**History of the Conflict**

**Between Religion and Science**

***By***

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CIVIL WAR, AND OF MANY EXPERIMENTAL MEM- OIRS ON CHEMICAL AND

OTHER SCIENTIFIC SUBJECTS

***Preface.***

WHOEVER has had an opportunity of becoming acquainted with the mental condition of the intelligent classes in Europe and America, must have perceived that there is a great and rapidly-increasing departure from the public religious faith, and that, while among the more frank this divergence is not concealed, there is a far more extensive and far more dangerous secession, private and unacknowledged.

So wide-spread and so powerful is this secession, that it can neither be treated with contempt nor with punishment. It cannot be extinguished by derision, by vituperation, or by force. The time is rapidly approaching when it will give rise to serious political results.

Ecclesiastical spirit no longer inspires the policy of the world. Military fervor in behalf of faith has disappeared. Its only souvenirs are the marble effigies of crusading knights, reposing in the silent crypts of churches on their tombs.

That a crisis is impending is shown by the attitude of the great powers toward the papacy. The papacy represents the ideas and aspirations of two-thirds of the population of Europe. It insists on a political supremacy in accordance with its claims to a divine origin and mission, and a restoration of the mediaeval order of things, loudly declaring that it will accept no reconciliation with modern civilization.

The antagonism we thus witness between Religion and Science is the continuation of a struggle that commenced when Christianity began to attain political power. A divine revelation must necessarily be intolerant of contradiction; it must repudiate all improvement in itself, and view with disdain that arising from the progressive intellectual development of man. But our opinions on

Every subject is continually liable to modification, from the irresistible advance of human knowledge.

Can we exaggerate the importance of a contention in which every thoughtful person must take part whether he will or not? In a matter so solemn as that of religion, all men, whose temporal interests are not involved in existing institutions, earnestly desire to find the truth. They seek information as to the subjects in dispute, and as to the conduct of the disputants.

The history of Science is not a mere record of isolated discoveries; it is a narrative of the conflict of two contending powers, the expansive force of the human intellect on one side, and the compression arising from traditionary faith and human interests on the other.

No one has hitherto treated the subject from this point of view. Yet from this point it presents itself to us as a living issue in fact, as the most important of all living issues.

A few years ago, it was the politic and therefore the proper course to abstain from all allusion to this controversy, and to keep it as far as possible in the background. The tranquility of society depends so much on the stability of its religious convictions, that no one can be justified in wantonly disturbing them. But faith is in its nature unchangeable, stationary; Science is in its nature progressive; and eventually a divergence between them, impossible to conceal, must take place. It then becomes the duty of those whose lives have made them familiar with both modes of thought, to present modestly, but firmly, their views; to compare the antagonistic pretensions calmly, impartially, philosophically. History shows that, if this be not done, social misfortunes, disastrous and enduring, will ensue. When the old mythological religion of Europe broke down under the weight of its own inconsistencies, neither the Roman emperors nor the philosophers of those times did anything adequate for the guidance of public opinion. They left religious affairs to take their chance, and accordingly those affairs fell into the hands of ignorant and infuriated ecclesiastics, parasites, eunuchs, and slaves.

The intellectual night which settled on Europe, in consequence of that great neglect of duty, is passing away; we live in the daybreak of better things. Society is anxiously expecting light, to see in what direction it is drifting. It plainly discerns that the track, along which the voyage of civilization has thus far been made, has been left; and that a new departure, on all unknown sea, has been taken.

Though deeply impressed with such thoughts, I should not have presumed to write this book, or to intrude on the public the ideas it presents, had I not made the facts with which it deals a subject of long and earnest meditation. And I have gathered a strong incentive to undertake this duty from the circumstance that a "History of the Intellectual Development of Europe," published by me several years ago, which has passed through many editions in America, and has been reprinted in numerous European languages, English, French, German, Russian, Polish, Servian, etc., is everywhere received with favor.

In collecting and arranging the materials for the volumes I published under the title of "A History of the American Civil War," a work of very great labor, I had become accustomed to the comparison of conflicting statements, the adjustment of conflicting claims. The approval with which that book has been received by the American public, a critical judge of the events considered, has inspired me with additional confidence. I had also devoted much attention to the experimental investigation of natural phenomena, and had published many well-known memoirs on such subjects. And perhaps no one can give himself to these pursuits, and spend a large part of his life in the public teaching of science, without partaking of that love of impartiality and truth which Philosophy incites. She inspires us with a desire to dedicate our days to the good of our race, so that in the fading light of life's evening we may not, on looking back, be forced to acknowledge how unsubstantial and useless are the objects that we have pursued.

Though I have spared no pains in the composition of this book, I am very sensible how unequal it is to the

Subject, to do justice to which a knowledge of science, history, theology, politics, is required; every page should be alive with intelligence and glistening with facts. But then I have remembered that this is only as it were the preface, or forerunner, of a body of literature, which the events and wants of our times will call forth. We have come to the brink of a great intellectual change. Much of the frivolous reading of the present will be supplanted by a thoughtful and austere literature, vivified by endangered interests, and made fervid by ecclesiastical passion.

What I have sought to do is, to present a clear and impartial statement of the views and acts of the two contending parties. In one sense I have tried to identify myself with each, so as to comprehend thoroughly their motives; but in another and higher sense I have endeavored to stand aloof, and relate with impartiality their actions.

I therefore trust that those, who may be disposed to criticise this book, will bear in mind that its object is not to advocate the views and pretensions of either party, but to explain clearly, and without shrinking those of both. In the management of each chapter I have usually set forth the orthodox view first, and then followed it with that of its opponents.

In thus treating the subject it has not been necessary to pay much regard to more moderate or intermediate opinions, for, though they may be intrinsically of great value, in conflicts of this kind it is not with the moderates but with the extremists that the impartial reader is mainly concerned. Their movements determine the issue.

For this reason I have had little to say respecting the two great Christian confessions, the Protestant and Greek Churches. As to the latter, it has never, since the restoration of science, arrayed itself in opposition to the advancement of knowledge. On the contrary, it has always met it with welcome. It has observed a reverential attitude to truth, from whatever quarter it might come. Recognizing the apparent discrepancies between its interpretations of revealed truth and the discoveries of

Science, it has always expected that satisfactory explanations and reconciliations would ensue, and in this it has not been disappointed. It would have been well for modern civilization if the Roman Church had done the same.

In speaking of Christianity, reference is generally made to the Roman Church, partly because its adherents compose the majority of Christendom, partly because its demands are the most pretentious, and partly because it has commonly sought to enforce those demands by the civil power. None of the Protestant Churches has ever occupied a position so imperious none has ever had such wide-spread political influence. For the most part they have been averse to constraint, and except in very few instances their opposition has not passed beyond the exciting of theological odium.

As to Science, she has never sought to ally herself to civil power. She has never attempted to throw odium or inflict social ruin on any human being. She has never subjected any one to mental torment, physical torture, least of all to death, for the purpose of upholding or promoting her ideas. She presents herself unstained by cruelties and crimes. But in the Vatican-we have only to recall the Inquisition-the hands that are now raised in appeals to the Most Merciful are crimsoned. They have been steeped in blood!

There are two modes of historical composition, the artistic and the scientific. The former implies that men give origin to events; it therefore selects some prominent individual, pictures him under a fanciful form, and makes him the hero of a romance. The latter, insisting that human affairs present an unbroken chain, in which each fact is the offspring of some preceding fact, and the parent of some subsequent fact, declares that men do not control events, but that events control men. The former gives origin to compositions, which, however much they may interest or delight us, are but a grade 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 anything 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 gradually 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 trace- able 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 is 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, and 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.

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**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.

GREEK MYTHOLOGY. 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 uniformity in the acts of men, and that there was no event occurring before their eyes for which they could not find an obvious cause in some preceding event, began to suspect that the miracles and celestial interventions, with which the old annals were filled, were only fictions. They demanded, when the age of the supernatural had ceased, why oracles had become mute, and why there were now no more prodigies in the world.

Traditions, descending from immemorial antiquity, and formerly accepted by pious men as unquestionable truths, had filled the islands of the Mediterranean and the conterminous countries with supernatural wonders- enchantresses, sorcerers, giants, ogres, harpies, gorgons,

Centaurs, Cyclops. The azure vault was the floor of heaven; there Zeus, surrounded by the gods with their wives and mistresses, held his court, engaged in pursuits like those of men, and not refraining from acts of human passion and crime.

A sea-coast broken by numerous indentations, an archipelago with some of the loveliest islands in the world inspired the Greeks with a taste for maritime life, for geographical discovery, and colonization. Their ships wandered all over the Black and Mediterranean Seas. The time-honored wonders that had been glorified in the "Odyssey," and sacred in public faith, were found to have no existence. As a better knowledge of Nature was obtained, the sky was shown to be an illusion; it was dis- covered that there is no Olympus, nothing above but space and stars. With the vanishing of their habitation, the gods disappeared, both those of the Ionian type of Homer and those of the Doric of Hesiod.

EFFECTS OF DISCOVERY AND CRITICISM. But this did not take place without resistance. At first, the public, and particularly its religious portion, denounced the rising doubts as atheism. They despoiled some of the offenders of their goods, exiled others; some they put to death. They asserted that what had been believed by pious men in the old times, and had stood the test of ages, must necessarily be true. Then, as the opposing evidence became irresistible, they were content to admit that these marvels were allegories under which the wisdom of the ancients had concealed many sacred and mysterious things. They tried to reconcile, what now in their misgivings they feared might be myths, with their advancing intellectual state. But their efforts were in vain, for there are predestined phases through which on such an occasion public opinion must pass. What it has received with veneration it begins to doubt, then it offers new interpretations, then subsides into dissent, and ends with a rejection of the whole as a mere fable.

In their secession the philosophers and historians were followed by the poets. Euripides incurred the odium of heresy. Aeschylus narrowly escaped being

Stoned to death for blasphemy. But the frantic efforts of those who are interested in supporting delusions must always end in defeat. The demoralization restlessly extended through every branch of literature, until at length it reached the common people.

THE PERSIAN EMPIRE. Greek philosophical criticism had lent its aid to Greek philosophical discovery in this destruction of the national faith. It sustained by many arguments the wide-spreading unbelief. It com- pared the doctrines of the different schools with each other, and showed from their contradictions that man has no criterion of truth; that, since his ideas of what is good and what is evil differ according to the country in which he lives, they can have no foundation in Nature, but must be altogether the result of education; that right and wrong are nothing more than fictions created by society for its own purposes. In Athens, some of the more advanced classes had reached such a pass that they not only denied the unseen, the supernatural, they even affirmed that the world is only a day-dream, a phantasm, and that nothing at all exists.

The topographical configuration of Greece gave an impress to her political condition. It divided her people into distinct communities having conflicting interests, and made them incapable of centralization. Incessant domestic wars between the rival states checked her advancement. She was poor, her leading men had become corrupt. They were ever ready to barter patriotic considerations for foreign gold, to sell themselves for Persian bribes. Possessing a perception of the beautiful as manifested in sculpture and architecture to a degree never attained elsewhere either before or since, Greece had lost a practical appreciation of the Good and the True.

While European Greece, full of ideas of liberty and independence, rejected the sovereignty of Persia, Asiatic Greece acknowledged it without reluctance. At that time the Persian Empire in territorial extent was equal to half of modern Europe. It touched the waters of the Mediterranean, the Aegean, the Black, the Caspian, the Indian,

The Persian, the Red Seas. Through its territories there flowed six of the grandest rivers in the world

The Euphrates, the Tigris, the Indus, the Jakarta, the Oxus, the Nile, each more than a thousand miles in length. Its surface reached from thirteen hundred feet below the sea-level to twenty thousand feet above. It yielded, there- fore, every agricultural product. Its mineral wealth was boundless. It inherited the prestige of the Median, the Babylonian, the Assyrian, the Chaldean Empires, whose annals reached back through more than twenty centuries.

THE PERSIAN EMPIRE. Persia had always looked upon European Greece as politically insignificant, for it had scarcely half the territorial extent of one of her satrapies. Her expeditions for compelling its obedience had, however, taught her the military qualities of its people. In her forces were incorporated Greek mercenaries, esteemed the very best of her troops. She did not hesitate sometimes to give the command of her armies to Greek generals, of her fleets to Greek captains. In the political convulsions through which she had passed, Greek soldiers had often been used by her contending chiefs. These military operations were attended by a momentous result. They revealed, to the quick eye of these warlike mercenaries, the political weakness of the empire and the possibility of reaching its center. After the death of Cyrus on the battle-field of Cunaxa, it was demonstrated, by the immortal retreat of the ten thousand under Xenophon, that a Greek army could force its way to and from the heart of Persia.

That reverence for the military abilities of Asiatic generals, so profoundly impressed on the Greeks by such engineering exploits as the bridging of the Hellespont, and the cutting of the isthmus at Mount Athos by Xerxes, had been obliterated at Salamis, Platea, Mycale. To plunder rich Persian provinces had become an irresistible temptation. Such was the expedition of Agesilaus, the Spartan king, whose brilliant successes were, however, checked by the Persian government resorting to its time- proved policy of bribing the neighbors of Sparta to attack her. "I have been conquered by thirty thousand Persian archers," bitterly exclaimed Agesilaus, as he remarked, alluding to the Persian coin, the Daric, which was stamped with the image of an archer.

THE INVASION OF PERSIA BY GREECE. At length Philip, the King of Macedon, projected a renewal of these attempts, under a far more formidable organization, and with a grander object. He managed to have himself appointed captain-general of all Greece not for the purpose of a mere foray into the Asiatic satrapies, but for the overthrow of the Persian dynasty in the very center of its power. Assassinated while his preparations were incomplete, he was succeeded by his son Alexander, then a youth. A general assembly of Greeks at Corinth had unanimously elected him in his father's stead. There were some disturbances in Illyria; Alexander had to march his army as far north as the Danube to quell them. During his absence the Thebans with some others conspired against him. On his return he took Thebes by assault. He massacred six thousand of its inhabitants, sold thirty thousand for slaves, and utterly demolished the city. The military wisdom of this severity was apparent in his Asiatic campaign. He was not troubled by any revolt in his rear.

THE MACEDONIAN CAMPAIGN. In the spring B.C. 334 Alexander crossed the Hellespont into Asia. His army consisted of thirty-four thousand foot and four thousand horses. He had with him only seventy talents in money. He marched directly on the Persian army, which, vastly exceeding him in strength was holding the line of the Gracious. He forced the passage of the river, routed the enemy and the possession of all Asia Minor, with its treasures, and was the fruit of the victory. The remainder of that year he spent in the military organization of the conquered provinces. Meantime Darius, the Persian king, had advanced an army of six hundred thousand men to prevent the passage of the Macedonians into Syria. In a battle that ensued among the mountain-defiles at Issus, the Persians were again overthrown. So great was the slaughter that Alexander, and Ptolemy, one of his generals, crossed over a ravine choked with dead bodies? It was estimated that the Persian loss was not less than ninety thousand foot and ten thousand horses. The royal

Pavilion fell into the conqueror's hands, and with it the

Wife and several of the children of Darius. Syria was thus added to the Greek conquests. In Damascus were found many of the concubines of Darius and his chief officers, together with a vast treasure.

Before venturing into the plains of Mesopotamia for the final struggle, Alexander, to secure his rear and pre- serve his communications with the sea, marched south- ward down the Mediterranean coast, reducing the cities in his way. In his speech before the council of war after Issus, he told his generals that they must not pursue Darius with Tyra unstudied, and Persia in possession of Egypt and Cyprus, for, if Persia should regain her sea- ports, she would transfer the war into Greece, and that it was absolutely necessary for him to be sovereign at sea. With Cyprus and Egypt in his possession he felt no solicitude about Greece. The siege of Tyra cost him more than half a year. In revenge for this delay, he crucified, it is said, two thousand of his prisoners. Jerusalem voluntarily surrendered, and therefore was treated leniently: but the passage of the Macedonian army into Egypt being obstructed at Gaza, the Persian governor of which, Betis, made a most obstinate defense, that place, after a siege of two months, was carried by assault, ten thousand of its men were massacred, and the rest, with their wives and children, sold into slavery. Betis himself was dragged alive round the city at the chariot-wheels of the conqueror. There was now no further obstacle. The Egyptians, who detested the Persian rule, received their invader with open arms. He organized the country in his own interest, entrusting all its military commands to Macedonian officers, and leaving the civil government in the hands of native Egyptians.

CONQUEST OF EGYPT. While preparations for the final campaign were being made, he undertook a journey to the temple of Jupiter Ammon, which was situated in an oasis of the Libyan Desert, at a distance of two hundred miles. The oracle declared him to be a son of that god who, under the form of a serpent, had beguiled Olympia’s, his mother. Immaculate conceptions and celestial descents were so currently received in those

A day, that whoever had greatly distinguished him in the affairs of men was thought to be of supernatural lineage. Even in Rome, centuries later, no one could with safety have denied that the city owed its founder, Romulus, to an accidental meeting of the god Mars with the virgin Rhea Sylvia, as she went with her pitcher for water to the spring. The Egyptian disciples of Plato would have looked with anger on those who rejected the legend that Perictione, the mother of that great philosopher, a pure virgin, had suffered an immaculate conception through the influences of Apollo, and that the god had declared to Ariston, to whom she was betrothed, the parentage of the child. When Alexander issued his letters, orders, and decrees, styling himself "King Alexan- der, the son of Jupiter Ammon," they came to the inhabitants of Egypt and Syria with an authority that now can hardly be realized. The free-thinking Greeks, however, put on such a supernatural pedigree its proper value. Olympia’s, who, of course, better than all others knew the facts of the case, used jestingly to say, that "she wished Alexander would cease from incessantly embroiling her with Jupiter's wife." Arrian, the historian of the Macedonian expedition, observes, "I cannot condemn him for endeavoring to draw his subjects into the belief of his divine origin, nor can I be induced to think it any great crime, for it is very reasonable to imagine that he intended no more by it than merely to procure the greater authority among his soldiers."

