

Geological, Philological, and Scriptural Studies on the Cosmogony of Moses

Father Laurent

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**STUDIES
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**GEOLOGICAL, PHILOLOGICAL, AND SCRIPTURAL STUDIES
ON THE
COSMOGONY
OF MOSES**

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PARIS
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APPROBATION

OF THE MOST REVEREND FATHER GENERAL

We, Brother NICHOLAS of St. John, Consultor to the Sacred Congregation of Bishops and Regulars, and Minister General of the entire Order of Capuchin Friars Minor of Saint Francis.

Since the work entitled - *Geological, Philological, and Scriptural Studies on the Cosmogony of Moses, by the Very Reverend Father Laurent, Provincial of the Capuchin Friars Minor of France* - has been reviewed and approved by two Theologians of our Order appointed by Us, we therefore grant permission for it to be committed to print, those things required to be observed being observed.

Given at Our Convent of the Most Holy Immaculate Conception in Rome, on the 13th day of April 1863.

BR. NICHOLAS,
as above.

INTRODUCTION

[French p. 1] For far too long there existed in the minds of naturalists a systematic prejudice against the Genesis account concerning the creation of the world. In some, this prejudice was the fruit of ignorance and preconceptions; in others, it was a consequence of their aversion to everything connected with Christianity.

As soon as geology had taken its place among the sciences, as soon as it presented a certain number of facts capable of a truly scientific coordination, these naturalists flattered themselves that they could use it as a valuable auxiliary, and on several occasions they attempted to explain, in their own way, the formation of the earth's crust. They

[French p. 2] took good care not to disregard the authority of the Bible, the sole living monument of the primitive traditions of humanity; but while appearing to accept its testimony, they intended to subordinate its value to their pretentious systems, to preconceived and settled doctrines which, unfortunately, were often erroneous or incoherent, and always incomplete. The Mosaic account, as was natural, showed itself to be in intolerable discord with the requirements and formulas of such a science; and then the latter, wounded by this obstinate antagonism, found it more convenient to reject the Bible with the same offhandedness with which the Indian cosmogonies are rejected.

Our century, thanks be to Heaven, our century, enlightened by more thorough investigations and by a host of discoveries favorable to the biblical account, has shown itself less hostile. Several lay scholars have even rendered solemn homage to the Book of Genesis; but none among them has yet known how to rise to the level of the sacred historian, so as to take him as the regulator of his course, as the surest guide in his labors. And yet human genius, even were it raised to its highest power, could not traverse, without monstrous deviations and bitter disappointments, the immense orbit

[French p. 3] of the sciences, any more in the natural sciences than in the others. *God delivered the world to the disputes of men*,¹ said the Wise Man: it seems to us that in this grave utterance there is a certain mysterious shade of irony which ought more than once to give pause, at least, to those who repeat it. God delivered the world *to our disputes*: what does this mean? After age-long disputes, shall we therefore be unable to arrive at certain conclusions, at definitive results, at incontestable principles? Alas! Certain or not, every day we see these conclusions, these results, these principles called into question; and there is no subject concerning which men do not incessantly begin their eternal *disputes* anew. Nevertheless, let us hasten to proclaim it: science, that is to say, the knowledge of truth, exists just as truth itself exists; but God is the master of the former just as he is the principle of the latter: *Deus scientiarum dominus est* [God is the Lord of knowledge].² It therefore belongs to this master, to this Word through whom all things were made and without whom nothing was made, to teach us how everything was made, coordinated, distributed, arranged; it belongs to him to direct the soaring of our mind, to restrain it in its faltering

[French p. 4] course, and finally to initiate it, in a certain measure, into some of the secrets of his adorable wisdom.³

Now, if it is in the first chapter of the Pentateuch that God deigned to deposit the germ of all the knowledge that man might acquire concerning his works, if it is there that he deigned to lift a corner of the veil covering what might be called the embryogeny of nature, it is doubtless there also that, according to the habitual method of his

¹ *Et mundum tradidit disputationi eorum* [And he delivered the world to their disputation]. Eccl. 3:11.

² Reg. 2:3.

³ Observe a beautiful law of Providence, de Maistre said excellently: since primitive times it has given experimental physics (*and one might obviously say as much of most of the sciences connected with it*) only to Christians. The ancients certainly surpassed us in strength of mind.... On the contrary, their physics is almost nil; for not only did they attach no value to physical experiments, but they despised them, and even associated with them some slight idea of impiety. When all Europe had become Christian, when priests were the universal teachers, when all the institutions of Europe had been Christianized, when theology had taken its place at the head of instruction, and the other faculties had ranged themselves around it like ladies-in-waiting around their sovereign, the human race being thus prepared, the natural sciences were given to it. (*Evenings of Saint Petersburg*, fifth conversation [the closing parenthesis is absent from the source].)

providence, he traced the rules to be followed in order to assure oneself of the truth and to shelter oneself from error. But how? Is it by plunging headlong into the field of

[French p. 5] the most rash exegesis, by building the scaffolding of the most arbitrary hypotheses upon words whose meaning one distorts at will? No; it is by believing humbly and simply that, when God deigned to speak to men, he also deigned to borrow their language, because he spoke to them only in order to make himself understood; it is by regarding as essentially positive and indisputable the facts and principles which he set before them as the theme that, in their researches, they ought to aim only to expound and develop. Man is free to depart from this natural path, and consequently from the only rational one, the only one conformable to the designs of God; in his pride he may come to disregard the necessity of light from above; but then God takes reprisals against this creature so proud of itself: he confounds its false wisdom by abandoning it to the aberrations of its thoughts; and soon it loses even its own wisdom, according to this saying: *sapientia eorum devorata est* [their wisdom has been swallowed up].⁴ Daily experience proves that, when man wishes to subordinate divine revelation to his conceptions, instead of testing his conceptions by divine revelation, he ends only in difficulties

[French p. 6] that are insoluble, in a thousand extravagances and contradictions, and thence in absurd consequences.

It is therefore in the inspired historian that we must take our point of departure, if we wish to give our researches and our labors a sure direction and to construct a cosmogony resting upon solid foundations.

In surveying the various modern cosmogonic systems, we find that these systems, with some modifications, all resemble one another and may be reduced to two: the one which, in order to explain geological facts, admits an indefinite interval between the first creative utterance, *In principio Deus creavit celum et terram* [In the beginning God created heaven and earth], and the first day, on which God created light; and the one which regards the days of Genesis as epochs lasting several thousand centuries, during which God would have given the terrestrial globe the form in which we see it. Both suppose successive cataclysms, repeated catastrophes, indeterminate series of evolutions in which the seas would have shifted several times - by virtue of some law or other! - and would have destroyed the beings living upon the surface of the earth, so that each time the new continents would have been peopled with inhabitants newly arrived from no one knows where.

[French p. 7] Splendid suppositions, wholly gratuitous conjectures, which we believe equally contrary to the account of the sacred writer and to sound geology.

