

above novels; the latter is austere, perhaps even repulsive, for it sternly impresses us with a conviction of the irresistible dominion of law, and the insignificance of human exertions. In a subject so solemn as that to which this book is devoted, the romantic and the popular are altogether out of place. He who presumes to treat of it must fix his eyes steadfastly on that chain of destiny which universal history displays; he must turn with disdain from the phantom impostures of pontiffs and statesmen and kings.

If any thing were needed to show us the untrustworthiness of artistic historical compositions, our personal experience would furnish it. How often do our most intimate friends fail to perceive the real motives of our every-day actions; how frequently they misinterpret our intentions! If this be the case in what is passing before our eyes, may we not be satisfied that it is impossible to comprehend justly the doings of persons who lived many years ago, and whom we have never seen.

In selecting and arranging the topics now to be presented, I have been guided in part by "the Confession" of the late Vatican Council, and in part by the order of events in history. Not without interest will the reader remark that the subjects offer themselves to us now as they did to the old philosophers of Greece. We still deal with the same questions about which they disputed. What is God? What is the soul? What is the world? How is it governed? Have we any standard or criterion of truth? And the thoughtful reader

will earnestly ask, "Are our solutions of these problems any better than theirs?"

The general argument of this book, then, is as follows:

I first direct attention to the origin of modern science as distinguished from ancient, by depending on observation, experiment, and mathematical discussion, instead of mere speculation, and shall show that it was a consequence of the Macedonian campaigns, which brought Asia and Europe into contact. A brief sketch of those campaigns, and of the Museum of Alexandria, illustrates its character.

Then with brevity I recall the well-known origin of Christianity, and show its advance to the attainment of imperial power, the transformation it underwent by its incorporation with paganism, the existing religion of the Roman Empire. A clear conception of its incompatibility with science caused it to suppress forcibly the Schools of Alexandria. It was constrained to this by the political necessities of its position.

The parties to the conflict thus placed, I next relate the story of their first open struggle; it is the first or Southern Reformation. The point in dispute had respect to the nature of God. It involved the rise of Mohammedanism. Its result was, that much of Asia and Africa, with the historic cities Jerusalem, Alexandria, and Carthage, were wrenched from Christendom, and the doctrine of the Unity of God established in the larger portion of what had been the Roman Empire.

This political event was followed by the restoration of science, the establishment of colleges, schools, libraries, throughout the dominions of the Arabians. Those conquerors, pressing forward rapidly in their intellectual development, rejected the anthropomorphic ideas of the nature of God remaining in their popular belief, and accepted other more philosophical ones, akin to those that had long previously been attained to in India. The result of this was a second conflict, that respecting the nature of the soul. Under the designation of Averroism, there came into prominence the theories of Emanation and Absorption. At the close of the middle ages the Inquisition succeeded in excluding those doctrines from Europe, and now the Vatican Council has formally and solemnly anathematized them.

Meantime, through the cultivation of astronomy, geography, and other sciences, correct views had been gained as to the position and relations of the earth, and as to the structure of the world; and since Religion, resting itself on what was assumed to be the proper interpretation of the Scriptures, insisted that the earth is the central and most important part of the universe, a third conflict broke out. In this Galileo led the way on the part of Science. Its issue was the overthrow of the Church on the question in dispute. Subsequently a subordinate controversy arose respecting the age of the world, the Church insisting that it is only about six thousand years old. In this she was again overthrown.

The light of history and of science had been gradu-

ally spreading over Europe. In the sixteenth century the prestige of Roman Christianity was greatly diminished by the intellectual reverses it had experienced, and also by its political and moral condition. It was clearly seen by many pious men that Religion was not accountable for the false position in which she was found, but that the misfortune was directly traceable to the alliance she had of old contracted with Roman paganism. The obvious remedy, therefore, was a return to primitive purity. Thus arose the fourth conflict, known to us as the Reformation—the second or Northern Reformation. The special form it assumed was a contest respecting the standard or criterion of truth, whether it is to be found in the Church or in the Bible. The determination of this involved a settlement of the rights of reason, or intellectual freedom. Luther, who is the conspicuous man of the epoch, carried into effect his intention with no inconsiderable success; and at the close of the struggle it was found that Northern Europe was lost to Roman Christianity.