GREEK CONQUEST OF PERSIA. All things being thus secured in his rear, Alexander, having returned into Syria, directed the march of his army, now consisting of fifty thousand veterans, eastward. After crossing the Euphrates, he kept close to the Masian hills, to avoid the intense heat of the more southerly Mesopotamian plains; more abundant forage could also thus be procured for the cavalry. On the left bank of the Tigris, near Arbela, he encountered the great army of eleven hundred thousand men brought up by Darius from Babylon. The death of the Persian monarch, which soon followed the defeat he suffered; left the Macedonian general master of all the countries from the Danube to the Indus. Eventually he extended his conquest to the Ganges. The treasures he seized are almost beyond belief. At Susa alone he found so Arrian says-fifty thousand talents in money.

EVENTS OF THE CAMPAIGNS. The modern military student cannot look upon these wonderful campaigns without admiration. The passage of the Hellespont; the forcing of the Granicus; the winter spent in a political organization of conquered Asia Minor; the march of the right wing and center of the army along the Syrian Mediterranean coast; the engineering difficulties overcome at the siege of Tyra; the storming of Gaza; the isolation of Persia from Greece; the absolute exclusion of her navy from the Mediterranean; the check on all her attempts at intriguing with or bribing Athenians or Spar- tans, heretofore so often resorted to with success; the submission of Egypt; another winter spent in the political organization of that venerable country; the convergence of the whole army from the Black and Red Seas toward the niter-covered plains of Mesopotamia in the ensuing spring; the passage of the Euphrates fringed with its weeping-willows at the broken bridge of Thapsacus; the crossing of the Tigris; the nocturnal reconnaissance before the great and memorable battle of Arbela; the oblique movement on the field; the piercing of the enemy's center a man oeuvre destined to be repeated many centuries subsequently at Austerlitz; the energetic pursuit of the Persian monarch; these are exploits not surpassed by any soldier of later times.

A prodigious stimulus was thus given to Greek intellectual activity. There were men who had marched with the Macedonian army from the Danube to the Nile, from the Nile to the Ganges. They had felt the hyperborean blasts of the countries beyond the Black Sea, the simooms and sand-tempests of the Egyptian deserts. They had seen the Pyramids which had already stood for twenty centuries, the hieroglyph-covered obelisks of Luxor, avenues of silent and mysterious sphinxes, colossi of monarchs who reigned in the morning of the world. In the halls of Esarhaddon they had stood before the thrones of grim old Assyrian kings, guarded by winged bulls. In Babylon there still remained its walls, once

more than sixty miles in compass, and, after the ravages of three centuries and three conquerors, still more than eighty feet in height; there were still the ruins of the temple of cloud encompassed Bell, on its top was planted the observatory wherein the weird Chaldean astronomers had held nocturnal communion with the stars; still there were vestiges of the two palaces with their hanging gar- dens in which were great trees growing in mid-air, and the wreck of the hydraulic machinery that had supplied them with water from the river. Into the artificial lake with its vast apparatus of aqueducts and sluices the melted snows of the Armenian mountains found their way, and were confined in their course through the city by the embankments of the Euphrates. Most wonderful of all, perhaps, was the tunnel under the river-bed.

EFFECT ON THE GREEK ARMY. If Chaldea, Assyria, Babylon, presented stupendous and venerable antiquities reaching far back into the night of time, Persia was not without her wonders of a later date. The pillared halls of Persepolis were filled with miracles of art -carvings, sculptures, enamels, alabaster libraries, obelisks, sphinxes, colossal bulls. Ecbatana, the cool summer retreat of the Persian kings, was defended by seven encircling walls of hewn and polished blocks, the interior ones in succession of increasing height, and of different colors, in astrological accordance with the seven planets. The palace was roofed with silver tiles; its beams were plated with gold. At midnight, in its halls the sunlight was rivaled by many a row of naphtha cressets. A paradise that luxury of the monarchs of the East- was planted in the midst of the city. The Persian Empire, from the Hellespont to the Indus, was truly the garden of the world.

EFFECTS ON THE GREEK ARMY. I have devoted a few pages to the story of these marvelous campaigns, for the military talent they fostered led to the establishment of the mathematical and practical schools of Alexandria, the true origin of science. We trace back all our exact knowledge to the Macedonian campaigns. Humboldt has well observed that an introduction to new and grand objects of Nature enlarges the human mind.

The soldiers of Alexander and the hosts of his camp-followers encountered at every march unexpected and picturesque scenery. Of all men, the Greeks were the most observant, the most readily and profoundly impressed. Here there were interminable sandy plains, there mountains whose peaks were lost above the clouds. In the deserts were mirages, on the hill-sides shadows of fleeting clouds sweeping over the forests. They were in a land of amber-colored date-palms and cypresses, of tamarisks, green myrtles, and oleanders. At Arbela they had fought against Indian elephants; in the thickets of the Caspian they had roused from his lair the lurking royal tiger. They had seen animals which, compared with those of Europe, were not only strange, but colossal the rhinoceros, the hippopotamus, the camel, the crocodiles of the Nile and the Ganges. They had encountered men of many complexions and many costumes: the swarthy Syrian, the olive-colored Persian, and the black African. Even of Alexander himself it is related that on his death-bed he caused his admiral, Nearchus, to sit by his side, and found consolation in listening to the adventures of that sailor the story of his voyage from the Indus up the Persian Gulf. The conqueror had seen with astonishment the ebbing and flowing of the tides. He had built ships for the exploration of the Caspian, supposing that it and the Black Sea might be gulfs of a great ocean, such as Nearchus had discovered the Persian and Red Seas to be. He had formed a resolution that his fleet should attempt the circumnavigation of Africa, and come into the Mediterranean through the Pillars of Hercules—a feat which, it was affirmed, had once been accomplished by the Pharaohs.

INTELLECTUAL CONDITION OF PERSIA. Not only her greatest soldiers, but also her greatest philosophers, found in the conquered empire much that might excite the admiration of Greece. Callisthenes obtained in Babylon a series of Chaldean astronomical observations ranging back through 1,903 years; these he sent to Aristotle. Perhaps, since they were on burnt bricks, duplicates of them may be recovered by modern research in the clay libraries of the Assyrian kings. Ptolemy, the Egyptian astronomer, possessed a Babylonian record of

Eclipses, going back 747 years before our era. Long-continued and close observations were necessary, before some of these astronomical results that have reached our times could have been ascertained. Thus the Babylonians had fixed the length of a tropical year within twenty-five seconds of the truth; their estimate of the sidereal year was barely two minutes in excess. They had detected the precession of the equinoxes. They knew the causes of eclipses, and, by the aid of their cycle called Saros, could predict them. Their estimate of the value of that cycle, which is more than 6,585 days, was within nineteen and a half minutes of the truth.

INTELLECTUAL CONDITION OF PERSIA. Such facts furnish incontrovertible proof of the patience and skill with which astronomy had been cultivated in Mesopotamia, and that, with very inadequate instrumental means; it had reached no inconsiderable perfection. These old observers had made a catalogue of the stars, had divided the zodiac into twelve signs; they had parted the day into twelve hours, the night into twelve. They had, as Alistotle says, for a long time devoted themselves to observations of star-occultation by the moon. They had correct views of the structure of the solar system, and knew the order of the emplacement of the planets. They constructed sundials, clepsydras, astrolabes, gnomons.

Not without interest do we still look on specimens of their method of printing. Upon a revolving roller they engraved, in cuneiform letters, their records, and, running this over plastic clay formed into blocks, produced ineffaceable proofs. From their tile-libraries we are still to reap a literary and historical harvest. They were not without some knowledge of optics. The convex lens found at Nimrud shows that they were not unacquainted with magnifying instruments. In arithmetic they had detected the value of position in the digits, though they missed the grand Indian invention of the cipher.

What a spectacle for the conquering Greeks, who, up to this time, had neither experimented nor observed!

They had contented themselves with mere meditation and useless speculation.

ITS RELIGIOUS CONDITION. But Greek intellectual development, due thus in part to a more extended view of Nature, was powerfully aided by the knowledge then acquired of the religion of the conquered country. The idolatry of Greece had always been a horror to Persia, who, in her invasions, had never failed to destroy the temples and insult the fans of the bestial gods. The impunity with which these sacrileges had been perpetrated had made a profound impression, and did no little to undermine Hellenic faith. But now the worshiper of the vile Olympian divinities, whose obscene lives must have been shocking to every pious man, was brought in contact with a grand, a solemn, a consistent religious system having its foundation on a philosophical basis. Persia, as is the case with all empires of long duration, had passed through many changes of religion. She had followed the Monotheism of Zoroaster; had then accepted Dualism, and exchanged that for Magianism. At the time of the Macedonian expedition, she recognized one universal Intelligence, the Creator, Preserver, and Governor of all things, the most holy essence of truth, and the giver of all good. He was not to be represented by any image, or any graven form. And, since, in everything here below, we see the resultant of two opposing forces; under him were two coequal and coeternal principles, represented by the imagery of Light and Darkness. These principles are in never-ending conflict. The world is their battle-ground, man is their prize.

In the old legends of Dualism, the Evil Spirit was said to have sent a serpent to ruin the paradise which the Good Spirit had made. These legends became known to the Jews during their Babylonian captivity.

The existence of a principle of evil is the necessary incident of the existence of a principle of good, as a shadow is the necessary incident of the presence of light. In this manner could be explained the occurrence of evil in a world, the maker and ruler of which is supremely good. Each of the personified principles of light and

Darkness, Ormuzd and Ahriman, had his subordinate angels, his counselors, his armies. It is the duty of a good man to cultivate truth, purity, and industry. He may look forward, when this life is over, to a life in another world, and trust to a resurrection of the body, the immortality of the soul, and a conscious future existence.

In the later years of the empire, the principles of Magianism had gradually prevailed more and more over those of Zoroaster. Magianism was essentially a worship of the elements. Of these, fire was considered as the most worthy representative of the Supreme Being. On altars erected, not in temples, but under the blue canopy of the sky, perpetual fires were kept burning, and the rising sun was regarded as the noblest object of human ado- ration. In the society of Asia, nothing is visible but the monarch; in the expanse of heaven, all objects vanish in presence of the sun.

DEATH OF ALEXANDER. Prematurely cut off in the midst of many great projects Alexander died at Babylon before he had completed his thirty-third year (B.C. 323). There was a suspicion that he had been poisoned. His temper had become so unbridled, his passion so ferocious, that his generals and even his intimate friends lived in continual dread. Clitus, one of the latter, he in a moment of fury had stabbed to the heart. Callisthenes, the intermedium between himself and Aristotle, he had caused to be hanged, or, as was positively asserted by some who knew the facts, had had him put upon the rack and then crucified. It may have been in self-defense that the conspirators resolved on his assassination. But surely it was a calumny to associate the name of Aristotle with this transaction. He would have rather borne the worst that Alexander could inflict, than have joined in the perpetration of so great a crime.

A scene of confusion and bloodshed lasting many years ensued, nor did it cease even after the Macedonian generals had divided the empire. Among its vicissitudes one incident mainly claims our attention. Ptolemy, who was a son of King Philip by Arsinoe, a beautiful concubine, and who in his boyhood, had been driven into exile

With Alexander, when they incurred their father's dis- pleasure, who had been Alexander's comrade in many of his battles and all his campaigns, became governor and eventually king of Egypt.

FOUNDATION OF ALEXANDER. At the siege of Rhodes, Ptolemy had been of such signal service to its citizens that in gratitude they paid divine honors to him, and saluted him with the title of Soter (the Savior). By that designation Ptolemy Soter he is distinguished from succeeding kings of the Macedonian dynasty in Egypt.

He established his seat of government not in any of the old capitals of the country, but in Alexandria. At the time of the expedition to the temple of Jupiter Ammon, the Macedonian conqueror had caused the foundations of that city to be laid, foreseeing that it might be made the commercial entrepot between Asia and Europe. It is to be particularly remarked that not only did Alexander himself deport many Jews from Palestine to people the city, and not only did Ptolemy Soter bring one hundred thousand more after his siege of Jerusalem, but Philadelphia, his successor, redeemed from slavery one hundred and ninety-eight thousand of that people, paying their Egyptian owners a just money equivalent for each. To all these Jews the same privileges were accorded as to the Macedonians. In consequence of this considerate treatment, vast numbers of their compatriots and many Syrians voluntarily came into Egypt. To them the designation of Hellenistical Jews was given. In like manner, tempted by the benign government of Soter, multitudes of Greeks sought refuge in the country, and the invasions of Perdiccas and Antigonus showed that Greek soldiers would desert from other Macedonian generals to join is armies.

The population of Alexandria was therefore of three distinct nationalities: 1. Native Egyptians 2. Greeks; 3. Jews a fact that has left an impress on the religious faith of modern Europe.

Greek architects and Greek engineers had made Alexandria the most beautiful city of the ancient world. They had filled it with magnificent palaces, temples, the-

Atres. In its center, at the intersection of its two grand avenues, which crossed each other at right angles, and in the midst of gardens, fountains, obelisks, stood the mausoleum, in which, embalmed after the manner of the Egyptians, rested the body of Alexander. In a funereal journey of two years it had been brought with great pomp from Babylon. At first the coffin was of pure gold, but this having led to a violation of the tomb, it was replaced by one of alabaster. But not these, not even the great light-house, Pharos, built of blocks of white marble and so high that the fire continually burning on its top could be seen many miles off at sea the Pharos counted as one of the seven wonders of the world

It is not these magnificent achievements of architecture that arrest our attention; the true, the most glorious monument of the Macedonian kings of Egypt is the Museum. Its influences will last when even the Pyramids have passed away.

THE ALEXANDRIAN MUSEUM. The Alexandrian Museum was commenced by Ptolemy Soter, and was completed by his son Ptolemy Philadelphia. It was situated in the Bruchion, the aristocratic quarter of the city, adjoining the king's palace. Built of marble, it was surrounded with a piazza, in which the residents might walk and converse together. Its sculptured apartments contained the Philadelphian library, and were crowded with the choicest statues and pictures. This library eventually comprised four hundred thousand volumes. In the course of time, probably on account of inadequate accommodation for so many books, an additional library was established in the adjacent quarter Rhacotis, and placed in the Serapion or temple of Serapis. The number of volumes in this library, which was called the Daughter of that in the Museum, was eventually three hundred thousand. There were, therefore, seven hundred thousand volumes in these royal collections.

Alexandria was not merely the capital of Egypt, it was the intellectual metropolis of the world. Here it was truly said the Genius of the East met the Genius of the West, and this Paris of antiquity became a focus of fashionable dissipation and universal skepticism. In the

Allurements of its bewitching society even the Jews for- got their patriotism. They abandoned the language of their forefathers, and adopted Greek.

In the establishment of the Museum, Ptolemy Soter and his son Philadelphus had three objects in view:

1. The perpetuation of such knowledge as was then in the world;

2. Its increase; 3. Its diffusion.

1. for the perpetuation of knowledge. Orders were given to the chief librarian to buy at the king's expense whatever books he could. A body of transcribers was maintained in the Museum, whose duty it was to make correct copies of such works as their owners were not disposed to sell. Any books brought by foreigners into Egypt were taken at once to the Museum, and, when correct copies had been made, the transcript was given to the owner, and the original placed in the library. Often a very large pecuniary indemnity was paid. Thus it is said of Ptolemy Euergetes that, having obtained from Athens the works of Euripides, Sophocles, and Aeschylus, he sent to their owners transcripts, together with about fifteen thousand dollars, as an indemnity. On his return from the Syrian expedition he carried back in triumph all the Egyptian monuments from Ecbatana and Susa, which Cambyses and other invaders had removed from Egypt. These he replaced in their original seats, or added as adornments to his museums. When works were translated as well as transcribed, sums which we should con- sider as almost incredible were paid, as was the case with the Septuagint translation of the Bible, ordered by Ptolemy Philadelphus.

2. for the increase of knowledge. One of the chief objects of the Museum was that of serving as the home of a body of men who devoted themselves to study, and were lodged and maintained at the king's expense. Occasionally he himself sat at their table. Anecdotes connected with those festive occasions have descended to our times. In the original organization of the Museum the residents were divided into four faculties literature; mathematics, astronomy, medicine. Minor branches were appropriately classified under one of these general heads;

thus natural history was considered to be a branch of medicine. An officer of very great distinction presided over the establishment, and had general charge of its interests. Demetrius Phalareus, perhaps the most learned man of his age, who had been governor of Athens for many years, was the first so appointed. Under him was the librarian, an office sometimes held by men whose names have descended to our times, as Eratosthenes, and Apollonius Rhodius?

ORGANIZATION OF THE MUSEUM. In connection with the Museum were a botanical and a zoological garden. These gardens, as their names import, were for the purpose of facilitating the study of plants and animals. There were also astronomical observatory containing armillary spheres, globes, solstitial and equatorial armils, astrolabes, parallactic rules, and other apparatus then in use, the graduation on the divided instruments being into degrees and sixths. On the floor of this observatory a meridian line was drawn. The want of correct means of measuring time and temperature was severely felt; the clepsydra of Ctesibius answered very imperfectly for the former, the hydrometer floating in a cup of water for the latter; it measured variations of temperature by variations of density. Philadelphus, who toward the close of his life was haunted with an intolerable dread of death, devoted much of his time to the discovery of an elixir. For such pursuits the Museum was provided with a chemical laboratory. In spite of the prejudices of the age, and especially in spite of Egyptian prejudices, there was in connection with the medical department an anatomical room for the dissection, not only of the dead, but actually of the living, who for crimes had been condemned.

3. for the diffusion of knowledge. In the Museum was given, by lectures, conversation, or other appropriate methods instruction in all the various departments of human knowledge. There flocked to this great intellectual center, students from all countries. It is said that at one time not fewer than fourteen thousand were in attendance. Subsequently even the Christian church received

From it some of the most eminent of its Fathers, as Clemens Alexandrinus, Origen, Athanasius.

The library in the Museum was burnt during the siege of Alexandria by Julius Caesar. To make amends for this great loss, that collected by Eumenes, King of Pergamus was presented by Mark Antony to Queen Cleopatra. Originally it was founded as a rival to that of the Ptolemies. It was added to the collection in the Serapion.

SCIENTIFIC SCHOOL OF THE MUSEUM. It remains now to describe briefly the philosophical basis of the Museum, and some of its contributions to the stock of human knowledge.

In memory of the illustrious founder of this most noble institution an institution which antiquity delighted to call "The divine school of Alexandria"-we must mention in the first rank his "History of the Cam- paigns of Alexander." Great as a soldier and as a sovereign, Ptolemy Soter added to his glory by being an author. Time, which has not been able to destroy the memory of our obligations to him, has dealt unjustly by his work. It is not now extant.