Such is the thesis that we shall attempt to establish in this modest work. As it is the bold counterpart of the thesis hitherto maintained by the loftiest luminaries of science, we do not conceal from ourselves the arduous and perilous aspect of our task. One does not attack a theory generally taught by learned men without meeting resistance, without provoking doubts, incredulity, denials - what am I saying? - without inspiring a kind of astonishment and pity, or even profound repugnance, in many people who willingly follow the current of opinion and almost always swear only by the words of their master, reserving the recovery of a little independence for the moment when it is a matter of running up against a doctrine or an interpretation of the Church. Nevertheless, truth often ends by triumphing; and, thanks be to Heaven, it sometimes has only to show itself in order to subjugate the most rebellious minds. When Galileo stood up among the academicians and learned men of his century to maintain the immobility of the sun and the movement of the earth (an immobility and a movement that Cardinal of Cusa had already divined before him and before Copernicus), the astonishment was great: all the astronomers

[French p. 8] protested against the extravagance, the impossibility, etc., of this new system of the world.

⁴Ps. 106:27.

“If your system were true,” people said to Copernicus, “Venus would have phases like the moon; yet it has none; therefore the whole new theory vanishes.”

“I admit that I have nothing to answer,” replied the illustrious astronomer; “but God will grant that an answer be found.”

“Indeed,” says de Maistre,⁵ “*God granted it* (but after the death of the great man) that Galileo found the telescopes with which he saw the phases; so that the insoluble objection became the complement of the demonstration.”

Thus Galileo’s ideas prevailed with time; and if, by chance, some Don Quixote of science today took it into his head to set himself up as the champion of an irrevocably lost cause, our physicists would content themselves with answering him with a smile: *E pur si muove* [And yet it moves].⁶ Such, we are convinced, will be, in a more or less near future, the fate of the biblical thesis, which, regarding all the great phenomena of creation as miraculous acts performed by divine Omnipotence, does not

[French p. 9] recognize the necessity of resorting to hypotheses in order to explain them, and gives the expressions of the sacred historian their natural and literal sense. This conviction will be shared, we hope, by all those who deign to read us without prejudice and with the sole desire of discovering the truth.

But, it will be said, why busy oneself with combating a doctrine generally accepted by competent men, upheld by excellent Catholics, and confirmed by the Fathers of Christianity? Is there not imprudence and temerity in offending every mind, in inspiring distrust of religion and driving people from its bosom, by wishing to oblige them to believe things that appear to them incompatible with the data of science, and to renounce opinions that the Church has not condemned? In whose interest should one seek to tear up the treaty of peace that, for some years now, geology has concluded with theology, a treaty so precious to both, and so dear to the true friends of science and religion?

Both, we shall answer, have an interest in the search for and discovery of truth, and particularly of a truth that touches the fundamental principles of religion; for, it must be observed, all peoples have raised upon their cosmogonic system their religious

[French p. 10] edifice. Admit the allegorical interpretation of the first texts of Genesis, following the example of Origen and Philo the Jew; admit that one expression in these texts can be taken in a symbolic sense: why not, then, the entire chapter? Why not the second, the third, the fourth, etc.? But then, step by step, you will fall into outright mythicism. Even if you had the right to limit the application of your exegetical principles to the first chapter of Genesis, that would suffice to require the origin of the world, the creation of the earth, and the formation of man to be regarded as intelligible and supernatural things hidden beneath the veil of sensible and material objects. But others will go farther than you; they will present the whole of sacred history as a vast symbol; and once they have entered upon this path, nothing will prevent them from treating personal or individual historical facts as they treat general facts; and Strauss himself, seeing nothing but a glorious myth in the life of the divine Savior, will be able to claim that you are his first masters.

Apart from this reef, already so formidable, there is another. Pantheism and materialism are the two cankers that gnaw modern society under various forms; they have invaded our public courses and our academies; they have penetrated into

[French p. 11] every rank and every class. In order to lessen, if not to halt, their ravages, is it not important to block, so far as possible, all their outlets, to close all their avenues, to dry up all their sources?

⁵*Evenings of Saint Petersburg*, fourth conversation.

⁶This system was not true in every respect: the absolute immobility of the sun is an error; according to present-day science, which admits a movement of the sun through space.

Well! We do not hesitate to say it: the two systems that we propose to combat tend, indirectly no doubt, but all too effectively, if not to justify, at least to favor and propagate this twofold impiety. These numerous and incalculable revolutions of the globe that are lost in the night of time; these successive creations, destructions, and renovations, to which, *si parva licet componere magnis* [if it is permitted to compare small things with great], our scholars would readily compare their chemical manipulations; all these fine things lead, without great exertions of logic, to pantheistic consequences.

What, indeed, do pantheists of every kind and every stripe say? Some say that, if for so many centuries men, as well as animals, have been born incessantly to replace those who fall each day, there is no reason to believe that it was ever otherwise, and that consequently the world must always have been and will always be as it is today. Others claim that, God being the great whole, all beings, to whatever

[French p. 12] rank they belong, are emanations of this one and universal substance, with which they are identified by virtue of their very origin. Still others are willing to admit a creation, but on an arbitrary condition conformable to their pantheistic ideas: they believe that the laws of what they call nature have organized everything in the world; that they transform, perfect, and perpetuate the genera and species of animals as well as plants; and that for this nature needs only time, that is to say, an interminable series of centuries.

Without doubt these doctrines are rejected by the religious geologists who defend these unfortunate systems, from which it is not difficult to derive them; but when one does not wish to admit a consequence, one must carefully avoid positing its premises, and remember that the logic of the masses is not that of scholars, and that it matters very little to most men to violate the rules of dialectic when reasoning supplies excuses for their passions.

Will it be said that the epochs, although unlimited in their duration, do not carry the creation of the world back to infinity, and that, according to the most accredited authors, each of them does not exceed a few thousand years? One might first ask by what right these

[French p. 13] authors claim for themselves the right thus to reduce the number of centuries which, according to them, must have preceded the formation of our globe. Is it not evident that this calculation is necessarily abandoned, by the nature of things and without any possible control, to the more or less judicious appraisal of all geologists, and that, if some know how to remain within bounds that may be called reasonable, others will not fail to overstep them without limit or measure?

Here is an example.

A short time ago, we found ourselves on a railway, face to face with a traveler whose conversation and language soon revealed to us the literary profession. On getting out of the carriage at a station, we had left half-open upon our bench a work of geology that we were reading. When we had resumed our place, our neighbor said to us:

“It appears, Father, that you occupy yourself with geological studies?”

Upon our affirmative reply, he informed us that he taught this science at the Faculty of The conversation then began upon this interesting subject, and we readily understood that our interlocutor was a proponent of the epochs. Not wishing to enter upon a discussion that we would not have had time to bring to a conclusion, we confined ourselves to timidly addressing a few questions to him,

[French p. 14] among others this one:

“Authors do not agree upon the number of centuries that should be assigned to each geogenic epoch, in order that the phenomena or the results might have been produced as they manifest themselves to our eyes; some make it last

three thousand years, others longer. You, Sir, who are so profoundly versed in these studies, how many centuries do you give it?...”

“For my part,” he replied, “I do not hesitate to give each epoch millions and millions of centuries.”