We are now in the midst of a controversy respecting the mode of government of the world, whether it be by incessant divine intervention, or by the operation of primordial and unchangeable law. The intellectual movement of Christendom has reached that point which Arabism had attained to in the tenth and eleventh centuries; and doctrines which were then discussed are presenting themselves again for review; such are those of Evolution, Creation, Development.

Offered under these general titles, I think it will be found that all the essential points of this great controversy are included. By grouping under these comprehensive heads the facts to be considered, and dealing with each group separately, we shall doubtless acquire clear views of their inter-connection and their historical succession.

I have treated of these conflicts as nearly as I conveniently could in their proper chronological order, and, for the sake of completeness, have added chapters on—

An examination of what Latin Christianity has done for modern civilization.

A corresponding examination of what Science has done.

The attitude of Roman Christianity in the impending conflict, as defined by the Vatican Council.

The attention of many truth-seeking persons has been so exclusively given to the details of sectarian dissensions, that the long strife, to the history of which these pages are devoted, is popularly but little known. Having tried to keep steadfastly in view the determination to write this work in an impartial spirit, to speak with respect of the contending parties, but never to conceal the truth, I commit it to the considerate judgment of the thoughtful reader.

JOHN WILLIAM DRAPER.

UNIVERSITY, NEW YORK, December, 1873.

## CONTENTS.

### CHAPTER I.

#### THE ORIGIN OF SCIENCE.

*Religious condition of the Greeks in the fourth century before Christ.—Their invasion of the Persian Empire brings them in contact with new aspects of Nature, and familiarizes them with new religious systems.—The military, engineering, and scientific activity, stimulated by the Macedonian campaigns, leads to the establishment in Alexandria of an institute, the Museum, for the cultivation of knowledge by experiment, observation, and mathematical discussion.—It is the origin of Science . . . . . PAGE 1*

### CHAPTER II.

#### THE ORIGIN OF CHRISTIANITY.—ITS TRANSFORMATION ON ATTAINING IMPERIAL POWER.—ITS RELATIONS TO SCIENCE.

*Religious condition of the Roman Republic.—The adoption of imperialism leads to monotheism.—Christianity spreads over the Roman Empire.—The circumstances under which it attained imperial power make its union with Paganism a political necessity.—Tertullian's description of its doctrines and practices.—Debasing effect of the policy of Constantine on it.—Its alliance with the civil power.—Its incompatibility with science.—Destruction of the Alexandrian Library and prohibition of philosophy.—Exposition of the Augustinian philosophy and Patristic science generally.—The Scriptures made the standard of science . . . . . P. 34*

## CHAPTER III.

CONFLICT RESPECTING THE DOCTRINE OF THE UNITY OF GOD.—  
THE FIRST OR SOUTHERN REFORMATION.

*The Egyptians insist on the introduction of the worship of the Virgin Mary.—They are resisted by Nestor, the Patriarch of Constantinople, but eventually, through their influence with the emperor, cause Nestor's exile and the dispersion of his followers.*

*Prelude to the Southern Reformation.—The Persian attack; its moral effects.*

*The Arabian Reformation.—Mohammed is brought in contact with the Nestorians.—He adopts and extends their principles, rejecting the worship of the Virgin, the doctrine of the Trinity, and every thing in opposition to the unity of God.—He extinguishes idolatry in Arabia, by force, and prepares to make war on the Roman Empire.—His successors conquer Syria, Egypt, Asia Minor, North Africa, Spain, and invade France.*

*As the result of this conflict, the doctrine of the unity of God was established in the greater part of the Roman Empire.—The cultivation of science was restored, and Christendom lost many of her most illustrious capitals, as Alexandria, Carthage, and, above all, Jerusalem* PAGE 68

## CHAPTER IV.

## THE RESTORATION OF SCIENCE IN THE SOUTH.

*By the influence of the Nestorians and Jews, the Arabians are turned to the cultivation of Science.—They modify their views as to the destiny of man, and obtain true conceptions respecting the structure of the world.—They ascertain the size of the earth, and determine its shape.—Their khalifs collect great libraries, patronize every department of science and literature, establish astronomical observatories.—They develop the mathematical sciences, invent algebra, and improve geometry and trigonometry.—They collect and translate the old Greek mathematical and astronomical works, and adopt the inductive method of Aristotle.—They establish many colleges, and, with the aid of the Nestorians, organize a public-school system.—They introduce the Arabic numerals and arithmetic, and catalogue and give names to the stars.—They lay the foundation of modern astronomy, chemistry, and physics, and introduce great improvements in agriculture and manufactures . . . . . P. 102*

## CHAPTER V.

CONFLICT RESPECTING THE NATURE OF THE SOUL.—DOCTRINE OF  
EMANATION AND ABSORPTION.