As might be expected from the friendship that existed between Alexander, Ptolemy, and Aristotle, the Aristotelian philosophy was the intellectual corner-stone on which the Museum rested. King Philip had committed the education of Alexander to Aristotle, and during the Persian campaigns the conqueror contributed materially, not only in money, but otherwise, toward the "Natural History" then in preparation.

The essential principle of the Aristotelian philosophy was, to rise from the study of particulars to knowledge of general principles or universals, advancing to them by induction. The induction is the more certain as the facts on which it is based are more numerous; its correctness is established if it should enable us to predict other facts until then unknown. This system implies end- less toil in the collection of facts, both by experiment and observation; it implies also a close meditation on them. It

Is, therefore, essentially a method of labor and of reason, not a method of imagination? The failures that Aristotle himself so often exhibits are no proof of its unreliability, but rather of its trustworthiness. They are failures arising from want of a sufficiency of facts.

ETHICAL SCHOOL OF THE MUSEUM. Some of the general results at which Aristotle arrived are very grand. Thus, he concluded that everything is ready to burst into life, and that the various organic forms presented to us by Nature are those which existing conditions permit. Should the conditions change, the forms will also change. Hence there is an unbroken chain from the simple element through plants and animals up to man, the different groups merging by insensible shades into each other.

The inductive philosophy thus established by Aristotle is a method of great power. To it all the modern advances in science are due. In its most improved form it rises by inductions from phenomena to their causes, and then, imitating the method of the Academy, it descends by deductions from those causes to the detail of phenomena.

While thus the Scientific School of Alexandria was founded on the maxims of one great Athenian philosopher, the Ethical School was founded on the maxims of another, for Zeno, though a Cypriote or Phoenician, had for many years been established at Athens. His disciples took the name of Stoics. His doctrines long survived him, and, in times when there was no other consolation for man, offered a support in the hour of trial, and an unwavering guide in the vicissitudes of life, not only to illustrious Greeks, but also to many of the great philosophers, statesmen, generals, and emperors of Rome.

THE PRINCIPLES OF STOICISM. The aim of Zeno was, to furnish a guide for the daily practice of life, to make men virtuous. He insisted that education is the true foundation of virtue, for, if we know what is good, we shall incline to do it. We must trust to sense, to furnish the data of knowledge, and reason will suitably combine them. In this the affinity of Zeno to Aristotle is

Plainly seen. Every appetite, lust, desire, springs from imperfect knowledge. Our nature is imposed upon us by Fate, but we must learn to control our passions, and live free, intelligent, and virtuous, in all things in accordance with reason. Our existence should be intellectual; we should survey with equanimity all pleasures and all pains. We should never forget that we are freemen, not the slaves of society. "I possess," said the Stoic, "a treasure which not all the world can rob me of no one can deprive me of death." We should remember that Nature in her operations aims at the universal, and never spares individuals, but uses them as means for the accomplishment of her ends. It is, therefore, for us to submit to Destiny, cultivating, as the things necessary to virtue, knowledge, temperance, fortitude, justice. We must remember that everything around us is in mutation; decay follows

Reproduction, and reproduction decay, and that it is useless to repine at death in a world where ever thing is dying. As a cataract shows from year to year an invariable shape, though the water composing it is perpetually changing, so the aspect of Nature is nothing more than a flow of matter presenting an impermanent form. The universe, considered as a whole, is unchangeable. Nothing is eternal but space, atoms, force. The forms of Nature that we see are essentially transitory, they must all pass away.

STOICISM IN THE MUSEUM. We must bear in mind that the majority of men are imperfectly educated, and hence we must not needlessly offend the religious ideas of our age. It is enough for us ourselves to know that, though there is a Supreme Power, there is no Supreme Being. There is an invisible principle, but not a personal God, to whom it would be not so much blasphemy as absurdity to impute the form, the sentiments,

the passions of man. All revelation is, necessarily, a mere fiction. That which men call chance is only the effect of an unknown cause. Even of chances there is a law. There is no such thing as Providence, for Nature proceeds under irresistible laws, and in this respect the universe is only a vast automatic engine. The vital force which pervades the world is what the illiterate call God. The modifications through which all things are running take place in an irresistible way, and hence it may be said that the

Progress of the world is, under Destiny, like a seed, it can evolve only in a predetermined mode.

The soul of man is a spark of the vital flame, the general vital principle. Like heat, it passes from one to another, and is finally reabsorbed or reunited in the universal principle from which it came. Hence we must not expect annihilation, but reunion; and, as the tired man looks forward to the insensibility of sleep, so the philosopher, weary of the world, should look forward to the tranquility of extinction. Of these things, however, we should think doubtingly, since the mind can produce no certain knowledge from its internal resources alone. It is unphilosophical to inquire into first causes; we must deal only with phenomena. Above all, we must never forget that man cannot ascertain absolute truth, and that the final result of human inquiry into the matter is, that we are incapable of perfect knowledge; that, even if the truth be in our possession, we cannot be sure of it.

What, then, remains for us? Is it not this-the acquisition of knowledge, the cultivation of virtue and of friendship, the observance of faith and truth, an unripening submission to whatever befalls us, a life led in accordance with reason?

PLATONISM IN THE MUSEUM. But, though the Alexandrian Museum was especially intended for the cultivation of the Aristotelian philosophy, it must not be supposed that other systems were excluded. Platonism was not only carried to its full development, but in the end it supplanted Peripateticism, and through the New Academy left a permanent impress on Christianity. The philosophical method of Plato was the inverse of that of Aristotle. Its starting-point was universals, the very existence of which was a matter of faith, and from these it descended to particulars, or details. Aristotle, on the contrary, rose from particulars to universals, advancing to them by inductions.

Plato, therefore, trusted to the imagination, Aristotle to reason. The former descended from the decomposition of a primitive idea into particulars, the latter united particulars into a general conception. Hence the method of

Plato was capable of quickly producing what seemed to be splendid, though in reality unsubstantial results; that of Aristotle was tardier in its operation, but much more solid. It implied endless labor in the collection of facts, a tedious resort to experiment and observation, the application of demonstration. The philosophy of Plato is a gorgeous castle in the air; that of Aristotle a solid structure, laboriously, and with many failures, founded on the solid rock.

An appeal to the imagination is much more alluring than the employment of reason. In the intellectual decline of Alexandria, indolent methods were preferred to laborious observation and severe mental exercise. The schools of Neo-Platonism were crowded with speculative mystics, such as Ammonius Saccas and Plotinus. These took the place of the severe geometers of the old Museum.

PHYSICAL SCIENCE IN THE MUSEUM. The Alexandrian school offers the first example of that sys- tem which, in the hands of modern physicists, has led to such wonderful results. It rejected imagination, and made its theories the expression of facts obtained by experiment and observation, aided by mathematical discussion. It enforced the principle that the true method of studying Nature is by experimental interrogation. The researches of Archimedes in specific gravity, and the works of Ptolemy on optics, resemble our present investigations in experimental philosophy, and stand in striking contrast with the speculative vagaries of the older writers. Laplace says that the only observation which the history of astronomy offers us, made by the Greeks before the school of Alexandria, is that of the summer solstice of the year B.C. 432. By Meton and Euctemon. We have, for the first time, in that school, a combined system of observations made with instruments for the measurement of angles, and calculated by trigonometrical methods. Astronomy then took a form which subsequent ages could only perfect.

It does not accord with the compass or the intention of this work to give a detailed account of the contributions of the Alexandrian Museum to the stock of human knowledge. It is sufficient that the reader should obtain a general impression of their character. For particulars, I may refer him to the sixth chapter of my "History of the Intellectual Development of Europe."

EUCLID ARCHIMEDES. It has just been remarked that the Stoical philosophy doubted whether the mind can ascertain absolute truth. While Zeno was indulging in such doubts, Euclid was preparing his great work, destined to challenge contradiction from the whole human race. After more than twenty-two centuries it still survives, a model of accuracy, perspicuity, and a standard of exact demonstration. This great geometer not only wrote on other mathematical topics, such as Conic Sections and Porisms, but there are imputed to him treatises on Harmonics and Optics, the latter subject being discussed on the hypothesis of rays issuing from the eye to the object.

With the Alexandrian mathematicians and physicists must be classed Archimedes, though he eventually resided in Sicily. Among his mathematical works were two books on the Sphere and Cylinder, in which he gave the demonstration that the solid content of a sphere is two-thirds that of its circumscribing cylinder. So highly did he esteem this, that he directed the diagram to be engraved on his tombstone? He also treated of the quadrature of the circle and of the parabola; he wrote on Conoids and Spheroids, and on the spiral that bears his name, the genesis of which was suggested to him by his friend Conon the Alexandrian. As a mathematician, Europe produced no equal to him for nearly two thousand years. In physical science he laid the foundation of hydrostatics; invented a method for the determination of specific gravities; discussed the equilibrium of floating bodies; discovered the true theory of the lever, and invented a screw, which still bears his name, for raising the water of the Nile. To him also are to be attributed the endless screw, and a peculiar form of burning-mirror, by which, at the siege of Syracuse, it is said that he set the Roman fleet on fire.

ERATOSTHENES APOLLONIUS HIP- PARCHUS. Eratosthenes, who at one time had charge of the library, was the author of many important works. Among them may be mentioned his determination of the interval between the tropics, and an attempt to ascertain the size of the earth. He considered the articulation and expansion of continents, the position of mountain-chains, the action of clouds, the geological submersion of lands, the elevation of ancient sea-beds, the opening of the Dardanelles and the straits of Gibraltar, and the relations of the Euxine Sea. He composed a complete system of the earth, in three books-physical, mathematical, historical -accompanied by a map of all the parts then known. It is only of late years that the fragments remaining of his "Chronicles of the Theban Kings" have been justly appreciated. For many centuries they were thrown into discredit by the authority of our existing absurd theological chronology.

It is unnecessary to adduce the arguments relied upon by the Alexandrians to prove the globular form of the earth. They had correct ideas respecting the doctrine of the sphere, its poles, axis, equator, arctic and Antarctic circles, equinoctial points, solstices, the distribution of climates, etc. I cannot do more than merely allude to the treatises on Conic Sections and on Maxima and Minima by Apollonius, who is said to have been the first to intro- duce the words ellipse and hyperbola. In like manner I must pass the astronomical observations of Alistyllus and Timocharis. It was to those of the latter on Spica Virgins that Hipparchus was indebted for his great discovery of the precession of the equinoxes. Hipparchus also determined the first inequality of the moon, the equation of the center. He adopted the theory of epicycles and eccentrics, a geometrical conception for the purpose of resolving the apparent motions of the heavenly bodies on the principle of circular movement. He also undertook to make a catalogue of the stars by the method of alienations that is, by indicating those that are in the same apparent straight line. The number of stars so catalogued was 1,080. If he thus attempted to depict the aspect of the sky, he endeavored to do the same for the surface of the earth, by marking the position of towns and other

Places by lines of latitude and longitude. He was the first to construct tables of the sun and moon.

THE SYNTAXIS OF PTOLEMY. In the midst of such a brilliant constellation of geometers, astronomers, physicists, conspicuously shines forth Ptolemy, the author of the great work, "Syntaxis," "a Treatise on the Mathematical Construction of the Heavens." It maintained its ground for nearly fifteen hundred years, and indeed was only displaced by the immortal "Principia" of Newton. It commences with the doctrine that the earth is globular and fixed in space, it describes the construction of a table of chords, and instruments for observing the solstices, it deduces the obliquity of the ecliptic, it finds terrestrial latitudes by the gnomon, describes climates, shows how ordinary may be converted into sidereal time, gives reasons for preferring the tropical to the sidereal year, furnishes the solar theory on the principle of the sun's orbit being a simple eccentric, explains the equation of time, advances to the discussion of the motions of the moon, treats of the first inequality, of her eclipses, and the motion of her nodes. It then gives Ptolemy's own great discovery that which has made his name immortal-the discovery of the moon's evection or second inequality, reducing it to

The epicyclic theory. It attempts the determination of the distances of the sun and moon from the earth with, however, only partial success. It considers the precession of the equinoxes, the discovery of Hipparchus, the full period of which is twenty-five thousand years. It gives a catalogue of 1,022 stars, treats of the nature of the milky-way, and discusses in the most masterly manner the motions of the planets. This point constitutes another of Ptolemy's claims to scientific fame. His determination of the planetary orbits was accomplished by comparing his own observations with those of former astronomers, among them the observations of Timocharis on the planet Venus.

INVENTION OF THE STEAM-ENGINE. In the Museum of Alexandria, Ctesibius invented the fire- engine. His pupil, Hero, improved it by giving it two cylinders. There, too, the first steam-engine worked. This also was the invention of Hero, and was a reaction

Engine, on the principle of the eolipile. The silence of the halls of Serapis was broken by the water-clocks of Ctesibius and Apollonius, which drop by drop measured time. When the Roman calendar had fallen into such confusion that it had become absolutely necessary to rectify it, Julius Caesar brought Sosigenes the astronomer from Alexandria. By his advice the lunar year was abolished, the civil year regulated entirely by the sun, and the Julian calendar introduced.

The Macedonian rulers of Egypt have been blamed for the manner in which they dealt with the religious sentiment of their time. They prostituted it to the purpose of state-craft, finding in it a means of governing their lower classes. To the intelligent they gave philosophy.

POLICY OF THE PTOLEMIES. But doubtless they defended this policy by the experience gathered in those great campaigns which had made the Greeks the fore- most nation of the world. They had seen the mythological conceptions of their ancestral country dwindle into fables; the wonders with which the old poets adorned the Mediterranean had been discovered to be baseless illusions. From Olympus its divinities had disappeared; indeed, Olympus itself had proved to be a phantom of the imagination. Hades had lost its terrors; no place could be found for it.

From the woods and grottoes and rivers of Asia Minor the local gods and goddesses had departed; even their devotees began to doubt whether they had ever been there. If still the Syrian damsels lamented, in their amorous ditties, the fate of Adonis, it was only as a recollection, not as a reality. Again and again had Persia changed her national faith? For the revelation of Zoroaster she had substituted Dualism; then under new political influences she had adopted Magianism. She had worshiped fire, and kept her altars burning on mountain- tops. She had adored the sun. When Alexander came, she was fast falling into pantheism.

On a country to which in its political extremity the indigenous gods have been found unable to give any protection, a change of faith is impending. The venerable

divinities of Egypt, to whose glory obelisks had been raised and temples dedicated, had again and again sub- mitted to the sword of a foreign conqueror. In the land of the Pyramids, the Colossi, the Sphinx, the images of the gods had ceased to represent living realities. They had ceased to be objects of faith. Others of more recent birth were needful, and Serapis confronted Osiris. In the shops and streets of Alexandria there were thousands of Jews who had forgotten the God that had made his habitation behind the veil of the temple.

Tradition, revelation, time, all had lost their influence. The traditions of European mythology, the revelations of Asia, the time-consecrated dogmas of Egypt, all had passed or were fast passing away. And the Ptolemies recognized how ephemeral forms of faith are.

But the Ptolemies also recognized that there is something more durable than forms of faith, which, like the organic forms of geological ages, once gone, are clean gone forever, and have no restoration, no return. They recognized that within this world of transient delusions and unrealities there is a world of eternal truth.

That world is not to be discovered through the vain traditions that have brought down to us the opinions of men who lived in the morning of civilization, nor in the dreams of mystics who thought that were

They inspired. It is to be discovered by the investigations of geometry, and by the practical interrogation of Nature. These confer on humanity solid, and innumerable, and inestimable blessings.

The day will never come when any one of the propositions of Euclid will be denied; no one henceforth will call in question the globular shape of the earth, as recognized by Eratosthenes; the world will not permit the great physical inventions and discoveries made in Alexandria and Syracuse to be forgotten. The names of Hipparchus, of Apollonius, of Ptolemy, of Archimedes, will be mentioned with reverence by men of every religious profession, as long as there are men to speak.

THE MUSEUM AND MODERN SCIENCE. The Museum of Alexandria was thus the birthplace of modern science. It is true that, long before its establishment, astronomical observations had been made in China and Mesopotamia; the mathematics also had been cultivated with a certain degree of success in India. But in none of these countries had investigation assumed a connected and consistent form; in none was physical experimentation resorted to. The characteristic feature of Alexandrian, as of modern science, is, that it did not restrict itself to observation, but relied on a practical interrogation of Nature.

**Chapter II.**

THE ORIGIN OF CHRISTIANITY. IT’S 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.

IN a political sense, Christianity is the bequest of the Roman Empire to the world.

At the epoch of the transition of Rome from the republican to the imperial form of government, all the independent nationalities around the Mediterranean Sea had been brought under the control of that central power. The conquest that had befallen them in succession had been by no means a disaster. The perpetual wars they had maintained with each other came to an end; the miseries their conflicts had engendered were exchanged for universal peace.

Not only as a token of the conquest she had made but also as a gratification to her pride, the conquering republic brought the gods of the vanquished peoples to Rome. With disdainful toleration, she permitted the worship of them all. That paramount authority exercised by each divinity in his original seat disappeared at once in the crowd of gods and goddesses among whom he had been brought. Already, as we have seen,

Through geo- graphical discoveries and philosophical criticism, faitin the religion of the old days had been profoundly shaken. It was, by this policy of Rome, brought to an end.

MONOTHEISM IN THE ROMAN EMPIRE. The kings of all the conquered provinces had vanished; in their stead one emperor had come. The gods also had disappeared. Considering the connection which in all ages has existed between political and religious ideas, it was then not at all strange that polytheism should manifest a tendency to pass into monotheism. Accordingly, divine honors were paid at first to the deceased and at length to the living emperor.

The facility with which gods were thus called into existence had a powerful moral effect. The manufacture of a new one cast ridicule on the origin of the old Incarnation in the East and apotheosis in the West were fast filling Olympus with divinities. In the East, gods descended from heaven, and were made incarnate in men; in the West, men ascended from earth, and took their seat among the gods. It was not the importation of Greek skepticism that made Rome skeptical. The excesses of religion itself sapped the foundations of faith.

Not with equal rapidity did all classes of the popula- tion adopt monotheistic views. The merchants and lawyers and soldiers, who by the nature of their pursuits are more familiar with the vicissitudes of life, and have larger intellectual views, were the first to be affected, the land laborers and farmers the last.