This unexpected answer closed our mouth and reduced us to silence. Well! This man, whose name I believe I ought to withhold, is one of the most distinguished professors of our faculties; he is the author of several works; his name carries authority in the scientific world. And yet that is the doctrine he teaches in his courses and in his books! Now, we ask, is there no affinity between these millions of centuries that you unroll beyond creation and the eternity of matter? Is this indefinite interval that, according to you, separates us from the first origin of things not suited, if not to destroy, at least to weaken considerably in men’s minds the idea of the fundamental dogma of society, that of creation, the primitive source and essential basis of God’s sovereign dominion over the

[French p. 15] world? Without doubt, at the end of these myriads of centuries, every serious mind will eventually find God, the first author of all beings; but, we repeat, the intelligence of the masses will stop along the way in order to draw pantheistic conclusions from them.

But, it is added, the system of periods has not been condemned by the Church; it is therefore permissible to adopt it. We know this; but does the silence of the Church upon any point whatsoever consecrate its truth, or even presuppose it in the least? Evidently not. The Church passes over the earth, continuing to fulfill the mission with which her divine Founder charged her; she aspires and labors only to conquer and save souls. If, in comparison with this supreme interest, everything else were not indifferent, the Savior of men would not have lived thirty-three years among them without enlightening them upon a host of questions that they discussed then as they do today, and which they will perhaps discuss until the end of time. Yielding to a fairly natural illusion, the human mind delights in singularly exaggerating the importance of a thousand doubtful things that it erects into scientific questions, but which, at bottom, are only a very wretched relative good before the absolute of eternity. This is why the divine Word did not judge it useful, when he appeared among men, to dispel the darkness

[French p. 16] of their ignorance concerning that which did not concern their eternal salvation; this is also why the Church has abstained from pronouncing upon many philosophical or scientific systems which, at a given hour, were recognized as false.

To cite only one example, concerning a subject connected with Genesis, Ptolemy’s system regarding the stability of the earth and the movement of the sun had not been condemned, and nevertheless it was erroneous.

If the two hypotheses in question had been condemned, there would no longer be any room for discussion: every Catholic would have to abandon them and pass the same judgment as the Church, under pain of grave sin, say the doctors. And this for three reasons, which Suarez develops in these terms:

1. Because what is done imprudently in a matter as important as sacred doctrine is not done without fault; now, it is extremely imprudent rashly, or in some analogous manner, to form and express erroneous opinions concerning sacred doctrine; therefore, this cannot be done without sin.
2. Because an error of this kind leads to greater wanderings and even to heresy; consequently, whoever forms such opinions exposes himself to the danger of falling into graver

[French p. 17] errors, and by that very fact he sins.

3. There is also sin here in relation to others, because of the scandal that is given them, and certainly also because of the danger of producing grave errors in their minds.⁷

But apart from these formally condemned opinions, there are others that the Church rejects without, however, branding them with any note of error; and which it is at least dangerous to embrace. Here is what the same theologian says concerning them:

“Although the truth of the things that the Church believes only as pious and probable is not certain, if the Church pronounces herself upon a question of this kind, it must be held that she does not err, not only from the practical point of view, which is

[French p. 18] manifest, but even from the speculative point of view. The reason is that the universal Church, even considered solely as a human society containing within herself a great number of enlightened minds, humanly possesses the highest authority. If, therefore, she judges a thing to be probable, that thing is thereby evidently probable; and it is then highly likely that the Holy Spirit specially assists and enlightens the doctors of the Church. This must be recognized even with regard to natural truths.”⁸

We shall also cite, in support of Suarez, another theologian who indisputably occupies the first rank among French theologians, Abbé Martinet. Speaking of the fire of hell, he says:

“Scripture and Tradition suppose a real fire

[French p. 19] which will cause the reprobate to suffer a punishment distinct from the punishment of loss, and it would be rashness to admit only a metaphysical fire identical with moral sufferings. This was the opinion of Origen and Lactantius, not formally condemned, but visibly contradicted by the unanimous teaching of the Fathers, and irreconcilable with the principles of sacred criticism, since the Bible speaks in a hundred places of the fire of hell without any indication of metaphor.”⁹

Now, is it permissible to class among those opinions “*not formally condemned by the Church, but visibly contradicted by the teaching of the Fathers and irreconcilable with the principles of sacred criticism*” those of the geologists whom we are combating? We think so, and we hope to establish it in the course of this work by irrefutable testimonies, despite all the contrary assertions so often repeated. We shall see the Church profess, through the mouth of her Fathers and her doctors, whether Greek or Latin, and even through her councils, a doctrine opposed to this theory of periods, and that the language of those whom it is thought possible to invoke in their favor does not, once it is studied in its form and in its motives, have the scope that one wishes to give it.

⁷Latin text printed by Laurent: *Primo quia quod imprudenter fit, praesertim in re tanti momenti, quanti est sacra doctrina, non fit sine culpa; sed imprudentissimum est temere vel alio simili modo in doctrina sacra opinari et errare ac loqui; ergo non fit sine peccato. Secundo, quia huiusmodi error parat viam ad graviores lapsus, etiam per heresim; ergo qui sic opinatur exponit se periculo gravius errandi; ac proinde in hoc etiam peccat. Tertio, etiam respectu aliorum in hoc peccatur propter scandalum, vel certe etiam propter detrimentum gignendi in mentibus eorum errores graves. (De subjecto capaci heresis, disputatio XIX, sectio VI.)* Literal English: First, because what is done imprudently, especially in a matter of such importance as sacred doctrine, is not done without fault; but it is most imprudent to opine, err, and speak rashly, or in some other similar manner, in sacred doctrine; therefore it is not done without sin. Second, because an error of this kind prepares the way for a graver fall, even through heresy; therefore, one who holds such an opinion exposes himself to the danger of erring more gravely, and consequently sins in this also. Third, there is sin in this also with respect to others, because of scandal, or certainly also because of the harm of engendering grave errors in their minds. (*On the Subject Capable of Heresy*, disputation XIX, section VI.)

⁸The body prints the marker (2), while this Latin footnote is printed with the repeated label (1). Latin text printed by Laurent: *Quamvis certum non sit quae Ecclesia credit tantum ut pia et probabilia esse vera, si tamen Ecclesia in aliqua huiusmodi re conspirat, tenendum est in ea non errare, non solum practice, quod est manifestum, sed etiam speculative. Ratio est quia universa Ecclesia, etiam spectata ut humana congregatio, in qua sunt plures viri sapientes, habet humano modo summam auctoritatem; ergo si iudicat aliquid esse probabile, evidenter probabile est, et inde fit maxime verisimile Spiritum-Sanctum specialiter adjuvare et illuminare doctores Ecclesiae: hoc enim conceditur etiam quoad veritates omnes naturales. (De regula fidei, disputatio V, sectio VI.)* Literal English: Although it is not certain that the things which the Church believes merely as pious and probable are true, nevertheless, if the Church concurs in any matter of this kind, it must be held that she does not err therein, not only practically, which is evident, but also speculatively. The reason is that the universal Church, even considered as a human congregation in which there are many wise men, possesses in a human manner the highest authority; therefore, if she judges something to be probable, it is evidently probable, and from this it becomes highly likely that the Holy Spirit specially assists and enlightens the doctors of the Church; for this is granted even with respect to all natural truths. (*On the Rule of Faith*, disputation V, section VI.)