*European ideas respecting the soul.—It resembles the form of the body.*

*Philosophical views of the Orientals.—The Vedic theology and Buddhism assert the doctrine of emanation and absorption.—It is advocated by Aristotle, who is followed by the Alexandrian school, and subsequently by the Jews and Arabians.—It is found in the writings of Erigena.*

*Connection of this doctrine with the theory of conservation and correlation of force.—Parallel between the origin and destiny of the body and the soul.—The necessity of founding human on comparative psychology.*

*Averroism, which is based on these facts, is brought into Christendom through Spain and Sicily.*

*History of the repression of Averroism.—Revolt of Islam against it.—Antagonism of the Jewish synagogues.—Its destruction undertaken by the papacy.—Institution of the Inquisition in Spain.—Frightful persecutions and their results.—Expulsion of the Jews and Moors.—Overthrow of Averroism in Europe.—Decisive action of the late Vatican Council . . . . . PAGE 119*

## CHAPTER VI.

## CONFLICT RESPECTING THE NATURE OF THE WORLD.

*Scriptural view of the world: the earth a flat surface; location of heaven and hell.*

*Scientific view: the earth a globe; its size determined; its position in and relations to the solar system.—The three great voyages.—Columbus, De Gama, Magellan.—Circumnavigation of the earth.—Determination of its curvature by the measurement of a degree and by the pendulum.*

*The discoveries of Copernicus.—Invention of the telescope.—Galileo brought before the Inquisition.—His punishment.—Victory over the Church.*

*Attempts to ascertain the dimensions of the solar system.—Determination of the sun's parallax by the transits of Venus.—Insignificance of the earth and man.*

*Ideas respecting the dimensions of the universe.—Parallax of the stars.—The plurality of worlds asserted by Bruno.—He is seized and murdered by the Inquisition . . . . . P. 152*

CHAPTER VII.

CONTROVERSY RESPECTING THE AGE OF THE EARTH.

*Scriptural view that the earth is only six thousand years old, and that it was made in a week.—Patristic chronology founded on the ages of the patriarchs.—Difficulties arising from different estimates in different versions of the Bible.*

*Legend of the Deluge.—The re-peopling.—The Tower of Babel; the confusion of tongues.—The primitive language.*

*Discovery by Cassini of the oblateness of the planet Jupiter.—Discovery by Newton of the oblateness of the Earth.—Deduction that she has been modeled by mechanical causes.—Confirmation of this by geological discoveries respecting aqueous rocks; corroboration by organic remains.—The necessity of admitting enormously long periods of time.—Displacement of the doctrine of Creation by that of Evolution.—Discoveries respecting the Antiquity of Man.*

*The time-scale and space-scale of the world are infinite.—Moderation with which the discussion of the Age of the World has been conducted . . . . . PAGE 182*

CHAPTER VIII.

CONFLICT RESPECTING THE CRITERION OF TRUTH.

*Ancient philosophy declares that man has no means of ascertaining the truth.*

*Differences of belief arise among the early Christians.—An ineffectual attempt is made to remedy them by Councils.—Miracle and ordeal proof introduced.*

*The papacy resorts to auricular confession and the Inquisition.—It perpetrates frightful atrocities for the suppression of differences of opinion.*

*Effect of the discovery of the Pandects of Justinian and development of the canon law on the nature of evidence.—It becomes more scientific.*

*The Reformation establishes the rights of individual reason.—Catholicism asserts that the criterion of truth is in the Church. It restrains the reading of books by the Index Expurgatorius, and combats dissent by such means as the massacre of St. Bartholomew's Eve.*

*Examination of the authenticity of the Pentateuch as the Protestant criterion.—Spurious character of those books.*

*For Science the criterion of truth is to be found in the revelations of Nature: for the Protestant, it is in the Scriptures; for the Catholic, in an infallible Pope . . . . . P. 201*

CHAPTER IX.

CONTROVERSY RESPECTING THE GOVERNMENT OF THE UNIVERSE.