THE RISE OF CHRISTIANITY When the empire in a military and political sense had reached its culmination; in a religious and social aspect it had attained its height of immorality. It had become thoroughly epicure- an; its maxim was, that life should be made a feast, that virtue is only the seasoning of pleasure, and temperance the means of prolonging it. Dining-rooms glittering with gold and incrusted with gems, slaves in superb apparel, the fascinations of female society where all the women were dissolute, magnificent baths, theatres, gladiators, such were the objects of Roman desire. The conquerors of the world had discovered that the only thing worth

Worshiping is Force. By it all things might be secured, all that toil and trade had laboriously obtained. The confiscation of goods and lands, the taxation of provinces, were the reward of successful warfare; and the emperor was the symbol of force. There was a social splendor, but it was the phosphorescent corruption of the ancient Mediterranean world.

In one of the Eastern provinces, Syria, some per- sons in very humble life had associated themselves together for benevolent and religious purposes. The doc- trines they held were in harmony with that sentiment of universal brotherhood arising from the coalescence of the conquered kingdoms. They were doctrines inculcated by Jesus.

The Jewish people at that time entertained a belief, founded on old traditions, that a deliverer would arise among them, who would restore them to their ancient splendor. The disciples of Jesus regarded him as this long-expected Messiah. But the priesthood, believing that the doctrines he taught were prejudicial to their interests, denounced him to the Roman governor, who, to satisfy their clamors, reluctantly delivered him over to death.

His doctrines of benevolence and human brother- hood outlasted that event. The disciples, instead of scattering, organized. They associated themselves on a principle of communism, each throwing into the common stock whatever property he possessed, and all his gains. The widows and orphans of the community were thus supported, the poor and the sick sustained. From this germ was developed a new, and as the events proved, all-powerful society-the Church; new, for nothing of the kind had existed in antiquity; powerful, for the local churches, at first isolated, soon began to confederate for their common interest. Through this organization Christianity achieved all her political triumphs.

As we have said, the military domination of Rome had brought about universal peace, and had generated a sentiment of brotherhood among the vanquished nations. Things were, therefore, propitious for the rapid diffusion

Of the newly-established the Christian-principle throughout the empire. It spread from Syria through all Asia Minor, and successively reached Cyprus, Greece, Italy, eventually extending westward as far as Gaul and Britain.

Its propagation was hastened by missionaries who made it known in all directions. None of the ancient classical philosophies had ever taken advantage of such a means.

Political conditions determined the boundaries of the new religion. Its limits were eventually those of the Roman Empire; Rome, doubtfully the place of death of Peter, not Jerusalem, indisputably the place of the death of our Savior, became the religious capital. It was better to have possession of the imperial seven hilled city, than of Gethsemane and Calvary with all their holy souvenirs.

IT GATHERS POLITICAL POWER. For many years Christianity manifested itself as a system enjoining three things toward God veneration, in personal life purity, in social life benevolence. In its early days of feebleness it made proselytes only by persuasion, but, as it increased in numbers and influence, it began to exhibit political tendencies, a disposition to form a government within the government, an empire within the empire. These tendencies it has never since lost. They are, in truth, the logical result of its development. The Roman emperors, discovering that it was absolutely incompatible with the imperial system, tried to put it down by force. This was in accordance with the spirit of their military maxims, which had no other means but force for the establishment of conformity.

In the winter A.D. 302-'3, the Christian soldiers in some of the legions refused to join in the time-honored solemnities for propitiating the gods. The mutiny spread so quickly, the emergency became so pressing, that the Emperor Diocletian was compelled to hold a council for the purpose of determining what should be done. The difficulty of the position may perhaps be appreciated when it is understood that the wife and the daughter of Diocletian himself were Christians. He was a man of

Great capacity and large political views; he recognized in the opposition that must be made to the new party a political necessity, yet he expressly enjoined that there should be no bloodshed. But who can control an infuriated civil commotion? The church of Nicomedia was razed to the ground; in retaliation the imperial palace was set on fire, an edict was openly insulted and torn down. The Christian officers in the army were cashiered; in all directions, martyrdoms and massacres were taking place. So resistless was the march of events that not even the emperor himself could stop the persecution.

THE FIRST CHRISTIAN EMPEROR. It had now become evident that the Christians constituted a powerful party in the state, animated with indignation at the atrocities they had suffered, and determined to endure them no longer. After the abdication of Diocletian (A.D. 305), Constantine, one of the competitors for the purple, perceiving the advantages that would accrue to him from such a policy, put himself forth as the head of the Christian party. This gave him, in every part of the empire, men and women ready to encounter fire and sword in his behalf; it gave him unwavering adherents in every legion of the armies. In a decisive battle, near the Milvian Bridge, victory crowned his schemes. The death of Maxim in, and subsequently that of Licinius, removed all obstacles. He ascended the throne of the Caesars the first Christian emperor.

Place, profit, and power-these were in view of whoever now joined the conquering sect. Crowds of worldly persons, who cared nothing about its religious ideas, became its warmest supporters. Pagans at heart, their influence were soon manifested in the paganization of Christianity that forthwith ensued. The emperor, no better than they, did nothing to check their proceedings. But he did not personally conform to the ceremonial requirements of the Church until the close of his evil life, A.D. 337.

TERTULLIAN'S EXPOSITION OF CHRISTIANI- TY. That we may clearly appreciate the modifications now impressed on Christianity-modifications which

Eventually brought it in conflict with science-we must have, as a means of comparison, a statement of what it was in its purer days. Such, fortunately, we find in the "Apology or Defense of the Christians against the Accusations of the Gentiles," written by Tertullian, at Rome, during the persecution of Severus. He addressed it, not to the emperor, but to the magistrates who sat in judgment on the accused. It is a solemn and most earnest expostulation, setting forth all that could be said in explanation of the subject, a representation of the belief and cause of the Christians made in the imperial city in the face of the whole world, not a querulous or passionate ecclesiastical appeal, but a grave historical document. It has ever been looked upon as one of the ablest of the early Christian works. Its date is about A.D. 200.

With no inconsiderable skill Tertullian opens his argument. He tells the magistrates that Christianity is a stranger upon earth, and that she expects to meet with enemies in a country which is not her own. She only asks that she may not be condemned unheard, and that Roman magistrates will permit her to defend herself; that the laws of the empire will gather lustre, if judgment be passed upon her after she has been tried but not if she is sentenced without a hearing of her cause; that it is unjust to hate a thing of which we are ignorant, even though it may be a thing worthy of hate; that the laws of Rome deal with actions, not with mere names; but that, not- withstanding this, persons have been punished because they were called Christians, and that without any accusation of crime.

He then advances to an exposition of the origin, the nature, and the effects of Christianity, stating that it is founded on the Hebrew Scriptures, which are the most venerable of all books. He says to the magistrates: "The books of Moses, in which God has enclosed, as in a treasure, all the religion of the Jews, and consequently all the Christian religion, reach far beyond the oldest you have, even beyond all your public monuments, the establishment of your state, the foundation of many great cities- all that is most advanced by you in all ages of history, and memory of times; the invention of letters, which are

the interpreters of sciences and the guardians of all excellent things. I think I may say more beyond your gods, your temples, your oracles and sacrifices. The author of those books lived a thousand years before the siege of Troy, and more than fifteen hundred before Homer." Time is the ally of truth, and wise men believe nothing but what is certain, and what has been verified by time. The principal authority of these Scriptures is derived from their venerable antiquity. The most learned of the Ptolemies, who was surnamed Philadelphus, an accomplished prince, by the advice of Demetrius Phalareus, obtained a copy of these holy books. It may be found at this day in his library. The divinity of these Scriptures is proved by this that all that is done in our days may be found predicted in them; they contain all that has since passed in the view of men.

Is not the accomplishment of a prophecy a testimony to its truth? Seeing that events which are past have vindicated these prophecies, shall we be blamed for trusting them in events that are to come? Now, as we believe things that have been prophesied and have come to pass, so we believe things that have been told us, but not yet come to pass, because they have all been foretold by the same Scriptures, as well those that are verified every day as those that still remain to be fulfilled.

These Holy Scriptures teach us that there is one God, who made the world out of nothing, who, though daily seen is invisible; his infiniteness is known only to himself; his immensity conceals, but at the same time discovers him. He has ordained for men, according to their lives, rewards and punishments; he will raise all the dead that have ever lived from the creation of the world, will command them to reassume their bodies, and there- upon adjudge them to felicity that has so end, or to eternal flames. The fires of hell are those hidden flames which the earth shuts up in her bosom. He has in past times sent into the world preachers or prophets. The prophets of those old times were Jews; they addressed their oracles, for such they were, to the Jews, who have stored them up in the Scriptures. On them, as has been said, Christianity is founded, though the Christian differs

in his ceremonies from the Jew. We are accused of worshiping a man, and not the God of the Jews. Not so. The honor we bear to Christ does not derogate from the honor we bear to God.

On account of the merit of these ancient patriarchs, the Jews were the only beloved people of God; he delighted to be in communication with them by his own mouth. By him they were raised to admirable greatness. But with perversity they wickedly ceased to regard him; they changed his laws into a profane worship. He warned them that he would take to himself servants more faithful than they, and, for their crime, punished them by driving them forth from their country. They are now spread all over the world; they wander in all parts; they cannot enjoy the air they breathed at their birth; they have neither man nor God for their king. As he threatened them, so he has done. He has taken, in all nations and countries of the earth, people more faithful than they. Through his prophets he had declared that these should have greater favors, and that a Messiah should come, to publish a new law among them. This Messiah was Jesus, who is also God. For God may be derived from God, as the light of a candle may be derived from the light of another candle. God and his Son is the self-same God-a light is the same light as that from which it was taken.

The Scriptures make known two comings of the Son of God; the first in humility, the second at the Day of Judgment, in power. The Jews might have known all this from the prophets, but their sins have so blinded them that they did not recognize him at his first coming, and are still vainly expecting him. They believed that all the miracles wrought by him were the work of magic. The doctors of the law and the chief priests were envious of him; they denounced him to Pilate. He was crucified, died, was buried, and after three days rose again. For forty days he remained among his disciples. Then he was environed in a cloud, and rose up to heaven-a truth far more certain than any human testimonies touching the ascension of Romulus or of any other Roman prince mounting up to the same place.

Tertullian then describes the origin and nature of devils, who, under Satan, their prince, produce diseases, irregularities of the air, plagues, and the blighting of the blossoms of the earth, who seduce men to offer sacrifices, that they may have the blood of the victims, which is their food. They are as nimble as the birds, and hence know everything that is passing upon earth; they live in the air, and hence can spy what is going on in heaven; for this reason they can impose on men reigned prophecies, and deliver oracles. Thus they announced in Rome that a victory would be obtained over King Perseus, when in truth they knew that the battle was already won. They falsely cure diseases; for, taking possession of the body of a man, they produce in him distemper, and then ordaining some remedy to be used, they cease to afflict him, and men think that a cure has taken place.

Though Christians deny that the emperor is a god, they nevertheless pray for his prosperity, because the general dissolution that threatens the universe, the conflagration of the world, is retarded so long as the glorious majesty of the triumphant Roman Empire shall last. They desire not to be present at the subversion of all Nature. They acknowledge only one republic, but it is the whole world; they constitute one body, worship one God, and all look forward to eternal happiness. Not only do they pray for the emperor and the magistrates, but also for peace. They read the Scriptures to nourish their faith, lift up their hope, and strengthen the confidence they have in God. They assemble to exhort one another; they remove sinners from their societies; they have bishops who pre- side over them, approved by the suffrages of those whom they are to conduct. At the end of each month every one contributes if he will, but no one is constrained to give; the money gathered in this manner is the pledge of piety; it is not consumed in eating and drinking, but in feeding the poor, and burying them, in comforting children that are destitute of parents and goods, in helping old men who have spent the best of their days in the service of the faithful, in assisting those who have lost by shipwreck what they had, and those who are condemned to the mines, or have been banished to islands, or shut up in prisons, because they professed the religion of the true

God. There is but one thing that Christians have not in common, and that one thing is their wives. They do not feast as if they should die to-morrow, nor build as if they should never die. The objects of their life are innocence, justice, patience, temperance, chastity.

To this noble exposition of Christian belief and life in his day, Tertullian does not hesitate to add an ominous warning to the magistrates he is addressing ominous, for it was a forecast of a great event soon to come to pass: "Our origin is but recent, yet already we fill all that your power acknowledges cities, fortresses, islands, provinces, the assemblies of the people, the wards of Rome, the palace, the senate, the public places, and especially the armies. We have left you nothing but your temples. Reflect what wars we are able to undertake! With what promptitude might we not arm ourselves were we not restrained by our religion, which teaches us that it is better to be killed than to kill!"

Before he closes his defense, Tertullian renews an assertion which, carried into practice, as it subsequently was, affected the intellectual development of all Europe. He declares that the Holy Scriptures are a treasure, from which all the true wisdom in the world has been drawn; that every philosopher and every poet is indebted to them. He labors to show that they are the standard and measure of all truth, and that whatever is inconsistent with them must necessarily be false.

From Tertullian's able work we see what Christianity was while it was suffering persecution and struggling for existence. We have now to see what it became when in possession of imperial power. Great is the difference between Christianity under Severus and Christianity after Constantine. Many of the doctrines which at the latter period were preeminent, in the former were unknown.

PAGANIZATION OF CHRISTIANITY. Two

causes led to the amalgamation of Christianity with paganism:

1. The political necessities of the new dynasty;

2. The policy adopted by the new religion to insure its spread.

1. Though the Christian party had proved itself sufficiently strong to give a master to the empire, it was never sufficiently strong to destroy its antagonist, pagan- ism. The issue of the struggle between them was an amalgamation of the principles of both. In this, Christianity differed from Mohammedanism, which absolutely annihilated its antagonist, and spread its own doctrines without adulteration.

Constantine continually showed by his acts that he felt he must be the impartial sovereign of all his people, not merely the representative of a successful faction. Hence, if he built Christian churches, he also restored pagan temples; if he listened to the clergy, he also consulted the haruspices; if he summoned the Council of Nicea, he also honored the statue of Fortune; if he

Accepted the rite of baptism, he also struck a medal bearing his title of "God." His statue, on the top of the great porphyry pillar at Constantinople, consisted of an ancient image of Apollo, whose features were replaced by those of the emperor, and its head surrounded by the nails feigned to have been used at the crucifixion of Christ, arranged so as to form a crown of glory.

Feeling that there must be concessions to the defeated pagan party, in accordance with its ideas, he looked with favor on the idolatrous movements of his court. In fact, the leaders of these movements were per- sons of his own family.

CHRISTIANITY UNDER CONSTANTINE. 2. To the emperor a mere world ling a man without any religious convictions, doubtless it appeared best for himself, best for the empire, and best for the contending parties, Christian and pagan, to promote their union or amalgamation as much as possible. Even sincere Christians do not seem to have been averse to this; perhaps they believed that the new doctrines would diffuse most thoroughly by incorporating in themselves ideas borrowed from the old, that Truth would assert herself in the end, and the impurity be cast off. In accomplishing this amalgamation, Helena, the empress-mother, aided by the court ladies, led the way. For her gratification there were

Discovered, in a cavern at Jerusalem, wherein they had lain buried for more than three centuries, the Savior's cross, and those of the two thieves, the inscription, and the nails that had been used. They were identified by miracle. A true relic-worship set in. The superstition of the old Greek times reappeared; the times when the tools with which the Trojan horse was made might still be seen at Metapontum, the scepter of Pelops at Chaeroneia, the spear of Achilles at Phaselis, the sword of Memnon at Nicomedia, when the Tegeates could show the hide of the Calydonian boar and very many cities boasted their possession of the true palladium of Troy; when there were statues of Minerva that could brandish spears, paintings that could blush, images that could sweat, and endless shrines and sanctuaries at which miracle-cures could be performed.

As years passed on, the faith described by Tertullian was transmuted into one more fashionable and more debased. It was incorporated with the old Greek mythology. Olympus was restored, but the divinities passed under other names. The more powerful provinces insisted on the adoption of their time-honored conceptions. Views of the Trinity, in accordance with Egyptian traditions, were established. Not only was the adoration of Isis under a new name restored, but even her image, standing on the crescent moon, reappeared. The well- known effigy of that goddess, with the infant Horus in her arms, has descended to our days in the beautiful, artistic creations of the Madonna and Child. Such restorations of old conceptions under novel forms were everywhere received with delight. When it was announced to the Ephesians that the Council of that place, headed by Cyril, had decreed that the Virgin should be called "the Mother of God," with tears of joy they embraced the knees of their bishop; it was the old instinct peeping out; their ancestors would have done the same for Diana.

This attempt to conciliate worldly converts, by adopting their ideas and practices, did not pass without remonstrance from those whose intelligence discerned the motive. "You have," says Faustus to Augustine, "sub-

Stituted your agapae for the sacrifices of the pagans; for their idols your martyrs, whom you serve with the very same honors. You appease the shades of the dead with wine and feasts; you celebrate the solemn festivities of the Gentiles, their calends, and their solstices; and, as to their manners, those you have retained without any alteration. Nothing distinguishes you from the pagans, except that you hold your assemblies apart from them." Pagan observances were everywhere introduced. At weddings it was the custom to sing hymns to Venus.