⁹*Solution of the Great Problems*, vol. I, p. 157.

[French p. 20] We have added that the study of this question is equally of interest to science. All serious men who occupy themselves with cosmogony and geology deplore the little progress made by these so important branches of human knowledge: all acknowledge that, despite the persistent labors of so many eminent men who have devoted themselves to them for so many years with incredible ardor and perseverance, these sciences are still in the swaddling clothes of infancy.

The celebrated Cuvier expressed the same thought in more bitter terms when he said to the Institute:

“For want of laying the first foundation of geology in the exact investigation of facts, this science has been changed into a tissue of hypotheses and conjectures so vain, and which have so greatly combated one another, that it has become almost impossible to pronounce its name without exciting laughter. The number of systems has so greatly increased that there are today more than eighty of them. These castles in the air vanish like vain appearances.”¹⁰

This severe language of Cuvier could be used today with the same reason. These complaints, unfortunately [French p. 21] all too well founded, do they not arise from the fact that the point of departure is not the true one? As long as astronomers admired the movement of the sun and the fixity of the earth, astronomy, enveloped in darkness and guided by error, exhausted itself in imaginary theories and explanations which arose and destroyed one another in succession. It was the discovery of the movement of the earth and the stability of the sun that opened the field to the genius of Newton, Herschel, Laplace, etc., and permitted them to formulate those admirable laws of the sidereal world which men have become accustomed to regard almost as conquests of the human mind.

It would be the same for geology if at last it rested upon a more solid and more certain basis than all these gratuitous hypotheses, which rest upon no rational foundation, no human tradition, no historical monument, and which the discovery of a single fact can overturn from top to bottom. Indeed, let a human fossil or any object attesting the work of man, the existence of man at a given epoch, be found; let it be found in one of the numerous formations of strata that are called secondary, and at once all these systems will be seen rejected by all geologists without exception. Now, we ask it, what

[French p. 22] credence do systems deserve which can be overturned so easily? Why would true scholars cling to a plank of salvation that the slightest gust of wind can take from them in the shipwreck of their theories? For, we repeat, the fate of these poor theories depends upon the more or less probable, more or less imminent discovery of a single fact; and this discovery, if it is not made today, will be made tomorrow, will be made sooner or later.

In the meantime, it is important to fix clearly the point of departure of the investigations, and especially of cosmogonic studies. Even if it were not hitherto scientifically indicated by geology, why would geologists not rest upon historical data which must, until proof to the contrary, appear to possess the most rigorous exactitude and the most absolute certainty? And, if they rested upon them, or if they wished merely to admit as possible the supposition that the two systems in vogue are false, that, consequently, the first day of Genesis was the first day of the world, and that it was what our days are, that is to say, a day of twenty-four hours, as the simple reading of the Bible naturally leads one to believe, is it not evident that this idea alone would give to the course of

[French p. 23] science an entirely different direction and would cause it to arrive at entirely new results?

Thus, the discussions relating to this subject are far from being almost idle, as some writers take pleasure in saying. They have fixed the attention and aroused the zeal of the doctors, the Fathers of the Church, and the interpreters of Holy Scripture, all of whom believed that they ought to devote long studies to this matter and numerous pages in their writings. Besides, the works, pamphlets, memoirs, and newspaper articles that treat these questions multiply every day; how can they be regarded as without importance for Catholics? Does not everything that concerns the

¹⁰Cuvier's report to the Institute of France in 1806.

interpretation of the sacred books present the highest interest for them? Consequently, is it not useful, is it not necessary, that they resolutely enter the lists?

Yes, without doubt; and nevertheless, if some throw themselves forward, people go almost so far as to make their zeal a crime. Amid these conflicts of opinions, through this divergence of ideas, prudence and wisdom, it is said, command a discreet tolerance. And why, since dogmas are not at issue, why not make this concession to scholars, most of whom sincerely and laboriously seek the truth? This is the counsel given on several

[French p. 24] occasions by the learned editors of the *Civiltà cattolica*.¹¹

We ask their permission not to be of their opinion. In general, we do not think that the system of concessions made at the expense of what one believes to be true is of a nature to bring back to the right path those who have strayed from it. Truth is one, indivisible, absolute, imperious, and experience has sufficiently demonstrated that it is not by employing accommodations incompatible with its essence that it triumphs over the resistance of men.

Like truth, the question that occupies us cannot admit of any compromise: the interval separating us from the proponents of periods or epochs is an abyss; if we are in the truth, they are in falsehood; these two extremes never enter into a pact: it is impossible to connect them by a middle term.

The fear these writers express of seeing our adversaries, irritated or wearied by these debates, distance themselves from religion does not seem well founded to us. It appears to us, rather, injurious to most of these honorable men, whose sole aim is the discovery of truth, and who, by their own admission, are not

[French p. 25] sure of their system. How could they be wounded by the efforts and investigations of those who have the conviction that they are in the truth to dissipate their errors and to share with them the rich patrimony of which they believe themselves to be in possession?

The counsel that we forbid ourselves to follow resembles, all due proportion being observed, that which would be given to Catholics to disguise from unbelievers a part of the religious doctrines, for fear that their full and entire exposition might offend them. These calculations, these accommodations, the Church condemns them, despite all her indulgence and all her charity: never has she made any concession of this kind, even at the risk of seeing schism or heresy hypocritically take advantage of her resistance: witness the conduct she maintained when the East and England detached themselves from her bosom.

An attempt is also made to oppose to us a very grave authority, that of Saint Thomas, from whom the following two passages are cited: we reproduce them in their entirety, because we do not wish to evade any difficulty or pass over any objection in silence.

“It seems to me that the safest course, with respect to what philosophers have generally admitted and which is not repugnant to our faith, is not to maintain it as a dogma of faith, although philosophers sometimes succeed in establishing its truth; and likewise not to reject it as contrary to the faith, for fear of giving to the wise of this world an occasion to despise the doctrine of the faith.¹²”

¹¹ *Civiltà cattolica*, no. CXCIII, 3 April 1858.

¹² Latin text printed by Laurent: *Mihi videtur tutius esse hæc quæ philosophi commune censuerunt, et nostræ fidei non repugnant, neque esse sic asserenda ut dogmata fidei, licet aliquando sub nomine philosophorum introducantur; neque sic esse neganda tanquam fidei contraria, ne sapientibus hujus mundi contemnendi doctrinam fidei præbeatur occasio.* (S. Thomas, *Opusc. IV, Responsio ad magistrum Joannem de Verullis*.) Literal English: It seems to me safer that those things which philosophers have commonly judged, and which are not repugnant to our faith, should neither be asserted as dogmas of faith, although they are sometimes introduced under the name of philosophers, nor denied as contrary to the faith, lest an occasion for despising the doctrine of the faith be furnished to the wise of this world. (Saint Thomas, *Opusculum IV, Reply to Master John of Vercelli*.)

[French p. 26] “As Saint Augustine teaches, there are two things to observe in questions of this kind. First, the truth of Scripture must be placed beyond all discussion; next, since divine Scripture can receive many different explanations, one must take good care not to attach oneself to any particular explanation with such force that, even when certain reasons should prove the falsity of something that one believed to be conformable to the sense of Scripture, one would not fear to maintain it; for one would thereby expose oneself to furnishing unbelievers with a pretext for turning Scripture into derision, or to closing to them the path of faith.¹³”

[French p. 27] The first passage of the Angelic Doctor does not concern us: we do not present our opinion here as a *dogma of faith*.