*There are two conceptions of the government of the world: 1. By Providence; 2. By Law.—The former maintained by the priesthood.—Sketch of the introduction of the latter.*

*Kepler discovers the laws that preside over the solar system.—His works are denounced by papal authority.—The foundations of mechanical philosophy are laid by Da Vinci.—Galileo discovers the fundamental laws of Dynamics.—Newton applies them to the movements of the celestial bodies, and shows that the solar system is governed by mathematical necessity.—Herschel extends that conclusion to the universe.—The nebular hypothesis.—Theological exceptions to it.*

*Evidences of the control of law in the construction of the earth, and in the development of the animal and plant series.—They arose by Evolution, not by Creation.*

*The reign of law is exhibited by the historic career of human societies, and in the case of individual man.*

*Partial adoption of this view by some of the Reformed Churches P. 228*

CHAPTER X.

LATIN CHRISTIANITY IN RELATION TO MODERN CIVILIZATION.

*For more than a thousand years Latin Christianity controlled the intelligence of Europe, and is responsible for the result.*

*That result is manifested by the condition of the city of Rome at the Reformation, and by the condition of the Continent of Europe in domestic and social life.—European nations suffered under the coexistence of a dual government, a spiritual and a temporal.—They were immersed in ignorance, superstition, discomfort.—Explanation of the failure of Catholicism.—Political history of the papacy: it was transmuted from a spiritual confederacy into an absolute monarchy.—Action of the College of Cardinals and the Curia.—Demoralization that ensued from the necessity of raising large revenues.*

*The advantages accruing to Europe during the Catholic rule arose not from direct intention, but were incidental.*

*The general result is, that the political influence of Catholicism was prejudicial to modern civilization . . . . . P. 245*

## CHAPTER XI.

## SCIENCE IN RELATION TO MODERN CIVILIZATION.

*Illustration of the general influences of Science from the history of America.*  
 THE INTRODUCTION OF SCIENCE INTO EUROPE.—*It passed from Moorish Spain to Upper Italy, and was favored by the absence of the popes at Avignon.—The effects of printing, of maritime adventure, and of the Reformation.—Establishment of the Italian scientific societies.*

THE INTELLECTUAL INFLUENCE OF SCIENCE.—*It changed the mode and the direction of thought in Europe.—The transactions of the Royal Society of London, and other scientific societies, furnish an illustration of this.*

THE ECONOMICAL INFLUENCE OF SCIENCE is illustrated by the numerous mechanical and physical inventions, made since the fourteenth century.—*Their influence on health and domestic life, on the arts of peace and of war.*

*Answer to the question, What has Science done for humanity? PAGE 286*

## CHAPTER XII.

## THE IMPENDING CRISIS.

*Indications of the approach of a religious crisis.—The predominating Christian Church, the Roman, perceives this, and makes preparation for it.—Pius IX. convokes an Ecumenical Council.—Relations of the different European governments to the papacy.—Relations of the Church to Science, as indicated by the Encyclical Letter and the Syllabus.*

*Acts of the Vatican Council in relation to the infallibility of the pope, and to Science.—Abstract of decisions arrived at.*

*Controversy between the Prussian Government and the papacy.—It is a contest between the State and the Church for supremacy.—Effect of dual government in Europe.—Declaration by the Vatican Council of its position as to Science.—The dogmatic constitution of the Catholic faith.—Its definitions respecting God, Revelation, Faith, Reason.—The anathemas it pronounces.—Its denunciation of modern civilization.*

*The Protestant Evangelical Alliance and its acts.*

*General review of the foregoing definitions and acts.—Present condition of the controversy, and its future prospects . . . . P. 327*

## HISTORY OF THE CONFLICT

BETWEEN

## RELIGION AND SCIENCE.

## CHAPTER I.

## THE ORIGIN OF SCIENCE.

*Religious condition of the Greeks in the fourth century before Christ.—Their invasion of the Persian Empire brings them in contact with new aspects of Nature, and familiarizes them with new religious systems.—The military, engineering, and scientific activity, stimulated by the Macedonian campaigns, leads to the establishment in Alexandria of an institute, the Museum, for the cultivation of knowledge by experiment, observation, and mathematical discussion.—It is the origin of Science.*

No spectacle can be presented to the thoughtful mind more solemn, more mournful, than that of the dying of an ancient religion, which in its day has given consolation to many generations of men.

Four centuries before the birth of Christ, Greece was fast outgrowing her ancient faith. Her philosophers, in their studies of the world, had been profoundly impressed with the contrast between the majesty of the operations of Nature and the worthlessness of the divinities of Olympus. Her historians, considering the orderly course of political affairs, the manifest