INTRODUCTION OF ROMAN RITES. Let us pause here a moment, and see, in anticipation, to what a depth of intellectual degradation this policy of paganization eventually led. Heathen rites were adopted, a pompous and splendid ritual, gorgeous robes, miters, tiaras, wax-tapers, processional services, lustrations, gold and silver vases, were introduced. The Roman lituus, the chief ensign of the augurs, became the crozier. Churches were built over the tombs of martyrs, and consecrated with rites borrowed from the ancient laws of the Roman pontiffs. Festivals and commemorations of martyrs multiplied with the numberless fictitious discoveries of their remains. Fasting became the grand means of repelling the devil and appeasing God; celibacy the greatest of the virtues. Pilgrimages were made to Palestine and the tombs of the martyrs. Quantities of dust and earth were brought from the Holy Land and sold at enormous prices, as antidotes against devils. The virtues of consecrated water were upheld. Images and relics were introduced into the churches, and worshiped after the fashion of the heathen gods. It was given out that prodigies and miracles were to be seen in certain places, as in the heathen times. The happy souls of departed Christians were invoked; it was believed that they were wandering about the world, or haunting their graves. There was a multiplication of temples, altars, and penitential garments. The festival of the purification of the Virgin was invented to remove the uneasiness of heathen converts on account of the loss of their Lupercalia, or feasts of Pan. The worship of images, of fragments of the cross, or bones, nails, and other relics, a true fetch worship, was cultivated. Two arguments were relied on for the authenticity of these

Objects the authority of the Church, and the working of miracles. Even the worn-out clothing of the saints and the earth of their graves were venerated. From Palestine were brought what were affirmed to be the skeletons of St. Mark and St. James, and other ancient worthies. The apotheosis of the old Roman times was replaced by canonization; tutelary saints succeed to local mythological divinities. Then came the mystery of transubstantiation or the conversion of bread and wine by the priest into the flesh and blood of Christ. As centuries passed, the paganization became more and more complete. Festivals sacred to the memory of the lance with which the Savior's side was pierced, the nails that fastened him to the cross, and the crown of thorns, were instituted. Though there were several abbeys that possessed this last peer- less relic, no one dared to say that it was impossible they could all be authentic.

We may read with advantage the remarks made by Bishop Newton on this paganization of Christianity. He asks: "Is not the worship of saints and angels now in all respects the same that the worship of demons was in former times? The name only is different; the thing is identically the same... the deified men of the Christians are substituted for the deified men of the heathens. The promoters of this worship were sensible that it was the

Same, and that the one succeeded to the other; and, as the worship is the same, so likewise it is performed with the same ceremonies. The burning of incense or perfumes on several altars at one and the same time; the sprinkling of holy water, or a mixture of salt and common water, at going into and coming out of places of public worship; the lighting up of a great number of lamps and wax-candles in broad daylight before altars and statues of these deities; the hanging up of votive offerings and rich presents as attestations of so many miraculous cures and deliverances from diseases and dangers; the canonization or deification of deceased worthies; the assigning of distinct provinces or prefectures to departed heroes and saints; the worshiping and adoring of the dead in their sepulchers, shrines, and relics; the consecrating and bowing down to images; the attributing of miraculous powers and virtues to idols; the setting up of little oratories,

altars, and statues in the streets and highways, and on the tops of mountains; the carrying of images and relics in pompous procession, with numerous lights and with music and singing; flagellations at solemn seasons under the notion of penance; a great variety of religious orders and fraternities of priests; the shaving of priests, or the tonsure as it is called, on the crown of their heads; the imposing of celibacy and vows of chastity on the religious of both sexes-all these and many more rites and ceremonies are equally parts of pagan and popish superstition. Nay, the very same temples, the very same

Images, which were once consecrated to Jupiter and the other demons, are now consecrated to the Virgin Mary and the other saints. The very same rites and inscriptions are ascribed to both, the very same prodigies and miracles are related of these as of those. In short, almost the whole of paganism is converted and applied to popery; the one is manifestly formed upon the same plan and principles as the other; so that there is not only a conformity, but even a uniformity, in the worship of ancient and modern, of heathen and Christian Rome."

DEBASEMENT OF CHRISTIANITY. Thus far Bishop Newton; but to return to the times of Constantine: though these concessions to old and popular ideas were permitted and even encouraged, the dominant religious party never for a moment hesitated to enforce its decisions by the aid of the civil power-an aid which was freely given. Constantine thus carried into effect the acts of the Council of Nicea. In the affair of Arius, he even ordered that whoever should find a book of that heretic, and not burn it, should be put to death. In like manner Nestor was by Theodosius the Younger banished to an Egyptian oasis.

The pagan party included many of the old aristocratic families of the empire; it counted among its adherents all the disciples of the old philosophical schools. It looked down on its antagonist with contempt. It asserted that knowledge is to be obtained only by the laborious exercise of human observation and human reason.

The Christian party asserted that all knowledge is to be found in the Scriptures and in the traditions of the Church; that, in the written revelation, God had not only given a criterion of truth, but had furnished us all that he intended us to know. The Scriptures, therefore, contain the sum, the end of all knowledge. The clergy, with the emperor at their back, would endure no intellectual competition.

Thus came into prominence what were termed sacred and profane knowledge; thus came into presence of each other two opposing parties, one relying on human reason as its guide, the other on revelation. Paganism leaned for support on the learning of its philosophers, Christianity on the inspiration of its Fathers.

The Church thus set herself forth as the depository and arbiter of knowledge; she was ever ready to resort to the civil power to compel obedience to her decisions. She thus took a course which determined her whole future career: she became a stumbling-block in the intellectual advancement of Europe for more than a thousand years.

The reign of Constantine marks the epoch of the transformation of Christianity from a religion into a political system; and though, in one sense, that system was degraded into an idolatry, in another it had risen into a development of the old Greek mythology. The maxim holds well in the social as well as in the mechanical world, that, when two bodies strike, the form of both is changed. Paganism was modified by Christianity; Christianity by Paganism.

THE TRINITARIAN DISPUTE. In the Trinitarian controversy, which first broke out in Egypt-Egypt, the land of Trinities the chief point in discussion was to define the position of "the Son." There lived in Alexandria a presbyter of the name of Arius, a disappointed candidate for the office of bishop. He took the ground that there was a time when, from the very nature of son- ship, the Son did not exist, and a time at which he commenced to be, asserting that it is the necessary condition

of the filial relation that a father must be older than his son. But this assertion evidently denied the coeternity of the three persons of the Trinity; it suggested a subordination or inequality among them, and indeed implied a time when the Trinity did not exist. Hereupon, the bishop, who had been the successful competitor against Arius, displayed his rhetorical powers in public debates on the question, and, the strife spreading, the Jews and pagans, who formed a very large portion of the population of Alexandria, amused themselves with theatrical representations of the contest on the stage-the point of their burlesques being the equality of age of the Father and his Son.

Such was the violence the controversy at length assumed, that the matter had to be referred to the emperor. At first he looked upon the dispute as altogether frivolous, and perhaps in truth inclined to the assertion of Arius, that in the very nature of the thing a father must be older than his son. So great, however, was the pressure laid upon him, that he was eventually compelled to summon the Council of Nicea, which, to dispose of the conflict, set forth a formulary or creed, and attached to it this anathema: "The Holy Catholic and Apostolic Church anathematizes those who say that there was a time when the Son of God was not, and that, before he was begot- ten, he was not, and that he was made out of nothing, or out of another substance or essence, and is created, or changeable, or alterable." Constantine at once enforced the decision of the council by the civil power.

A few years subsequently the Emperor Theodosius prohibited sacrifices, made the inspection of the entrails of animals a capital offense, and forbade anyone entering a temple. He instituted Inquisitors of Faith, and ordained that all who did not accord with the belief of Damasus, the Bishop of Rome, and Peter, the Bishop of Alexandria, should be driven into exile, and deprived of civil rights. Those who presumed to celebrate Easter on the same day as the Jews, he condemned to death. The Greek language was now ceasing to be known in the West, and true learning was becoming extinct.

At this time the bishopric of Alexandria was held by one Theophilus. An ancient temple of Osiris having been given to the Christians of the city for the site of a church, it happened that, in digging the foundation for the new edifice, the obscene symbols of the former worship chanced to be found. These, with more zeal than modesty, Theophilus exhibited in the market-place to public derision. With less forbearance than the Christian party showed when it was insulted in the theatre during the Trinitarian dispute, the pagans resorted to violence, and a riot ensued. They held the Serapion as their headquarters. Such were the disorder and bloodshed that the emperor had to interfere. He dispatched a rescript to Alexandria, enjoining the bishop, Theophilus, to destroy the Serapion; and the great library, which had been collected by the Ptolemies, and had escaped the fire of Julius Caesar, was by that fanatic dispersed.

THE MURDER OF HYPATIA. The bishopric thus held by Theophilus was in due time occupied by his nephew St. Cyril, who had commended himself to the approval of the Alexandrian congregations as a successful and fashionable preacher. It was he who had so much to do with the introduction of the worship of the Virgin Mary. His hold upon the audiences of the giddy city was, however, much weakened by Hypatia, the daughter of Theon, the mathematician, who not only distinguished herself by her expositions of the doctrines of Plato and Aristotle, but also by her comments on the writings of Apollonius and other geometers. Each day before her academy stood a long train of chariots; her lecture-room was crowded with the wealth and fashion of Alexandria. They came to listen to her discourses on those questions which man in all ages has asked, but which never yet have been answered: "What am I? Where am I? What can I know?"

Hypatia and Cyril! Philosophy and bigotry. They cannot exist together. So Cyril felt, and on that feeling he acted. As Hypatia repaired to her academy, she was assaulted by Cyril's mob-a mob of many monks. Stripped naked in the street, she was dragged into a church, and there killed by the club of Peter the Reader.

The corpse was cut to pieces, the flesh was scraped from the bones with shells, and the remnants cast into a fire. For this frightful crime Cyril was never called to account. It seemed to be admitted that the end sanctified the means.

So ended Greek philosophy in Alexandria, so came to an untimely close the learning that the Ptolemies had done so much to promote. The "Daughter Library," that of the Serapion had been dispersed. The fate of Hypatia was a warning to all who would cultivate profane knowledge. Henceforth there was to be no freedom for human thought. Everyone must think as the ecclesiastical

Authority ordered him, A.D. 414. In Athens itself philosophy awaited its doom. Justinian at length prohibited its teaching, and caused all its schools in that city to be closed.

PELAGIUS. While these events were transpiring in the Eastern provinces of the Roman Empire, the spirit that had produced them was displaying itself in the West. A British monk, who had assumed the name of Pelagius, passed through Western Europe and Northern Africa, teaching that death was not introduced into the world by the sin of Adam; that on the contrary he was necessarily and by nature mortal, and had he not sinned he would nevertheless have died; that the consequences of his sins were confined to himself, and did not affect his posterity. From these premises Pelagius drew certain important theological conclusions.

At Rome, Pelagius had been received with favor; at Carthage, at the instigation of St. Augustine, he was denounced. By a synod, held at Diospolis, he was acquit- ted of heresy, but, on referring the matter to the Bishop of Rome, Innocent I., he was, on the contrary, condemned. It happened that at this moment Innocent died, and his successor, Zosimus, annulled his judgment and declared the opinions of Pelagius to be orthodox. These contradictory decisions are still often referred to by the opponents of papal infallibility. Things were in this state of confusion, when the wily African bishops, through the influence of Count Valerius, procured from the emperor

An edict denouncing Pelagins as a heretic; he and his accomplices were condemned to exile and the forfeiture of their goods. To affirm that death was in the world before the fall of Adam was a state crime.

CONDEMNATION OF PELAGIUS. It is very instructive to consider the principles on which this strange decision was founded. Since the question was purely philosophical, one might suppose that it would have been discussed on natural principles; instead of that, theological considerations alone were adduced. The attentive reader will have remarked, in Tertullian's statement of the principles of Christianity, a complete absence of the doctrines of original sin, total depravity, predestination, grace, and atonement. The intention of Christianity, as set forth by him, has nothing in common with the plan of salvation upheld two centuries subsequently. It is to St. Augustine, a Carthaginian, that we are indebted for the precision of our views on these important points.

In deciding whether death had been in the world before the fall of Adam, or whether it was the penalty inflicted on the world for his sin, the course taken was to ascertain whether the views of Pelagius were accordant or discordant not with Nature but with the theological doctrines of St. Augustine. And the result has been such as might be expected. The doctrine declared to be orthodox by ecclesiastical authority is overthrown by the unquestionable discoveries of modern science. Long before a human being had appeared upon earth, millions of individual’s nay, more, thousands of species and even genera had died; those which remain with us are an insignificant fraction of the vast hosts that have passed away.

A consequence of great importance issued from the decision of the Pelagian controversy. The book of Gene- sis had been made the basis of Christianity. If, in a theological point of view, to its account of the sin in the Garden of Eden, and the transgression and punishment of Adam, so much weight had been attached, it also in a philosophical point of view became the grand authority

Of Patristic science. Astronomy, geology, geography, anthropology, chronology, and indeed all the various departments of human knowledge, were made to con- form to it.

ST. AUGUSTINE. As the doctrines of St. Augustine have had the effect of thus placing theology in antagonism with science, it may be interesting to examine briefly some of the more purely philosophical views of that great man. For this purpose, we may appropriately select portions of his study of the first chapter of Genesis, as contained in the eleventh, twelfth, and thirteenth books of his "Confessions."

These consist of philosophical discussions, largely interspersed with rhapsodies. He prays that God will give him to understand the Scriptures, and will open their meaning to him; he declares that in them there is nothing superfluous, but that the words have a manifold meaning.

The face of creation testifies that there has been a Creator; but at once arises the question, "How and when did he make heaven and earth? They could not have been made IN heaven and earth, the world could not have been made IN the world, nor could they have been made when there was nothing to make them of." The solution of this fundamental inquiry St. Augustine finds in saying, "Thou spakest, and they were made."

But the difficulty does not end here. St. Augustine goes on to remark that the syllables thus uttered by God came forth in succession, and there must have been some created thing to express the words. This created thing must, therefore, have existed before heaven and earth, and yet there could have been no corporeal thing before heaven and earth. It must have been a creature, because the words passed away and came to an end but we know that "the word of the Lord endureth forever."

Moreover, it is plain that the words thus spoken could not have been spoken successively, but simultaneously, else there would have been time and change-succession in its nature implying time; whereas there was

Then nothing but eternity and immortality. God knows and says eternally what takes place in time.

CRITICISM OF ST. AUGUSTINE. St. Augustine then defines, not without much mysticism, what is meant by the opening words of Genesis: "In the beginning." He is guided to his conclusion by another scriptural passage: "How wonderful are thy works, O Lord! In wisdom hast thou made them all?" This "wisdom" is "the beginning," and in that beginning the Lord created the heaven and the earth.

"But," he adds, "someone may ask, 'what was God doing before he made the heaven and the earth? For, if at any particular moment he began to employ himself that means time, not eternity. In eternity nothing transpires- the whole is present." In answering this question, he cannot forbear one of those touches of rhetoric for which he was so celebrated: "I will not answer this question by saying that he was preparing hell for priers into his mysteries. I say that, before God made heaven and earth, he did not make any thing, for no creature could be made before any creature was made. Time itself is a creature, and hence it could not possibly exist before creation.

"What, then, is time? The past is not, the future is not, the present who can tell what it is, unless it be that which has no duration between two nonentities? There is no such thing as 'a long time,' or 'a short time,' for there is no such things as the past and the future. They have no existence, except in the soul."

The style in which St. Augustine conveyed his ideas is that of arhapsodical conversation with God. His works are an incoherent dream. That the reader may appreciate this remark, I might copy almost at random any of his paragraphs. The following is from the twelfth book:

"This then, is what I conceive, O my God, when I hear thy Scripture saying, In the beginning God made heaven and earth: and the earth was invisible and without form, and darkness was upon the deep, and not mentioning what day thou createdst them; this is what I conceive,

that because of the heaven of heavens that intellectual heaven, whose intelligences know all at once, not in part, not darkly, not through a glass, but as a whole, in manifestation, face to face; not this thing now, and that thing anon; but (as I said) know all at once, without any succession of times; and because of the earth, invisible and without form, without any succession of times, which succession presents 'this thing now, that thing anon;' because, where there is no form, there is no distinction of things; it is, then, on account of these two, a primitive formed, and a primitive formless; the one, heaven, but the heaven of heavens; the other, earth, but the earth movable and without form; because of these two do I conceive, did thy Scripture say without mention of days, In the beginning God created the heaven and the earth. For, forthwith it subjoined what earth it spake of; and also in that the firmament is recorded to be created the second day, and called heaven, it conveys to us of which heaven he before spake, without mention of days.

"Wondrous depth of thy words! Whose surface behold! is before us, inviting to little ones; yet are they a wondrous depth, O my God, a wondrous depth! It is awful to look therein; an awfulness of honor, and a trembling of love. The enemies thereof I hate vehemently; O that thou wouldst slay them with thy two-edged sword, that they might no longer be enemies to it: for so do I love to have them slain unto themselves, that they may live unto thee."

As an example of the hermeneutical manner in which St. Augustine unfolded the concealed facts of the Scriptures, I may cite the following from the thirteenth book of the "Confessions;" his object is to show that the doctrine of the Trinity is contained in the Mosaic narrative of the creation:

"Lo, now the Trinity appears unto me in a glass darkly, which is thou my God, because thou, O Father, in him who is the beginning of our wisdom, which is thy wisdom, born of thyself, equal unto thee and coeternal, that is, in thy Son, createdst heaven and earth. Much now have we said of the heaven of heavens, and of the earth?

invisible and without form, and of the darksome deep, in reference to the wandering instability of its spiritual deformity, unless it had been converted unto him, from whom it had its then degree of life, and by his enlightening became a beauteous life, and the heaven of that heaven, which was afterward set between water and water. And under the name of God, I now held the Father, who made these things; and under the name of the beginning, the Son, in whom he made these things; and believing, as I did, my God as the Trinity, I searched further in his holy words, and lo! Thy Spirit moved upon the waters. Behold the Trinity, my God!-Father, and Son, and Holy Ghost Creator of all creation."

That I might convey to my reader a just impression of the character of St. Augustine's philosophical writings, I have, in the two quotations here given, substituted for my own translation that of the Rev. Dr. Pusey, as contained in Vol. I. of the "Library of Fathers of the Holy Catholic Church," published at Oxford, 1840.

Considering the eminent authority which has been attributed to the writings of St. Augustine by the religious world for nearly fifteen centuries, it is proper to speak of them with respect. And indeed it is not necessary to do otherwise. The paragraphs here quoted criticize themselves. No one did more than this Father to bring science and religion into antagonism; it was mainly he who diverted the Bible from its true office a guide to purity of life and placed it in the perilous position of being the arbiter of human knowledge, an audacious tyranny over the mind of man. The example once set, there was no want of followers; the works of the great Greek philosophers were stigmatized as profane; the transcendently glorious achievements of the Museum of Alexandria were hidden from sight by a cloud of ignorance, mysticism, and unintelligible jargon, out of which there too often flashed the destroying lightnings of ecclesiastical vengeance.

A divine revelation of science admits of no

Improvement, no change, no advance. It discourages as needless, and indeed as presumptuous, all new discovery,

Considering it as an unlawful prying into things which it was the intention of God to conceal.