The second is equally foreign to the question. Saint Augustine there recommends that one not obstinately maintain a particular exposition of Scripture when it has been demonstrated by certain reasons that it is false, *si certa ratione constiterit id esse falsum* [if it has been established by certain reasoning that this is false]. Now, it is far from being the case that the falsity of the literal interpretation of the days of Genesis has been demonstrated. Saint Thomas himself does not apply to it the maxim of the Doctor of Grace. After having cited it, he devotes no fewer than eighteen pages to the detailed study of this question, in which he establishes, as we shall show later, that these days must be taken in the natural sense.

In our turn, we can rely upon an authority which, it goes without saying, we do not intend to compare to that of the two great doctors whom it is wrongly wished to make intervene here, but an authority

[French p. 28] of considerable and uncontested value, which has directly approached the question with which we are occupied. “Can hypotheses such as those of Deluc, Chalmers, and Buckland be maintained by theologians?” asks the author of the *Solution of the Great Problems* in the *Theological Institutions* which he has recently published. “No,” he replies emphatically, with all the gravity of his words and all the force of his arguments; “no, for fear that theologians might expose themselves to hearing these words of Isaiah: ‘Behold, you lean upon a reed, upon a broken reed.... It enters into the hand of the man who leans upon it, and pierces it.’ Moreover, two things turn us away from opinions of this kind: the difficulty of reconciling them with a sound interpretation of the biblical account, and the insignificance of the geological reasons that are alleged: let us examine these two points rapidly.¹⁴”

[French p. 29] We shall examine in its place the developments that the learned author gives to these considerations.

The plan of our work emerges manifestly from all that we have just said.

¹³Latin text printed by Laurent: *Sicut Augustinus docet, in hujusmodi questionibus duo sunt observanda: Primò ut veritas Scripturæ inconcussa teneatur. Secundo, cum Scriptura divina multipliciter exponi possit, quod nulli expositioni aliquis ita precise inhereat, ut si certa ratione constiterit hoc esse falsum quod aliquis sensum Scripturæ esse credebatur, id nihilominus asserere præsumat; ne Scriptura ex hoc verbo ab infidelibus derideatur, et ne eis via credendi præcludatur. (Questio LXVIII, artic. 4.)* Literal English: As Augustine teaches, in questions of this kind two things must be observed: First, that the truth of Scripture be held unshaken. Second, since divine Scripture can be expounded in many ways, that no one adhere so precisely to any exposition that, if it has been established by certain reasoning that what someone believed to be the sense of Scripture is false, he nevertheless presume to assert it; lest Scripture be derided by unbelievers because of this statement, and lest the way of believing be closed to them. (Question LXVIII, article 4.)

¹⁴Latin text printed by Laurent: *Decet ne theologos illis aut similibus hypothesisibus insistere; ut cosmogoniam biblicam credibiliorem faciant? negative, ne incurrant Theologi in periculum de quo Isaias: Ecce confidis super baculum arundineum confractum illum.... cui si inmixtus fuerit homo, intrabit in manum ejus, et perforabit eam (Is., xxx, 6). Cæterum, duo nos deterrent ab hujusmodi opinionibus: difficultas conciliandi eas cum recta interpretatione biblicæ narrationis, et levitas rationum geologicarum quæ allegantur: quæ duo summatim perstringamus. (Institutiones theologicæ ad usum seminariorum: theologica præambula, lib. I, artic. 2.)* Literal English: Is it fitting for theologians to insist upon those or similar hypotheses, so that they may make biblical cosmogony more credible? In the negative, lest theologians incur the danger of which Isaiah speaks: Behold, you trust upon that broken reed staff.... If a man should lean upon it, it will enter into his hand and pierce it (Isa., xxx, 6). Moreover, two things deter us from opinions of this kind: the difficulty of reconciling them with a correct interpretation of the biblical account, and the slightness of the geological reasons that are alleged; let us touch briefly upon these two things. (*Theological Institutions for the Use of Seminaries: Theological Preambles*, book I, article 2.) This eminently remarkable work (like all those by the same author which preceded it), whether through the introduction of a new method more suited to the needs of the century, or through the purity of its doctrines, has already been adopted in several seminaries. In the interest of strong theological studies, it is desirable that these *Institutions* be known and disseminated.

We shall first consider the days of Genesis from the point of view of the requirements of geology. This first part does not appear to us the most important, the question being more scriptural and theological than geological.

In a second part we shall see in what sense these days must be taken, according to the principles of sacred criticism and philology.

In the third part we shall report the opinions of the Fathers, the doctors, and the councils upon this question: this part of our work appears to us to dominate the entire question and to resolve it.

Finally, in the fourth part we shall indicate

[French p. 30] the probable causes to which the present formation of the globe may be attributed.

We beg our readers to reject nothing *a priori*, and not to say what we have sometimes heard: It is impossible, therefore it is not. This plea of inadmissibility is a coin of base alloy which does not pass current in the scientific world. Testimonies and reasonings have a right to examination: the former, in order to be admitted or rejected; the latter, in order to accept or deny their consequences.

THE COSMOGONY OF MOSES

PART ONE

GEOLOGICAL POINT OF VIEW

CHAPTER ONE

Exposition of the Principal Systems

In order to proceed with order, precision, and clarity, and also to satisfy all the requirements of judicious criticism, we had to begin by seeking to know all the adversaries of the literal sense, that is to say, all the proponents of the contrary systems; we then had to study the reasons upon which they support their assertions.

These systems owe their origin to the discovery

[French p. 32] of fossils whose presence in the various strata, and often at great depths, had to be explained. It was at first attributed to the flood. This idea appeared all the more natural because at that time, as today, only two great events upon the globe, two epochs of transformation, were recognized: creation and the flood. But, in order to answer all the difficulties presented by the geological facts, another cause for the presence of fossils was imagined, and recourse was had to the hypotheses of indeterminate periods. This was an expedient rather than an explanation, and even then these same facts seemed to contradict it. Here are the principal defenders of these systems:

Buffon, their first author: *Theory of the Earth*.

Burnet: *Sacred Theory of the Earth*.

Wisthon: *New Theory of the Earth*.

Woodvard: *Essay on the History of the Earth*.

Dolomieu: *Journey in the Alps*.

Pallas: *Observations on the Formation of Mountains*.

Deluc: *Letters on the History of the Earth*.

Cuvier: *Discourse on the Revolutions of the Globe*.

Brongniart: *Period of Vegetations*.

Ampère: *Theory of the Earth*.

Chalmers: *Evidence of the Christian Religion*.

Gervais de La Prise: *Agreement of the Book of Genesis with Geology and Human Monuments*.

Buckland: *Geology and Mineralogy in Their Relations to Natural Theology*.

[French p. 33] Bertrand: *Revolutions of the Globe*.

De Saussure: *Journey in the Alps*.

Deshayes: *Course of Geology*.

Playfair: *Theory of the Earth*.

De Férussac: *Universal Bulletin of Mines*.

