classes to be treated of.—Water Animals.—Microscopic.—Coral Animals.—Jelly-fishes.—Starfishes.—Mollusks.—Perfect provision for each form.—The Pinnac.—Saxicorvas.—Nautilus.—Worms.—Crustaceans.—Insects.—Fishes.—Reptiles.—Birds.—Fitted for change of season.—Hibernation.—Relation to length of year.—Instinct.—Supplements structure and function.—Gives higher type of life.—Defined.—Intelligence in Animals.—Vegetative life in Animals.—Relation of instinct to specific structure.—The Natica.—Instinct often blind in its action.—The Cleida.—Toot moth.—Migration of fishes.—Conscious parental relation in birds.—Uniformity of action resulting from instinct.—Wide range of instinct in Mammals.—The Muskrat.—Instinct of the young supplemented by that of the parent.—The body and mind fitted for each other.....	78

## LECTURE IV.

## SPECIAL CONTRIVANCES—PRESERVATION OF SPECIES.

Special adaptations.—Functions.—Cases mentioned by Paley.—Ball and socket joint.—Cuttle-fish.—Tree-hoazil.—Legs.—Guats.—Bears.—Spiders.—Variation of substance according to their instinct.—Silk-worm.—Lobsters and Crabs.—Rattlesnake.—Birds.—Fitted for flight.—Oil gland.—Structure of birds of prey.—Water birds.—Form of bills.—Grebe and Loon.—Waders.—Woodpeckers.—Development from use considered.—Homologous structure.—Limbs of animals.—Fetus.—Whales and Rays.—Crop of birds.—Preservation of species.—Definition of.—Multiplicity of genus.—Distribution of seeds.—Springs, balloons, hooks, barbs.—Same end secured by diverse means.—Vitality of seeds.—Fertilization of flowers.—Growth of plants supplementing instinct.—Carnivorous animals limited in number.—Destruction of animals provided for.—Suffering and death.—Goodness of Deity to be vindicated.—Man's enjoyment and suffering on different grounds.—Present discussion confined to lower animals.—Suffering never indicated for its own sake.—Enjoyment in excess of suffering.—Death secures parental relation.—Sum of enjoyment increased by succession of animals.—Introduction of carnivorous animals increases the sum of enjoyment.—Disease.—Provision for its alleviation.—Design may show cruelty.—Apparent cruelty often real benevolence.—Creator Infinite in His attributes.....	102
--	-----

## LECTURE V.

## ADAPTATION OF PLANTS TO THE WORLD.

Design in plants seen only in organization.—Natural selection.—Provision made by plants compared with instinct.—Wisdom manifested by instinct referred to the Creator.—Relation of plants to earth and air.—Polarity.—Structure of leaves.—Fall of leaf.—Structure of wide-leaved trees.—Of ever-