What, then, is that sacred, that revealed science, declared by the Fathers to be the sum of all knowledge?

It likened all phenomena, natural and spiritual, to human acts. It saw in the Almighty, the Eternal, only a gigantic man.

THE PATRISTIC PHILOSOPHY. As to the earth, it affirmed that it is a flat surface, over which the sky is spread like a dome, or, as St. Augustine tells us, is stretched like a skin. In this the sun and moon and stars move, so that they may give light by day and by night to man. The earth was made of matter created by God out of nothing, and, with all the tribes of animals and plants inhabiting it, was finished in six days. Above the sky or firmament is heaven; in the dark and fiery space beneath the earth is hell. The earth is the central and most important body of the universe, all other things being intended for and subservient to it.

As to man, he was made out of the dust of the earth. At first he was alone, but subsequently woman was formed from one of his ribs. He is the greatest and choicest of the works of God. He was placed in a paradise near the banks of the Euphrates, and was very wise and very pure; but, having tasted of the forbidden fruit, and thereby broken the commandment given to him, he was condemned to labor and to death.

The descendants of the first man, undeterred by his punishment, pursued such a career of wickedness that it became necessary to destroy them. A deluge, therefore, flooded the face of the earth, and rose over the tops of the mountains. Having accomplished its purpose, the water was dried up by a wind.

From this catastrophe Noah and his three sons, with their wives, were saved in an ark. Of these sons, Shem remained in Asia and repeopled it. Ham peopled Africa; Japhet, Europe. As the Fathers were not acquainted with

The existence of America, they did not provide an ancestor for its people.

Let us listen to what some of these authorities say in support of their assertions. Thus Lactantius, referring to the heretical doctrine of the globular form of the earth, remarks: "Is it possible that men can be so absurd as to believe that the crops and the trees on the other side of the earth hang downward, and that men have their feet higher than their heads? If you ask them how they defend these monstrosities, how things do not fall away from the earth on that side, they reply that the nature of things is such that heavy bodies tend toward the center, like the spokes of a wheel, while light bodies, as clouds, smoke, fire, tend from the center to the heavens on all sides. Now, I am really at a loss what to say of those who, when they have once gone wrong, steadily persevere in their folly, and defend one absurd opinion by another." On the question of the antipodes, St. Augustine asserts that "it is impossible there should be inhabitants on the opposite side of the earth, since no such race is recorded by Scripture among the descendants of Adam." Perhaps, however, the most unanswerable argument against the sphericity of the earth was this, that "in the day of judgment, men on the other side of a globe could not see the Lord descending through the air."

It is unnecessary for me to say anything respecting the introduction of death into the world, the continual interventions of spiritual agencies in the course of events, the offices of angels and devils, the expected conflagration of the earth, the tower of Babel, the confusion of tongues, the dispersion of mankind, the interpretation of natural phenomena, as eclipses, the rainbow, etc. Above all, I abstain from commenting on the Patristic conceptions of the Almighty; they are too anthropomorphic, and wanting in sublimity.

Perhaps, however, I may quote from Cosmas Indi copleustes the views that were entertained in the sixth century. He wrote a work entitled "Christian Topography," the chief intent of which was to confute the heretical opinion of the globular form of the earth, and the

Pagan assertion that there is a temperate zone on the southern side of the torrid. He affirms that, according to the true orthodox system of geography, the earth is a quadrangular plane, extending four hundred days' journey east and west, and exactly half as much north and south; that it is in closed by mountains, on which the sky rests; that one on the north side, huger than the others, by intercepting the rays of the sun, produces night; and that the plane of the earth is not set exactly horizontally, but with a little inclination from the north: hence the Euphrates, Tigris, and other rivers, running southward, are rapid; but the Nile, having to run up-hill, has necessarily a very slow current.

The Venerable Bede, writing in the seventh century, tells us that "the creation was accomplished in six days, and that the earth is its center and its primary object. The heaven is of a fiery and subtile nature, round, and equidistant in every part, as a canopy from the center of the earth. It turns round every day with ineffable rapidity, only moderated by the resistance of the seven planets, three above the sun-Saturn, Jupiter, Mars-then the sun; three below-Venus, Mercury, the moon. The stars go round in their fixed courses, the northern perform the shortest circle. The highest heaven has its proper limit; it contains the angelic virtues who descend upon earth, assume ethereal bodies, perform human functions, and return. The heaven is tempered with glacial waters, lest it should be set on fire. The inferior heaven is called the firmament, because it separates the superincumbent waters from the waters below. The firmamental waters are lower than the spiritual heaven, higher than all corporeal beings, reserved, some say, for a second deluge; others, more truly, to temper the fire of the fixed stars."

Was it for this preposterous scheme this product of ignorance and audacity that the works of the Greek philosophers were to be given up? It was none too soon that the great critics, who appeared at the Reformation, by comparing the works of these writers with one another, brought them to their proper level, and taught us to look upon them all with contempt.

Of this presumptuous system, the strangest part was its logic, the nature of its proofs. It relied upon miracle- evidence. A fact was supposed to be demonstrated by an astounding illustration of something else! An Arabian writer, referring to this, says: "If a conjurer should say to me, 'Three are more than ten, and in proof of it I will change this stick into a serpent,' I might be surprised at his legerdemain, but I certainly should not admit his assertion." Yet, for more than a thousand years, such was the accepted logic, and all over Europe propositions equally absurd were accepted on equally ridiculous proof.

Since the party that had become dominant in the empire could not furnish works capable of intellectual competition with those of the great pagan authors, and since it was impossible for it to accept a position of inferiority, there arose a political necessity for the discouragement, and even persecution, of profane learning. The persecution of the Platonists under Valentinian was due to that necessity. They were accused of magic, and many of them were put to death. The profession of philosophy had become dangerous-it was a state crime. In its stead there arose a passion for the marvelous, a spirit of superstition. Egypt exchanged the great men, who had made her Museum immortal, for bands of solitary monks and sequestered virgins, with which she was overrun.

**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 everything 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.

THE policy of the Byzantine court had given to primitive Christianity a paganized form, which it had spread over all the idolatrous populations constituting the empire. There had been an amalgamation of the two par- ties. Christianity had modified paganism, paganism had modified Christianity. The limits of this adulterated religion were the confines of the Roman Empire. With this great extension there had come to the Christian party political influence and wealth. No insignificant portion of the vast public revenues found their way into the treasuries of the Church. As under such circumstances must ever be the case, there were many competitors for the spoils men who, under the mask of zeal for the pre- dominant faith, sought only the enjoyment of its emoluments.

ECCLESIASTICAL DISPUTES. Under the early emperors, conquest had reached its culmination; the empire was completed; there remained no adequate objects for military life; the days of war-peculation, and the plundering of provinces, were over. For the ambitious, however, another path was open; other objects presented. A successful career in the Church led to results not unworthy of comparison with those that in former days had been attained by a successful career in the army.

The ecclesiastical, and indeed, it may be said, much of the political history of that time, turns on the struggles of the bishops of the three great metropolitan cities- Constantinople, Alexandria, Rome for supremacy: Constantinople based her claims on the fact that she was the existing imperial city; Alexandria pointed to her commercial and literary position; Rome, to her souvenirs. But the Patriarch of Constantinople labored under the disadvantage that he was too closely under the eye, and, as he found to his cost, too often under the hand, of the emperor. Distance gave security to the episcopates of Alexandria and Rome.

ECCLESIASTICAL DISPUTES. Religious disputations in the East have generally turned on diversities of opinion respecting the nature and attributes of God; in the West, on the relations and life of man. This peculiarity has been strikingly manifested in the transformations that Christianity has undergone in Asia and Europe respectively. Accordingly, at the time of which we are speaking, all the Eastern provinces of the Roman Empire exhibited an intellectual anarchy. There were fierce quarrels respecting the Trinity, the essence of God, the position of the Son, the nature of the Holy Spirit, the influences of the Virgin Mary. The triumphant clamor first of one then of another sect was confirmed, some- times by miracle-proof, sometimes by bloodshed. No attempt was ever made to submit the rival opinions to logical examination. All parties, however, agreed in this, that the imposture of the old classical pagan forms of faith was demonstrated by the facility with which they had been overthrown. The triumphant ecclesiastic’s pro- claimed that the images of the gods had failed to defend themselves when the time of trial came.

Polytheistic ideas have always been held in repute by the southern European races, the Semitic have maintained the unity of God. Perhaps this is due to the fact, as a recent author has suggested that a diversified land- scape of mountains and valleys, islands, and rivers, and gulfs, predisposes man to a belief in a multitude of divinities. A vast sandy desert, the illimitable ocean, impresses him with an idea of the oneness of God.

Political reasons had led the emperors to look with favor on the admixture of Christianity and paganism, and doubtless by this means the bitterness of the rivalry between those antagonists was somewhat abated. The heaven of the popular, the fashionable Christianity was the old Olympus, from which the venerable Greek divinities had been removed. There, on a great white throne, sat God the Father, on his right the Son, and then the blessed Virgin, clad in a golden robe, and "covered with various female adornments;" on the left sat God the Holy Ghost. Surrounding these thrones were hosts of angels with their harps. The vast expanse beyond was filled with tables, seated at which the happy spirits of the just enjoyed a perpetual banquet.

If, satisfied with this picture of happiness**,** illiterate persons never inquired how the details of such a heaven were carried out, or how much pleasure there could be in the ennui of such an eternally unchanging, unmoving scene, it was not so with the intelligent. As we are soon to see, there were among the higher ecclesiastics those who rejected with sentiments of horror these carnal, these materialistic conceptions, and raised their protesting voices in vindication of the attributes of the Omnipresent, the Almighty God.

EGYPTIAN DOCTRINES. In the paganization of religion, now in all directions taking place, it became the interest of every bishop to procure an adoption of the ideas which, time out of mind had been current in the community under his charge. The Egyptians had already thus forced on the Church their peculiar Trinitarian views; and now they were resolved that, under the form of the adoration of the Virgin Mary, the worship of Isis should be restored.

THE NESTORIANS. It so happened that Nestor, the Bishop of Antioch, who entertained the philosophical views of Theodore of Mopsuestia, had been called by the Emperor Theodosius the Younger to the Episcopate of Constantinople (A.D. 427). Nestor rejected the base popular anthropomorphism, looking upon it as little better than blasphemous and pictured to himself an awful eternal Divinity, who pervaded the universe, and had none of the aspects or attributes of man. Nestor was deeply imbued with the doctrines of Aristotle, and attempted to coordinate them with what he considered to be orthodox Christian tenets. Between him and Cyril, the Bishop or Patriarch of Alexandria, a quarrel accordingly arose. Cyril represented the paganizing, Nestor the philosophizing party of the Church. This was that Cyril who had murdered Hypatia. Cyril was determined that the worship of the Virgin as the Mother of God should be recognized, Nestor was determined that it should not. In a sermon delivered in the metropolitan church at Constantinople, he vindicated the attributes of the Eternal, the Almighty God. "And can this God have a mother?" he exclaimed. In other sermons and writings, he set forth with more precision his ideas that the Virgin should be considered not as the Mother of God, but as the mother of the human portion of Christ, that portion being as essentially distinct from the divine as is a temple from its contained deity.

PERSECUTION AND DEATH OF NESTOR. Instigated by the monks of Alexandria, the monks of Constantinople took up arms in behalf of "the Mother of God." The quarrel rose to such a pitch that the emperor was constrained to summon a council to meet at Ephesus. In the meantime Cyril had given a bribe of many pounds of gold to the chief eunuch of the imperial court, and had thereby obtained the influence of the emperor's sister. "The holy virgin of the court of heaven thus found an ally of her own sex in the holy virgin of the emperor's court." Cyril hastened to the council, attended by a mob of men and women of the baser sort. He at once assumed the presidency, and in the midst of a tumult had the emperor's rescript read before the Syrian bishops could arrive. A single day served to complete his triumph. All offers of accommodation on the part of Nestor were refused, his explanations were not read, he was condemned unheard. On the arrival of the Syrian ecclesiastics, a meeting of protest was held by them. A riot, with much bloodshed, ensued in the cathedral of St. John. Nestor was abandoned by the court, and eventually exiled to an Egyptian oasis. His persecutors tormented him as long as he lived, by every means in their power, and at his death gave out that "his blasphemous tongue had been devoured by worms and that from the heats of an Egyptian desert he had escaped only into the hotter torments of hell!"

The overthrow and punishment of Nestor, however, by no means destroyed his opinions. He and his followers, insisting on the plain inference of the last verse of the first chapter of St. Matthew, together with the fifty- fifth and fifty-sixth verses of the thirteenth of the same gospel, could never be brought to an acknowledgment of the perpetual virginity of the new queen of heaven. Their philosophical tendencies were soon indicated by their actions. While their leader was tormented in an African oasis, many of them immigrated to the Euphrates, and established the Chaldean Church. Under their auspices the college of Edessa was founded. From the college of Nisibis issued those doctors who spread Nestor's tenets through Syria, Arabia, India, Tartary, China, and Egypt. The Nestorians, of course, adopted the philosophy of Aristotle, and translated the works of that great writer into Syriac and Persian. They also made similar translations of later works, such as those of Pliny. In connection with the Jews they founded the medical college of Djondesabour. Their missionaries disseminated the Nestorian

form of Christianity to such an extent over Asia, that its worshipers eventually outnumbered all the European Christians of the Greek and Roman Churches combined. It may be particularly remarked that in Arabia they had a bishop.

THE PERSIAN CAMPAIGN. The dissensions between Constantinople and Alexandria had thus filled all Western Asia with sectaries, ferocious in their con- tests with each other, and many of them burning with hatred against the imperial power for the persecutions it had inflicted on them. A religious revolution, the consequences of which are felt in our own times, was the result. It affected the whole world.

We shall gain a clear view of this great event, if we consider separately the two acts into which it may be decomposed:

1. The temporary overthrow of Asiatic Christianity by the Persians;

2. The decisive and final reformation under the Arabians.

1. It happened (A.D. 590) that, by one of those revolutions so frequent in Oriental courts, Chosroes, the lawful heir to the Persian throne, was compelled to seek refuge in the Byzantine Empire, and implore the aid of the Emperor Maurice. That aid was cheerfully given. A brief and successful campaign restored Chosroes to the throne of his ancestors.

But the glories of this generous campaign could not preserve Maurice himself. A mutiny broke out in the Roman army, headed by Phocas, a centurion. The statues of the emperor were overthrown. The Patriarch of Constantinople, having declared that he had assured himself of the orthodoxy of Phocas, consecrated him emperor. The unfortunate Maurice was dragged from a sanctuary, in which he had sought refuge; his five sons were beheaded before his eyes, and then he was put to death. His empress was inveigled from the church of St. Sophia, tortured, and with her three young daughters beheaded. The adherents of the massacred family were pursued with ferocious vindictiveness; of some the eyes were blinded, of others the tongues were torn out, or the

Feet and hands cut off, some were whipped to death, and others were burnt. When the news reached Rome, Pope Gregory received it with exultation, praying that the hands of Phocas might be strengthened against all his enemies. As an equivalent for this subserviency, he was greeted with the title of "Universal Bishop." The cause of his action, as well as of that of the Patriarch of Constantinople, was doubtless the fact that Maurice was suspected of Magrian tendencies, into which he had been lured by the Persians. The mob of Constantinople had hooted after him in the streets, branding him as a Marcionite, a sect which believed in the Magian doctrine of two conflicting principles.

With very different sentiments Chosroes heard of the murder of his friend. Phocas had sent him the heads of Maurice and his sons. The Persian king turned from the ghastly spectacle with horror, and at once made ready to avenge the wrongs of his benefactor by war.

THE EXPEDITION OF HERACLIUS. The Exarch of Africa, Heraclius, one of the chief officers of the state, also received the shocking tidings with indignation. He was determined that the imperial purple should not be usurped by an obscure centurion of disgusting aspect. "The person of this Phocas was diminutive and

deformed; the closeness of his shaggy eyebrows, his red hair, his beardless chin, were in keeping with his cheek, disfigured and discolored by a formidable scar. Ignorant of letters, of laws, and even of arms, he indulged in an ample privilege of lust and drunkenness." At first Heraclius refused tribute and obedience to him; then, admonished by age and infirmities, he committed the dangerous enterprise of resistance to his son of the same name. A prosperous voyage from Carthage soon brought the younger Heraclius in front of Constantinople. The inconstant clergy, senate, and people of the city joined him; the usurper was seized in his palace and beheaded.

INVASION OF CHOSROES. But the revolution that had taken place in Constantinople did not arrest the movements of the Persian king. His Magian priests had warned him to act independently of the Greeks, whose superstition, they declared, was devoid of all truth and justice. Chosroes, therefore, crossed the Euphrates; his army was received with transport by the Syrian sectaries, insurrections in his favor everywhere breaking out. In succession, Antioch, Caesarea, Damascus fell; Jerusalem itself was taken by storm; the sepulchre of Christ, the churches of Constantine and of Helena were given to the flames; the Savior's cross was sent as a trophy to Persia; the churches were rifled of their riches; the sacred relics, collected by superstition, were dispersed. Egypt was invaded, conquered, and annexed to the Persian Empire; the Patriarch of Alexandria escaped by flight to Cyprus; the African coast to Tripoli was seized. On the north, Asia Minor was subdued, and for ten years the Persian forces encamped on the shores of the Bosporus, in front of Constantinople.

In his extremity Heraclius begged for peace. "I will never give peace to the Emperor of Rome," replied the proud Persian, "till he has abjured his crucified God, and embraced the worship of the sun." After a long delay terms were, however, secured, and the Roman Empire was ransomed at the price of "a thousand talents of gold, a thousand talents of silver, a thousand silk robes, a thousand horses, and a thousand virgins."

But Heraclius submitted only for a moment. He found means not only to restore his affairs but to retaliate on the Persian Empire. The operations by which he achieved this result were worthy of the most brilliant days of Rome.

INVASION OF CHOSROES Though her military renown was thus recovered, though her territory was regained, there was something that the Roman Empire had irrecoverably lost. Religious faith could never be restored. In face of the world Magianism had insulted Christianity, by profaning her most sacred places Bethlehem, Gethsemane, Calvary by burning the sepulchre of Christ, by rifling and destroying the churches, by scattering to the winds priceless relics, by carrying off, with shouts of laughter, the cross.