Elie de Beaumont: *Theory of Uplifts*.

Desdouits: *Evenings of Montlhéry*.

Jehan: *New Treatise on the Geological Sciences*.

Marcel de Serres: *On the Cosmogony of Moses*.

The Annals of Christian Philosophy.

Godefroy: *Cosmogony of Revelation*.

Boubée: *Manual of Geology*.

Auguste Nicolas: *Studies on Christianity*.

Father Piancianni: *Commentaries on the Mosaic Account of Creation*.

Louis Figuier: *The Earth before the Flood*.

Grevin: *Study on the First Chapter of Genesis*.

The Catholic World Review.

All these geologists do not profess the same ideas concerning the cosmogony of Moses; but all reject, in various degrees, the literal interpretation of the word *day*. The numerous systems they have adopted may, moreover, be reduced to five principal ones, from which the others differ only in details without importance.

FIRST SYSTEM

Invented by Buffon, maintained and developed by Deluc and Dolomieu, this system claims that the days

[French p. 34] of Genesis are epochs, periods of several thousand centuries, during which the earth, before taking its present form, would have changed form and inhabitants many times, and undergone internal upheavals that would have buried within its strata all the living species, which others would have replaced upon the surface of the globe. One of the scholars who commend this system believed it necessary, after many calculations, to fix, as a skillful mathematician, the average duration of each epoch at two million years.¹⁵ They add that the order in which the fossils present themselves is an order of creation; and that each of these creations was separated from the others by an indefinite period of centuries.

SECOND SYSTEM

Little satisfied with this first system, Chalmers and Buckland conceived and elaborated a second, which counts a much more restricted number of proponents than the first. It consists in recognizing two distinct worlds: a pre-Adamite world, and the world that we inhabit. Thus, from this first phrase of the sacred books: *In principio, Deus creavit celum et terram* [In the beginning, God created heaven and earth], one ought to conclude that an unlimited span of time

¹⁵These fine calculations were made before the estimates of the professor of geology of whom we spoke in the preface. We are progressing!!

[French p. 35] elapsed between the primordial act by virtue of which the elements of the material world came forth from nothingness, and the last revolution designated by the second verse of Genesis, or the evening of the first day of the Mosaic account. “It is clear,” says Jehan, “that it was in this interval, which may have been of immense extent, that the long series of events which determined the mineral structure of our globe, such as it is recognized by the investigations of science, was accomplished.”

THIRD SYSTEM

This system no longer has recourse, as the preceding one does, in order to explain certain geological phenomena, to those alternations of destruction and creation which cost certain geologists so little. Those who put it forward recognize that life upon the globe was not renewed, but only that other species, new families, were successively spread over its surface as the old races disappeared. They teach “that the analogy of station and destination, or of the conditions of existence and the role to be fulfilled, is the general law which presided over the distribution of life upon the globe; that, as these conditions changed, or as new ones were formed, new species replaced those which could no longer

[French p. 36] exist, and which no longer had a role to fulfill; and this until the epoch when the equilibrium among the influential causes was established, that is to say, until the appearance of man.”¹⁶

FOURTH SYSTEM

The promoters and defenders of the first two systems claim only their respective hypothesis in order to explain the geological facts. They claim that these suffice to resolve all the difficulties presented by the mineral structure of the globe. Some geologists believe, on the contrary, that the requirements of science demand the combination of the one and the other.

We would pass over in silence this system, which is little in vogue, if it were not supported by a great name: that of Bishop Wiseman. “In admitting,” says the learned prelate, “the hypothesis set forth above (that of Buckland’s indefinite periods), that all the requirements of modern science are satisfied in the intermediate space between the creation and the organization of the earth under its present form, it might be that periods longer than a day were still necessary, if we suppose that the laws of nature were left to their ordinary course; for then a longer

[French p. 37] interval would have been necessary for the plants to cover themselves with flowers and fruits, and to attain their complete development, as we must suppose that this took place before man was placed in their midst.”¹⁷

FIFTH SYSTEM

This system does not count many proponents. It is that of Saint Augustine, as we shall see later; that is why we speak of it. It consists in seeing in the detailed account of Moses concerning creation only a pure allegory. God would have created all things, and would have given them form together with being in a single cast, according to this utterance of Scripture: *Creavit omnia simul* [He created all things at once]; God created everything at once. The six days of Genesis would consequently be only an ideal division, rather than the indication of a multiple creation.

Of these five systems, the first two in some fashion absorb the others through the adoption of them by almost all the geologists whom we have mentioned. We shall therefore have only them directly in view in this work: in refuting them, we shall have set aside the objections that emerge from the last three.

[French p. 38]

¹⁶*Bulletin of the Natural Sciences*, vol. 2, p. 193.

¹⁷Third discourse on the natural sciences.

CHAPTER II

Geological Reasons in Support of These Systems

After having examined with serious attention the works of the authors cited, in order to ascertain their opposition to the literal interpretation of the days of Moses, we found in all of them the same arguments, the same difficulties, the same solutions, which we believe we can summarize in the following manner. All have reasoned thus: The account of Moses, which creates the universe and organizes it in six days, is entirely incompatible with the best-attested fundamental facts of geology; therefore these days cannot be taken for ordinary days of twenty-four hours; they evidently signify periods, epochs, indefinite intervals.

[French p. 39] Let us now see what these scientific facts are which reject the literal sense.

They are, it appears:

1. The formation of rocks, and especially of sedimentary rocks and mountains.

Beneath all the sedimentary rocks of which the solid crust of the earth is composed, one finds the crystalline rocks known by the name of granite in its various species, ordinarily amorphous, sometimes foliated; this is what is called the primitive ground, beyond which no one has yet penetrated, and upon which rise the strata commonly called primary, secondary, tertiary, etc., with their various subdivisions. They are formed of sand, clay, limestone, coal, chalk, and gypsum, and merge into the surface layers of vegetable earth. These strata, which present layers heterogeneous to one another, and enclose within themselves innumerable remains of animals and plants, are assuredly sedimentary materials; they are deposits formed within a liquid; and if their thickness is compared with what analogous causes produce in the present physical order, one is forced to admit that a considerable span of time elapsed during their formation.

Moreover, one observes that these various formations were overturned by violent commotions. They bristle with irregularities: some have

[French p. 40] parallel faces; others are composed of beds, sometimes horizontal, sometimes oblique; elsewhere, they are seen in a vertical position. Now, it is beyond doubt that these rocks were not formed in this position; their beds were horizontal in the beginning; cataclysms of inappreciable power must have bent and raised them upright.

The immense time necessarily required for their formation, and the great subsequent revolutions which these deposits underwent, are entirely incompatible with the six days of Moses.

2. The presence of fossils.

Beginning with the strata that constitute the primitive ground, one finds in all the others which are superimposed in the universal series an innumerable quantity of vegetable products and remains of animals of every kind. These various layers therefore served successively as a support for different creations, vegetable and animal, which succeeded one another upon the globe, and which, after having occupied its surface for an unknown time, were destroyed and engulfed by immense revolutions. The epochs which separated these various creations are clearly demarcated, since in each stratum one finds almost only fossils of the same genus and of different species; and the duration of each of these epochs, which coincides with that of the geological formations, must have been immense, although its extent cannot be specified.

[French p. 41] *3. The formation of coals.*

The formations of coal and anthracite necessarily required an enormously long time, whether they are considered as vast masses of plants gathered in one place by great currents, or whether they are regarded as forests buried in

place. In this hypothesis, after each new irruption of the sea, the forests had to be allowed time to spring up again and to develop. The number of coal beds, which varies from forty to eighty, and their thickness, which reaches as much as fifteen, eighteen metres, separated by other mineral strata, required the repetition of the same phenomenon at long intervals, and cannot be reconciled with the time so restricted indicated by the account of Moses.

4. The absence of human fossils.

The absence of fossil human bones is the most serious of all the difficulties, the strongest of all the proofs. Indeed, does not this absence of every human vestige and of every object betraying the hand of man, amid the innumerable fossils of animals and plants spread throughout all the formations of the globe, seem to demonstrate that man did not exist simultaneously with these animals and these plants? Is it not evident that, if he had been created at the same time as all those beings whose remains we discover, he could not have survived the revolutions which carried them away, and that he

[French p. 42] would have been buried in a common destruction with the animals and the plants?

We believe we can neglect some other arguments of the proponents of the periods, among others that of certain astronomers who claim that the light of certain stars can reach us only after thousands and thousands of years, by reason of the immeasurable distance which separates them from our planet. Science has disposed of these claims by establishing the impossibility of a serious verification of these calculations. We know, indeed, neither the density nor the extent of the atmosphere through which light travels in the spaces; we are equally ignorant of the speed with which light traverses them, and nothing authorizes us to maintain that no particular action is exerted there whose influence, here below, despite all our telescopes, we do not even suspect. And consequently, are we not reduced in this regard to conjectures and suppositions more or less plausible, but always hazardous?

[French p. 43]

CHAPTER III

Reply to These Objections

In approaching the question of the time required for the formation of those masses of sedimentary materials which are called mountains, and for the accumulation within them of so many remains of animals and plants which are mingled with their layers, we do not claim to fix it, or to determine it rigorously. To tell the truth, this is nevertheless a task which those who first raised the question should have undertaken, when they began from it to elaborate all the systems of epochs and revolutions of which we have spoken. We shall confine ourselves first of all to pointing out the strange paralogism into which they have fallen in claiming to unfold the sequence and, in some fashion, to describe the filiation of ancient geological phenomena. According to their own ideas, these phenomena were necessarily [French p. 44] the product of diverse causes which must have acted diversely according to their intensity, their duration, and the medium in which they acted, and which, as we shall have occasion to observe many times, could not have acted as they act today. There can therefore be, among these effects of the same causes acting at different epochs and under different conditions, no certain parity, and still less any rigorous observations or mathematical calculations. To many arguments of our opponents one could oppose this philosophical plea of inadmissibility, of which it would be fitting for them to take account, for philosophy has its word to say everywhere; and even here it is not unseemly to consult it. We shall see later, in various places, to what extravagant consequences this claim to substitute, in the history of creation, the perpetual and almost indefinite action of secondary causes for the unique and sovereign action of the first cause—that is to say, the almighty will of God—would lead.

For the present, we propose only to demonstrate that, without losing oneself in the incalculable periods into which the proponents of the systems we are combating wish to draw us, one can explain the accomplishment of geological phenomena while keeping within the time known and determined by the Bible. We shall take as our guides in the exposition of these matters, in that which is scientific about them,

[French p. 45] the competent writers who have made a particular study of them: Messrs. Buffon, Constant Prévot, Blainville, Boubée, Maupied, Soriguet, etc.

1. *Formation of mountains.*

We shall not speak of the primitive, that is to say granitic, strata. It is well recognized that the earth was created directly by divine power, and that consequently it could have been created only with all the conditions necessary for the existence of the beings that were to inhabit it, that is to say, with mountains, rivers, plains, valleys, streams, and vegetable earth: from the heights of his dwelling, God waters the mountains: *Rigans montes de superioribus suis* [Watering the mountains from his upper regions].¹⁸ The mountains bounded like the ram, and the hills like the lamb: *Montes exultaverunt ut arietes, et colles sicut agni ovium* [The mountains leapt like rams, and the hills like lambs of sheep].¹⁹ We shall concern ourselves only with the sedimentary strata, composed of calcareous and siliceous substances, of deep-sea and shore layers, and of remains of dislocations or uplifts.

A threefold provenance is assigned to calcareous rocks: the first, to the limestone of the primitive rocks, which, according to several geologists, must have contained it, although others have denied this; the second, to thermal springs, which become saturated with the lime of the primitive rocks through which they pass; the third, finally, and the principal one, to the accumulation of two

[French p. 46] species of animals, the mollusks and the radiates. Now, how much time was required for the production of these colossal layers of limestone which form the greater part of the crust of the globe?

Buffon resolves the problem in part by attributing them to mollusks: “The body of shell-bearing animals,” he says, “while nourishing itself upon the particles of the water, at the same time works upon its substance to the point of denaturing it. The shell is certainly a terrestrial substance, a true stone, from which all the parts that chemists call calcareous, and several other materials, derive their origin. This shell appears, in truth, to form a constituent part of the animal that it covers, since it perpetuates itself through generation, and since they are seen in the little mollusks which have just been born as in those which have attained their full growth; but it is nonetheless a terrestrial substance formed by the secretions of the animal’s body. It is seen to enlarge and thicken by rings and by layers as the animal grows, and often this stony material exceeds by fifty or sixty times the mass, or real material, of the body of the animal that produces it. Let one represent to oneself for an instant the number of species of these shell-bearing animals: they are perhaps more numerous in the seas than the species of insects are upon the earth; let one then represent to oneself their rapid growth, their prodigious multiplication, the short

[French p. 47] duration of their life, whose average term we shall suppose to be ten years; let one then consider that the number of all the individuals of this genus must be multiplied by fifty or sixty in order to form an idea of all the stony material produced in ten years; and finally, let one consider that this already so large block of stony material must be increased by as many similar blocks as there are ten-year periods in all the centuries that have elapsed since the beginning of the world, and one will become familiar with this idea, or rather with this truth that is repellent at first, that all our hills, all our rocks of limestone, marble, chalk, etc., originally come only from the remains of these little animals.”²⁰

To the limestone formed by mollusks must be joined the limestone produced by polyps or madrepores. Here is what we read in the *British Review*: “I have seen,” says Dalrympe in his *Researches on the Formation of Islands*, “coral banks of every kind; some entirely under water at greater or lesser depths; others rising above the surface of the sea by the points of a few rocks; several beginning to assume the aspect of an island, but still without the slightest appearance

¹⁸Ps. CIII.

¹⁹Ps. CXIII.

²⁰*Introduction to the History of Minerals.*

of vegetation; I have likewise observed a great number whose summits were already becoming carpeted with wild grasses; and others, finally, where superb trees were growing,

[French p. 48] covered by the richest vegetation, while at a pistol-shot's distance from the island the bottom of the sea could have been found. Torres Strait is almost obstructed by similar islands, and by others whose formation is more or less advanced. The time will come when New Holland, New Guinea, and all those numerous groups of islets to the north and northeast will form only a single immense continent."