Miracles had once abounded in Syria, in Egypt, in Asia Minor; there was not a church which had not its long catalogue of them. Very often they were displayed on unimportant occasions and in insignificant cases. In this supreme moment, when such aid was most urgently demanded, not a miracle was worked.

Amazement filled the Christian populations of the East when they witnessed these Persian sacrileges perpetrated with impunity. The heavens should have rolled asunder, the earth should have opened her abysses, the sword of the Almighty should have flashed in the sky, and the fate of Sennacherib should have been repeated. But it was not so. In the land of miracles, amazement was followed by consternation-consternation died out in disbelief.

2. But, dreadful as it was, the Persian conquest was but a prelude to the great event, the story of which we have now to relate the Southern revolt against Christianity. Its issue was the loss of nine-tenths of her geo- graphical possessions-Asia, Africa, and part of Europe.

MOHAMMED. In the summer of 581 of the Christian era, there came to Bozrah, a town on the confines of Syria, south of Damascus, a caravan of camels. It was from Mecca, and was laden with the costly products of South Arabia-Arabia the Happy. The conductor of the caravan, one about able, and his nephew, a lad of twelve years, were hospitably received and entertained at the Nestorian convent of the town.

The monks of this convent soon found that their young visitor, Halibi or Mohammed, was the nephew of the guardian of the Caaba, the sacred temple of the Arabs. One of them, by name Bahira, spared no pains to secure his conversion from the idolatry in which he had been brought up. He found the boy not only precociously intelligent, but eagerly desirous of information, especially on matters relating to religion.

In Mohammed's own country the chief object of Meccan worship was a black meteoric stone, kept in the Caaba, with three hundred and sixty subordinate idols, representing the days of the year, as the year was then counted. At this time, as we have seen, the Christian Church, through the ambition and wickedness of its clergy, had been brought into a condition of anarchy. Councils had been held on various pretenses, while the real motives were concealed. Too often they were scenes of violence, bribery, corruption. In the West, such were the temptations of riches, luxury, and power, presented by the episcopates, that the election of a bishop was often disgraced by frightful murders. In the East, in consequence of the policy of the court of Constantinople, the Church had been torn in pieces by contentions and schisms. Among a countless host of disputants may be mentioned Arians, Basilidians, Carpocratians, Collyridians, Eutychians, Gnostics, Jacobites, Marcionites, Marionites, Nestorians, Sabellians, and Valentinians. Of these, the Marionites regarded the Trinity as consisting of God the Father, God the Son, and God the Virgin Mary; the Collyridians worshiped the Virgin as a divinity, offering her sacrifices of cakes; the Nestorians, as we have seen, denied that God had "a mother." They prided themselves on being the inheritors, the possessors of the science of old Greece.

But, though they were irreconcilable in matters of faith, there was one point in which all these sects agreed -ferocious hatred and persecution of each other. Arabia, an unconquered land of liberty, stretching from the Indian Ocean to the Desert of Syria, gave them all, as the tide of fortune successively turned, a refuge. It had been so from the old times. Thither, after the Roman conquest of Palestine, vast numbers of Jews escaped; thither, immediately after his conversion, St. Paul tells the Galatians that he retired. The deserts were now filled with Christian anchorites, and among the chief tribes of the Arabs many proselytes had been made. Here and there churches had been built. The Christian princes of Abyssinia, who were Nestorians, held the southern province of Arabia Yemen in possession.

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As Mohammed grew to manhood, he made other expeditions to Syria. Perhaps, we may suppose, that on these occasions the convent and its hospitable in mates were not forgotten. He had a mysterious reverence for that country. A wealthy Meccan widow Chadizah had intrusted him with the care of her Syrian trade. She was charmed with his capacity and fidelity, and (since he is said to have been characterized by the possession of singular manly beauty and a most courteous demeanor) charmed with his person. The female heart in all ages and countries is the same. She caused a slave to intimate to him what was passing in her mind, and, for the remaining twenty-four years of her life, Mohammed was her faithful husband. In a land of polygamy, he never insulted her by the presence of a rival. Many years sub- sequently, in the height of his power, Ayesha, who was one of the most beautiful women in Arabia, said to him: "Was she not old? Did not God give you in me a better wife in her place?" "No, by God!" exclaimed Mohammed, and with a burst of honest gratitude, "there never can be a better. She believed in me when men despised me, she relieved me when I was poor and persecuted by the world."

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Personally, his veneration for the Almighty is perpetually displayed. He is horror-stricken at the doctrine of the divinity of Jesus, the Worship of Mary as the mother of God, the adoration of images and paintings, in his eye a base idolatry. He absolutely rejects the Trinity, of which he seems to have entertained the idea that it could not be interpreted otherwise than as presenting three distinct Gods.

His first and ruling idea was simply religious reform to overthrow Arabian idolatry, and put an end to the wild sectarianism of Christianity. That he proposed to set up a new religion was a calumny invented against him in Constantinople, where he was looked upon with detestation, like that with which in after ages Luther was regarded in Rome.

But, though he rejected with indignation whatever might seem to disparage the doctrine of the unity of God, he was not able to emancipate himself from anthropomorphic conceptions. The God of the Koran is altogether human, both corporeally and mentally, if such expressions may with propriety is used. Very soon, however, the followers of Mohammed divested themselves of these base ideas and rose to nobler ones.

The view here presented of the primitive character of Mohammedanism has long been adopted by many competent authorities. Sir William Jones, following Locke, regards the main point in the divergence of Mohammedanism from Christianity to consist "in denying vehemently the character of our Savior as the Son, and his equality as God with the Father, of whose unity and attributes the Mohammedans entertain and express the most awful ideas." This opinion has been largely entertained in Italy. Dante regarded Mohammed only as the author of a schism, and saw in Islamism only an Arian sect. In England, Whitely views it as a corruption of Christianity. It was an offshoot of Nestorianism, and not until it had overthrown Greek Christianity in many great battles, was spreading rapidly over Asia and Africa, and had become intoxicated with its wonderful successes, did it repudiate its primitive limited intentions, and assert itself to be founded on a separate and distinct revelation.

THE FIRST KHALIF. Mohammed's life had been almost entirely consumed in the conversion or conquest of his native country. Toward its close, however, he felt himself strong enough to threaten the invasion of Syria and Persia. He had made no provision for the perpetuation of his own dominion, and hence it was not without a struggle that a successor was appointed. At length Abubeker, the father of Ayesha, was selected. He was proclaimed the first khalif, or successor of the Prophet.

There is a very important difference between the spread of Mohammedanism and the spread of Christianity. The latter was never sufficiently strong to over throw and extirpate idolatry in the Roman Empire. As it advanced, there was an amalgamation, a union. The old forms of the one were vivified by the new spirit of the other, and that paganization to which reference has already been made was the result.

THE MOHAMMEDAN HEAVEN. But, in Arabia, Mohammed overthrew and absolutely annihilated the old idolatry. No trace of it is found in the doctrines preached by him and his successors. The black stone that had fallen from heaven the meteorite of the Caaba—and its encircling idols, passed totally out of view. The essential dogma of the new faith-"There is but one God"— spread without any adulteration. Military successes had, in a worldly sense made the religion of the Koran profitable; and, no matter what dogmas may be, when that is the case, there will be plenty of converts.

As to the popular doctrines of Mohammedanism, I shall here have nothing to say. The reader who is interested in that matter will find an account of them in a review of the Koran in the eleventh chapter of my "His- tory of the Intellectual Development of Europe." It is enough now to remark that their heaven was arranged in seven stories, and was only a palace of Oriental carnal delight. It was filled with black-eyed concubines and servants. The form of God was, perhaps, more awful than that of paganized Christianity. Anthropomorphism will,

However, never be obliterated from the ideas of the unintellectual. Their God, at the best, will never be anything more than the gigantic shadow of a man—a vast phantom of humanity-like one of those Alpine spectres seen in the midst of the clouds by him who turns his back on the sun.

Abubeker had scarcely seated himself in the khalifate, when he put forth the following proclamation:

In the name of the most merciful God! Abubeker to the rest of the true believers, health and happiness. The mercy and blessing of God be upon you. I praise the highest God. I pray for his prophet Mohammed.

INVASION OF SYRIA. "This is to inform you that I intend to send the true believers into Syria, to take it out of the hands of the infidels. And I would have you know that the fighting for religion is an act of obedience to God."

On the first encounter, Khalid, the Saracen general, hard pressed, lifted up his hands in the midst of his army and said: "O God! These vile wretches pray with idolatrous expressions and take to themselves another God besides thee, but we acknowledge thy unity and affirm that there is no other God but thee alone. Help us; we beseech thee, for the sake of thy prophet Mohammed, against these idolaters." On the part of the Saracens the conquest of Syria was conducted with ferocious piety. The belief of the Syrian Christians aroused in their antagonists sentiments of horror and indignation. "I will cleave the skull of any blaspheming idolater who says that the Most Holy God, the Almighty and Eternal, has begotten a son." The Khalif Omar, who took Jerusalem, commences a letter to Heraclius, the Roman emperor: "In the name of the most merciful God! Praise be to God, the Lord of this and of the other world, who has neither female consort nor son." The Saracens nicknamed the Christians "Associators," because they joined Mary and Jesus as partners with the Almighty and Most Holy God.

It was not the intention of the khalif to command his army; that duty was devolved on Abou Obeidah nominally, on Khaled in reality. In a parting review the khalif enjoined on his troops justice, mercy, and the observance of fidelity in their engagements he commanded them to abstain from all frivolous conversation and from wine, and rigorously to observe the hours of prayer; to be kind to the common people among whom they passed, but to show no mercy to their priests.

FALL OF BOZRAH. Eastward of the river Jordan is Bozrah, a strong town where Mohammed had first met his Nestorian Christian instructors. It was one of the Roman forts with which the country was dotted over. Before this place the Saracen army encamped. The garrison was strong, the ramparts were covered with holy crosses and consecrated banners. It might have made a long defense. But its governor, Romanus, betrayed his trust, and stealthily opened its gates to the besiegers. His conduct shows to what a deplorable condition the population of Syria had come. After the surrender, in a speech he made to the people he had betrayed, he said: "I renounce your society, both in this world and that to come. And I deny him that was crucified, and whosoever worships him. And I choose God for my Lord, Islam for my faith, Mecca for my temple, the Moslems for my brethren, Mohammed for my prophet, who was sent to lead us in the right way, and to exalt the true religion in spite of those who join partners with God." Since the Persian invasion, Asia Minor, Syria, and even Palestine, was full of traitors and apostates, ready to join the Saracens. Romanus was but one of many thousands who had fallen into disbelief through the victories of the Persians.

FALL OF DAMASCUS. From Bozrah it was only seventy miles northward to Damascus, the capital of Syria. Thither, without delay, the Saracen army marched. The city was at once summoned to take its option-con- version, tribute, or the sword. In his palace at Antioch, barely one hundred and fifty miles still farther north, the Emperor Heraclius received tidings of the alarming advance of his assailants. He at once dispatched an army of seventy thousand men. The Saracens were compelled to raise the siege. A battle took place in the plains of Aiznadin; the Roman army was overthrown and dispersed.

Khaled reappeared before Damascus with his standard of the black eagle, and after a renewed investment of seventy days Damascus surrendered.

From the Arabian historians of these events we may gather that thus far the Saracen armies were little better than a fanatic mob. Many of the men fought naked. It was not unusual for a warrior to stand forth in front and challenge an antagonist to mortal duel. Nay, more, even the women engaged in the combats. Picturesque narratives have been handed down to us relating the gallant manner in which they acquitted themselves.

FALL OF JERUSALEM. From Damascus the Saracen army advanced northward, guided by the snow-clad peaks of Libanus and the beautiful river Orontes. It captured on its way Baalbec, the capital of the Syrian valley, and Emesa, the chief city of the eastern plain. To resist its further progress, Heraclius collected an army of one hundred and forty thousand men. A battle took place at Yermuck; the right wing of the Saracens was broken, but the soldiers were driven back to the field by the fanatic expostulations of their women. The conflict ended in the complete overthrow of the Roman army. Forty thousand were taken prisoners, and a vast number killed. The whole country now lay open to the victors. The advance of their army had been east of the Jordan. It was clear that, before Asia Minor could be touched, the strong and important cities of Palestine, which was now in their rear, must be secured. There was a difference of opinion among the generals in the field as to whether Caesarea or Jerusalem should be assailed first. The matter was referred to the khalif, who, rightly preferring the moral advantages of the capture of Jerusalem to the military advantages of the capture of Caesarea, ordered the Holy City to be taken, and that at any cost. Close siege was therefore laid to it. The inhabitants, remembering the atrocities inflicted by the Persians, and the indignities that had been offered to the Savior's sepulchre, prepared now for a vigorous defense. But, after an investment of four months, the Patriarch Sophronius appeared on the wall, asking terms of capitulation. There had been misunderstandings among the generals at the capture of

Damascus, followed by a massacre of the fleeing inhabitants. Sophronius, therefore, stipulated that the surrender of Jerusalem should take place in presence of the khalif himself Accordingly, Omar, the khalif, came from Medina for that purpose. He journeyed on a red camel, carrying a bag of corn and one of dates, a wooden dish, and a leathern water-bottle. The Arab conqueror entered the Holy City riding by the side of the Christian patriarch and the transference of the capital of Christianity to the representative of Mohammedanism was effected without tumult or outrage. Having ordered that a mosque should be built on the site of the temple of Solomon, the khalif returned to the tomb of the Prophet at Medina.

Heraclius saw plainly that the disasters which were fast settling on Christianity were due to the dissensions of its conflicting sects; and hence, while he endeavored to defend the empire with his armies, he sedulously tried to compose those differences. With this view he pressed for acceptance the Monothelite doctrine of the nature of Christ. But it was now too late. Aleppo and Antioch were taken. Nothing could prevent the Saracens from overrunning Asia Minor. Heraclius himself had to seek safety in flight. Syria, which had been added by Pompey the Great, the rival of Caesar, to the provinces of Rome, seven hundred years previously-Syria, the birthplace of Christianity, the scene of its most sacred and precious souvenirs, the land from which Heraclius himself had once expelled the Persian intruder was irretrievably lost. Apostates and traitors had wrought this calamity. We are told that, as the ship which bore him to Constantinople parted from the shore, Heraclius gazed intently on the receding hills, and in the bitterness of anguish exclaimed, "Farewell, Syria, forever farewell!"

It is needless to dwell on the remaining details of the Saracen conquest: how Tripoli and Tyre were betrayed; how Caesarea was captured; how with the trees of Libanus and the sailors of Phoenicia a Saraeen fleet was equipped, which drove the Roman navy into the Hellespont; how Cyprus, Rhodes, and the Cyclades, were ravaged, and the Colossus, which was counted as one of the wonders of the world, sold to a Jew, who

Loaded nine hundred camels with its brass; how the armies of the khalif advanced to the Black Sea, and even lay in front of Constantinople

All this was as nothing after the fall of Jerusalem.

OVERTHROW OF THE PERSIANS. The fall of Jerusalem! the loss of the metropolis of Christianity! In the ideas of that age the two antagonistic forms of faith had submitted themselves to the ordeal of the judgment of God. Victory had awarded the prize of battle, Jerusalem, to the Mohammedan; and, notwithstanding the temporary successes of the Crusaders, after much more than a thousand years in his hands it remains to this day. The Byzantine historians are not without excuse for the course they are condemned for taking: "They have wholly neglected the great topic of the ruin of the Eastern Church." And as for the Western Church, even the debased popes of the middle ages the ages of the Crusades could not see without indignation that they were compelled to rest the claims of Rome as the metropolis of Christendom on a false legendary story of a visit of St. Peter to that city; while the true metropolis, the grand, the sacred place of the birth, the life, the death of Christ himself, was in the hands of the infidels! It has not been the Byzantine historians alone who have tried to conceal this great catastrophe. The Christian writers of Europe on all manner of subjects, whether of history, religion, or science, have followed a similar course against their conquering antagonists. It has been their constant practice to hide what they could not depreciate, and depreciate what they could not hide.

INVASION OF EGYPT. I have not space, nor indeed does it comport with the intention of this work, to relate, in such detail as I have given to the fall of Jerusalem, other conquests of the Saracens conquests which eventually established a Mohammedan empire far exceeding in geographical extent that of Alexander, and even that of Rome. But, devoting a few words to this subject, it may be said that Magianism received a worse blow than that which had been inflicted on Christianity; the fate of Persia was settled at the battle of Cadesia. At the sack of Ctesiphon, the treasury, the royal arms, and

An unlimited spoil, fell into the hands of the Saracens. Not without reason does they call the battle of Nehavend the "victory of victories." In one direction they advanced to the Caspian, in the other southward along the Tigris to Persepolis. The Persian king fled for his life over the great Salt Desert, from the columns and statues of that city which had lain in ruins since the night of the riotous banquet of Alexander. One division of the Arabian army forced the Persian monarch over the Oxus. He was assassinated by the Turks. His son was driven into China, and became a captain in the Chinese emperor's guards. The country beyond the Oxus was reduced. It paid a tribute of two million pieces of gold. While the emperor at Peking was demanding the friendship of the khalif at Medina, the standard of the Prophet was displayed on the banks of the Indus.

Among the generals who had greatly distinguished themselves in the Syrian wars was Amrou, destined to be the conqueror of Egypt; for the khalifs, not content with their victories on the North and East, now turned their eyes to the West, and prepared for the annexation of Africa. As in the former cases, so in this, sectarian treason assisted them. The Saracen army was hailed as the deliverer of the Jacobite Church; the Monophysite

Christians of Egypt, that is, they who, in the language of the Athanasius Creed, confounded the substance of the Son, proclaimed, through their leader, Mokaukas, that they desired no communion with the Greeks, either in this world or the next, that they abjured forever the Byzantine tyrant and his synod of Chalcedon. They hastened to pay tribute to the khalif, to repair the roads and bridges, and to supply provisions and intelligence to the invading army.

FALL OF ALEXANDRIA. Memphis, one of the old Pharaonic capitals, soon fell, and Alexandria was invested. The open sea behind gave opportunity to Heraclius to reinforce the garrison continually. On his part, Omar, who was now khalif, sent to the succor of the besieging army the veteran troops of Syria. There were many assaults and many sallies. In one Amrou he was taken prisoner by the besieged, but, through the

dexterity of a slave, made his escape. After a siege of four- teen months, and a loss of twenty-three thousand men, the Saracens captured the city. In his dispatch to the Khalif, Amrou enumerated the splendors of the great city of the West "its four thousand palaces, four thousand baths, four hundred theatres, twelve thousand shops for the sale of vegetable food, and forty thousand tributary Jews."

So fell the second great city of Christendom-the fate of Jerusalem had fallen on Alexandria, the city of Athanasius, and Arius, and Cyril; the city that had imposed Trinitarian ideas and Mariolatry on the Church. In his palace at Constantinople Heraclius received the fatal tidings. He was overwhelmed with grief. It seemed as if his reign was to be disgraced by the downfall of Christianity. He lived scarcely a month after the loss of the town.

But if Alexandria had been essential to Constantinople in the supply of orthodox faith, she was also essential in the supply of daily food. Egypt was the granary of the Byzantines. For this reason two attempts were made by powerful fleets and armies for the recovery of the place, and twice had Amrou to renew his conquest. He saw

with what facility these attacks could be made, the place being open to the sea; he saw that there was but one and that a fatal remedy. "By the living God, if this thing be repeated a third time I will make Alexandria as open to anybody as is the house of a prostitute!" He was better than his word, for he forthwith dismantled its fortifications, and made it an untenable place.

FALL OF CARTHAGE. It was not the intention of the khalifs to limit their conquest to Egypt. Othman contemplated the annexation of the entire North-African coast. His general, Abdullah, set out from Memphis with forty thousand men, passed through the desert of Barca, and besieged Tripoli. But, the plague breaking out in his army, he was compelled to retreat to Egypt.

All attempts were now suspended for more than twenty years. Then Akbah forced his way from the Nile to the Atlantic Ocean. In front of the Canary Islands he rode his horse into the sea, exclaiming: "Great God! If my course were not stopped by this sea, I would still go on to the unknown kingdoms of the West, preaching the unity of thy holy name, and putting to the sword the rebellious nations who worship any other gods than thee."

These Saracen expeditions had been through the interior of the country, for the Byzantine emperors, con- trolling for the time the Mediterranean, had retained possession of the cities on the coast. The Khalif Abdalmalek at length resolved on the reduction of Carthage, the most important of those cities, and indeed the capital of North Africa. His general, Hassan, carried it by escalade; but reenforcements from Constantinople, aided by some Sicilian and Gothic troops, compelled him to retreat. The relief was, however, only temporary. Hassan, in the course of a few months renewed his attack. It proved successful, and he delivered Carthage to the flames.

Jerusalem, Alexandria, Carthage, three out of the five great Christian capitals, was lost. The fall of Constantinople was only a question of time. After its fall, Rome alone remained.

In the development of Christianity, Carthage had played no insignificant part. It had given to Europe its Latin form of faith, and some of its greatest theologians. It was the home of St. Augustine.

Never in the history of the world had there been so rapid and extensive a propagation of any religion as Mohammedanism. It was now dominating from the Altai Mountains to the Atlantic Ocean, from the center of Asia to the western verge of Africa.

CONQUEST OF SPAIN. The Khalif Alwalid next authorized the invasion of Europe, the conquest of Andalusia, or the Region of the Evening. Musa, his general, found, as had so often been the case elsewhere, two effective allies sectarianism and treason the Arch- bishop of Toledo and Count Julian the Gothic general. Under their lead, in the very crisis of the battle of Xeres, a large portion of the army went over to the invaders; the

Spanish king was compelled to flee from the field, and in the pursuit he was drowned in the waters of the Guadalquivir.

With great rapidity Tarik, the lieutenant of Musa, pushed forward from the battle-field to Toledo, and thence northward. On the arrival of Musa the reduction of the Spanish peninsula was completed, and the wreck of the Gothic army driven beyond the Pyrenees into France. Considering the conquest of Spain as only the first step in his victories, he announced his intention of forcing his way into Italy, and preaching the unity of God in the Vatican. Thence he would march to Constantinople, and, having put all end to the Roman Empire and Christianity, would pass into Asia and lay his victorious sword on the footstool of the khalif at Damascus.

But this was not to be. Musa, envious of his lieu- tenant, Tarik, had treated him with great indignity. The friends of Tarik at the court of the khalif found means of retaliation. An envoy from Damascus arrested Musa in his camp; he was carried before his sovereign, disgraced by a public whipping, and died of a broken heart.

INVASION OF FRANCE. Under other leaders, however, the Saracen conquest of France was attempted. In a preliminary campaign the country from the mouth of the Garonne to that of the Loire was secured. Then Abderahman, the Saracen commander, dividing his forces into two columns, with one on the east passed the Rhone, and laid siege to Arles. A Christian army, attempting the relief of the place, was defeated with heavy loss. His western column, equally successful, passed the Dordogne, defeated another Christian army, inflicting on it such dreadful loss that, according to its own fugitives, "God alone could number the slain." All Central France was now overrun; the banks of the Loire were reached; the churches and monasteries were despoiled of their treasures; and the tutelar saints, who had worked so many miracles when there was no necessity, were found to want the requisite power when it was so greatly needed.

The progress of the invaders was at length stopped by Charles Martel (A.D. 732). Between Tours and Poictiers, a great battle, which lasted seven days, was fought. Abderahman was killed; the Saracens retreated, and soon afterward were compelled to recross the Pyrenees.

The banks of the Loire, therefore, mark the boundary of the Mohammedan advance in Western Europe. Gibbon, in his narrative of these great events, makes this remark: "A victorious line of March had been prolonged above a thousand miles from the rock of Gibraltar to the banks of the Loire-a repetition of an equal space would have carried the Saracens to the confines of Poland and the Highlands of Scotland."

INSULT TO ROME. It is not necessary for me to add to this sketch of the military diffusion of Mohammedanism, the operations of the Saracens on the Mediterranean Sea, their conquest of Crete and Sicily, their insult to Rome. It will be found, however, that their presence in Sicily and the south of Italy exerted a marked influence on the intellectual development of Europe.

Their insult to Rome! What could be more humiliating than the circumstances under which it took place (A.D. 846)? An insignificant Saracen expedition entered the Tiber and appeared before the walls of the city. Too weak to force an entrance, it insulted and plundered the precincts, sacrilegiously violating the tombs of St. Peter and St. Paul. Had the city itself been sacked, the moral effect could not have been greater. From the church of St. Peter its altar of silver was torn away and sent to Africa St. Peter's altar, the very emblem of Roman Christianity!

Constantinople had already been besieged by the Saracens more than once; its fall was predestined, and only postponed. Rome had received the direst insult, the greatest loss that could be inflicted upon it; the venerable churches of Asia Minor had passed out of existence; no Christian could set his foot in Jerusalem without permission; the Mosque of Omar stood on the site of the Temple of Solomon. Among the ruins of Alexandria the

Mosque of Mercy marked the spot where a Saracen general, satiated with massacre, had, in contemptuous com- passion, spared the fugitive relics of the enemies of Mohammed; nothing remained of Carthage but her blackened ruins. The most powerful religious empire that the world had ever seen had suddenly come into existence. It stretched from the Atlantic Ocean to the Chinese wall, from the shores of the Caspian to those of the Indian Ocean, and yet, in one sense, it had not reached its culmination. The day was to come when it was to expel the successors of the Caesars from their capital, and hold the peninsula of Greece in subjection, to dispute with Christianity the empire of Europe in the very center of that continent, and in Africa to extend its dog- mas and faith across burning deserts and through pestilential forests from the Mediterranean to regions southward far beyond the equinoctial line.

DISSENSIONS OF THE ARABS. But, though Mohammedanism had not reached its culmination, the dominion of the khalifs had. Not the sword of Charles Martel, but the internal dissension of the vast Arabian Empire, was the salvation of Europe. Though the Ommiad Khalifs were popular in Syria, elsewhere they were looked upon as intruders or usurpers; the kindred of the apostle was considered to be the rightful representative of his faith. Three parties, distinguished by their colors, tore the khalifate asunder with their disputes, and dis- graced it by their atrocities. The color of the Ommiad’s was white, that of the Fatimites green, that of the

Abas- sides black; the last represented the party of Abbas, the uncle of Mohammed. The result of these discords was a tripartite division of the Mohammedan Empire in the tenth century into the khalifates of Bagdad, of Cairoan, and of Cordova. Unity in Mohammedan political action was at an end, and Christendom found its safeguard, not in supernatural help, but in the quarrels of the rival potentates. To internal animosities foreign pressures were eventually added and Arabism, which had done so much for the intellectual advancement of the world, came to an end when the Turks and the Berbers attained to power.

The Saracens had become totally regardless of European opposition-they were wholly taken up with their domestic quarrels. Ockley says with truth, in his history: "The Saracens had scarce a deputy lieutenant or general that would not have thought it the greatest affront, and such as ought to stigmatize him with indelible disgrace, if he should have suffered himself to have been insulted by the united forces of all Europe. And if anyone asks why the Greeks did not exert themselves more, in order to the extirpation of these insolent invaders, it is a sufficient answer to any person that is acquainted with the characters of those men to say that Amrou kept his residence at Alexandria, and Moawyah at Damascus."

As to their contempt, this instance may suffice: Nicephorus, the Roman emperor, had sent to the Khalif Haroun-al-Raschid a threatening letter, and this was the reply: "In the name of the most merciful God, Haroun-al- Raschid, commander of the faithful, to Nicephorus, the Roman dog! I have read thy letter, O thou son of an unbelieving mother. Thou shalt not hear, thou shalt behold my reply!" It was written in letters of blood and fire on the plains of Phrygia.

POLITICAL EFFECT OF POLYGAMY. A nation may recover the confiscation of its provinces, the confiscation of its wealth; it may survive the imposition of enormous war-fines; but it never can recover from that most frightful of all war-acts, the confiscation of its women. When Abou Obeidah sent to Omar news of his capture of Antioch, Omar gently upbraided him that he had not let the troops have the women. "If they want to marry in Syria, let them; and let them have as many female slaves as they have occasion for." It was the institution of polygamy, based upon the confiscation of the women in the vanquished countries that secured forever the Mohammedan rule. The children of these unions gloried in their descent from their conquering fathers. No better proof can be given of the efficacy of this policy than that which is furnished by North Africa. The irresistible effect of polygamy in consolidating the new order of things was very striking. In little more than a single generation, the Khalif was informed by his officers that the tribute must cease, for all the children born in that region were Mohammedans, and all spoke Arabic.

MOHAMMEDANISM. Mohammedanism, as left by its founder, was an anthropomorphic religion. Its God was only a gigantic man, its heaven a mansion of carnal pleasures. From these imperfect ideas it’s more intelligent classes very soon freed themselves, substituting for them others more philosophical, more correct. Eventually they attained to accordance with those that have been pronounced in our own times by the Vatican Council as orthodox. Thus Al-Gazzali says: "knowledge of God cannot be obtained by means of the knowledge a man has of himself, or of his own soul. The attributes of God cannot be determined from the attributes of man. His sovereignty and government can neither be compared nor measured."

**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.

"IN the course of my long life," said the Khalif Ali, "I have often observed that men are more like the times they live in than they are like their fathers." This profoundly philosophical remark of the son-in-law of Mohammed is strictly true; for, though the personal, the bodily lineaments of a man may indicate his parentage, the constitution of his mind, and therefore the direction of his thoughts, is determined by the environment in which he lives.

When Amrou, the lieutenant of the Khalif Omar, conquered Egypt, and annexed it to the Saracenic Empire, he found in Alexandria a Greek grammarian; John surnamed Philoponus, or the Labor-lover. Presuming on the friendship which had arisen between them, the Greek solicited as a gift the remnant of the great library

a remnant which war and time and bigotry had spared. Amrou, therefore, sent to the khalif to ascertain his plea- sure. "If," replied the khalif, "the books agree with the Koran, the Word of God, they are useless, and need not

Be preserved; if they disagree with it, they are pernicious. Let them be destroyed." Accordingly, they were distributed among the baths of Alexandria, and it is said that six months were barely sufficient to consume them.

Although the fact has been denied, there can be little doubt that Omar gave this order. The khalif was an illiterate man; his environment was an environment of fanaticism and ignorance. Omar's act was an illustration of Ali's remark.

THE ALEXANDRIAN LIBRARY BURNT. But it must not be supposed that the books which John the Labor-lover coveted were those which constituted the great library of the Ptolemies, and that of Eumenes, King of Pergamus. Nearly a thousand years had elapsed since Philadelphus began his collection. Julius Caesar had burnt more than half; the Patriarchs of Alexandria had not only permitted but superintended the dispersion of almost all the rest. Orosius expressly states that he saw the empty cases or shelves of the library twenty years after Theophilus, the uncle of St. Cyril, had procured from the Emperor Theodosius a rescript for its destruction. Even had this once noble collection never endured such acts of violence, the mere wear and tear, and per- haps, I may add, the pilfering of a thousand years, would have diminished it sadly. Though John, as the surname he received indicates, might rejoice in a superfluity of occupation, we may be certain that the care of a library of half a million books would transcend even his well- tried powers; and the cost of preserving and supporting it, that had demanded the ample resources of the Ptolemies and the Caesars, was beyond the means of a grammarian. Nor is the time required for its combustion or destruction any indication of the extent of the collection. Of all articles of fuel, parchment is, perhaps, the most wretched. Paper and papyrus do excellently well as kindling-materials, but we may be sure that the bath-men of Alexandria did not resort to parchment so long as they could find anything else, and of parchment a very large portion of these books was composed. There can, then, be no more doubt that Omar did order the destruction of this library, under an impression of its uselessness or its irreligious tendency, than that the Crusaders burnt the library of Tripoli, fancifully said to have consisted of three million volumes. The first apartment entered being found to contain nothing but the Koran, all the other books were supposed to be the works of the Arabian impostor, and were consequently commit- ted to the flames. In both cases the story contains some truth and much exaggeration. Bigotry, however, has often distinguished itself by such exploits. The Spaniards burnt in Mexico vast piles of American picture-writings, an irretrievable loss; and Cardinal Ximenes delivered to the flames, in the squares of Granada, eighty thousand Arabic manuscripts, many of them translations of classical authors.

We have seen how engineering talent, stimulated by Alexander's Persian campaign, led to a wonderful development of pure science under the Ptolemies; a similar effect may be noted as the result of the Saracenic military operations.

The friendship contracted by Amrou, the conqueror of Egypt, with John the Grammarian, indicates how much the Arabian mind was predisposed to liberal ideas. Its step from the idolatry of the Caaba to the monotheism of Mohammed prepared it to expatiate in the wide and pleasing fields of literature and philosophy. There were two influences to which it was continually exposed. They conspired in determining its path. This were-1. That of the Nestorians in Syria; 2. That of the Jews in Egypt.

INFLUENCE OF THE NESTORIANS AND JEWS. In the last chapter I have briefly related the persecution of Nestor and his disciples. They bore testimony to the oneness of God, through many sufferings and martyrdoms. They utterly repudiated an Olympus filled with gods and goddesses. "Away from us a queen of heaven!"

Such being their special views, the Nestorians found no difficulty in affiliating with their Saracen conquerors, by which they were treated not only with the highest respect, but intrusted with some of the most important offices of the state. Mohammed, in the strongest manner, prohibited his followers from committing any injuries against them. Jesuiabbas, their pontiff, concluded treaties both with the Prophet and with Omar, and subsequently the Khalif Haroun-al-Raschid placed all his public schools under the superintendence of John Masue, a Nestorian.

To the influence of the Nestorians that of the Jews was added. When Christianity displayed a tendency to unite itself with paganism, the conversion of the Jews was arrested; it totally ceased when Trinitarian ideas were introduced. The cities of Syria and Egypt were full of Jews. In Alexandria alone, at the time of its capture by Amrou, there were forty thousand who paid tribute. Centuries of misfortune and persecution had served only to confirm them in their monotheism, and to strengthen that implacable hatred of idolatry which they had cherished ever since the Babylonian captivity. Associated with the Nestorians, they translated into Syriac many Greek and Latin philosophical works, which were retranslated into Arabic. While the Nestorian was occupied with the education of the children of the great Mohammedan families, the Jew found his way into them in the character of a physician.

FATALISM OF THE ARABIANS. Under these influences the ferocious fanaticism of the Saracens abated, their manners were polished, their thoughts elevated. They overran the realms of Philosophy and Science as quickly as they had overrun the provinces of the Roman Empire. They abandoned the fallacies of vulgar Mohammedanism, accepting in their stead scientific truth. In a world devoted to idolatry, the sword of the Saracen had vindicated the majesty of God. The doctrine of fatalism, inculcated by the Koran, had powerfully contributed to that result. "No man can anticipate or postpone his predetermined end. Death will overtake us even in lofty towers. From the beginning God hath settled the place in which each man shall die." In his figurative language the Arab said: "No man can by flight escape his fate. The Destinies ride their horses by night.... Whether asleep in bed or in the storm of battle, the angel of death will find thee." "I am convinced," said Ali, to whose wisdom we have already referred "I am convinced that the affairs of men go by divine decree, and not by our administration." The Mussulmen are those who submissively resign themselves to the will of God. They reconciled fate and free-will by saying, "The outline is given us, we color the picture of life as we will." They said that, if we would overcome the laws of Nature, we must not resist, we must balance them against each other.

This dark doctrine prepared its devotees for the accomplishment of great things-things such as the Saracens did accomplish. It converted despair into resignation, and taught men to disdain hope. There was a proverb among them that "Despair is a freeman, Hope is a slave."

But many of the incidents of war showed plainly that medicines may assuage pain, that skill may close wounds, that those who are incontestably dying may be snatched from the grave. The Jewish physician became a living, an accepted protest against the fatalism of the Koran. By degrees the sternness of predestination was mitigated, and it was admitted that in individual life there is an effect due to free-will; that by his voluntary acts man may within certain limits determine his own course. But, so far as nations are concerned, since they can yield no personal accountability to God, they are placed under the control of immutable law.

In this respect the contrast between the Christian and the Mohammedan nations was very striking: The Christian was convinced of incessant providential interventions; he believed that there was no such thing as law in the government of the world. By prayers and entreaties he might prevail with God to change the cur- rent of affairs, or, if that failed, he might succeed with Christ, or perhaps with the Virgin Mary, or through the intercession of the saints, or by the influence of their