"Let us now imagine that one of these immense coral banks is raised by a submarine volcano and converted into a chain of mountains, forming islands or continents: most of the phenomena presented by calcareous mountains would be found there."²¹

By combining these two products, it has been found, through an approximate calculation based upon the number of these animals and upon the quantity of limestone that each individual can furnish, that in only two thousand years this quantity would cover the surface of the whole earth with a layer of limestone more than one hundred metres thick; and since these layers are not uniform, some might have a thickness of one thousand metres, while others would have only one hundred and even less. And if the same calculation is made, not for the span of two thousand years, but for that of seven to eight thousand, which is the duration of the world

[French p. 49] according to the Septuagint, one will obtain calcareous formations greater even than those of the different strata. Mr. Boubée informs us, indeed, that in Germany, where the geological formations appear thicker than in England and France, the thickness of all the secondary strata combined, which are the thickest of the entire series, scarcely exceeds three thousand metres.

Independently of these prodigious masses of limestone produced by animals, account must also be taken of transported materials, that is to say, the limestones, sands, clays, and marls which the rivers carry each day and deposit in their raw state at the bottom of the seas. To form an idea of this, one must recall that, according to the observations made upon rivers, it has been established that for thirty-three cubic metres of water they carry from ten to fifteen cubic metres of sediment. Thus, the Ganges carries fifteen hundred cubic metres of sediment to the sea per hour; which, counting only three months per year for the period of transport, which is not continuous, gives in six thousand years more than thirty-three billion cubic metres of sediment. Likewise, at a certain epoch of the year, the Seine causes ten million cubic metres of water, and seven to eight hundred cubic metres of sedimentary materials, to pass in twenty-four hours beneath the Pont-Royal in Paris.

These considerations suffice to prove the possibility of the formation of our mountains during the

[French p. 50] historical time fixed by Moses since creation, without having recourse to the hypothesis of unlimited epochs.

2. Presence of fossils.

It is to fossils, we have said, that the birth of all the theories of which we have spoken, and of a multitude of others, is due. It is probable that, without those organic remains whose origin and formation no one knew how to explain, no one would ever have thought of epochs, or of a pre-Genesis world.

In order to dispose of this difficulty, it suffices to understand clearly the phenomena of fossilization. We have before our eyes a geological operation which presents great analogies with it: petrification. It consists in mineral molecules infiltrating the voids of organic tissues, filling all their interstices, and taking the form of the tissues which, gradually disappearing, leave to the new agglomeration the appearance and the likeness of the organized and subsequently

²¹ *British Review*, vol. IV, p. 405.

transformed body. Carbonate, sulfate of lime, silica above all, and oxidized iron infiltrate and appear frequently in various organized substances. Fossilization takes place, with a few differences, in the same manner, sometimes preserving the hard parts of animals and plants in their natural state or with little alteration, sometimes transmitting only more or less coarse molds, surfaces, envelopes, or impressions of the configuration of the bodies which have thus been more or less profoundly modified

[French p. 51] by other materials. But this operation presents this particular circumstance: it can be accomplished only beneath the waters, and these waters hold mineral substances in suspension, carry them, and deposit them. Now, how much time does this phenomenon, which escapes all appraisal because it takes place in the waters, require for its completion? No one could say. But what can be affirmed with certainty is that the long epochs invented to explain it are not necessary, since this phenomenon of ancient times is still reproduced in the present time.

Among the fossil deposits made within human memory are cited the fossiliferous layers of living species observed in France in the department of Calvados, in England, Sicily, Sweden, Norway, Guadeloupe, and several islands of the Antilles archipelago. All these layers are regular, horizontal, stratiform; their organic materials do not differ at all, as fossils, from those of the more ancient strata; and if they came to decompose and disappear from their matrix, they would leave there, for future generations, molds, impressions, and traces of their existence, just as the fossil beings of earlier periods have done.

Other fossiliferous rocks, likewise horizontal and stratiform, are at this very day in the process of formation. Thus, in the newly

[French p. 52] dried-up lake of Bakic in Scotland, rocks formed within human memory are cited; and in other places one sees rocks which are still continuing to form at the present time, and which present, cemented and agglomerated by silica and carbonate of lime, a great number of mollusks with stems and plants of *Chara* identical to the living species found in the same locality.

Finally, Mr. Agassiz established that one of the fossil fish which is seen forming every day on the coasts of Iceland, in a bluish mud which hardens easily in the air, was identical to that of a living species which he calls *Mallotus villosus*. The banks of the Seine, in the vicinity of Paris, likewise present a marly deposit which increases every day, and which is filled with univalve shells that live in the waters of that river.

Thus, it remains well demonstrated that fossils could have been formed since the Mosaic creation, since they are still formed every day.

3. *Formation of coals.*

The argument drawn from the formation of coals in favor of the periods proceeds from certain errors put forward by the celebrated Cuvier and adopted by a great number of geologists.

He claimed that the vegetation of the present world had precluded its successive development with the simplest organization, that is to say, with that of acotyledonous and monocotyledonous plants—ferns,

[French p. 53] palms, reeds—and that it was little by little, gradually, after long intervals of centuries and frightful cataclysms, that it had succeeded in producing polycotyledonous plants. But skillful chemists, Messrs. Williams, Nicol, and Witham, having subjected the plants of the coals to microscopic examination, recognized that the organization of the plants buried in these deposits, far from being simple, is as complicated as that of the plants of the present world: which overturns from top to bottom the doctrine of the progressive development of organized beings, and, with it, the hypothesis of various creations that one was forced to deduce from it. They found in several coal mines

that the mass of the combustible is composed not only of acotyledonous and monocotyledonous plants, but of arborescent polycotyledonous plants, whose organization is the most complicated.

A second error is to suppose that these fossil plants lived in the very places where their remains are found. In other terms, coal is attributed to forests buried beneath the waters by invasions of the sea and covered by its deposits. But first, the carbonaceous layers are not always in contact with marine layers, as they ought to be under this supposition. They are much more often covered by freshwater sandstones and clays, as is proved by the fossils enclosed in these rocks.

Secondly, in certain basins there have been counted

[French p. 54] as many as thirty or forty carboniferous layers, separated by deposits of sandstone, clay, and limestone; it would therefore be necessary to admit as many invasions of the sea as there are layers. It would be necessary to admit that, after the withdrawal of the waters which had submerged the first forest, a new forest, formed of the same species of plants, developed precisely above the site of the old one, while awaiting another irruption of the ocean that would come to destroy it; and this alternation would have been repeated forty times, always under the same conditions. In truth, all this is strange, incredible, impossible; and one experiences much less embarrassment in taking quite simply the account of Moses for a historical account whose every detail it is not wise to wish to explain, seeing that the data are lacking to us.

Thirdly, the position of the plants in coal mines suffices to demonstrate the falsity of this hypothesis. They are placed horizontally and assume a stratified form. All the carbonaceous rocks—coals, anthracites, lignites—assume this disposition. This twofold condition suffices to demonstrate that the plants were transported; every stratified rock presupposes transport. And since these various rocks present only plants of terrestrial and fluvial species, one must conclude that they were carried by continental torrents and not by the sea.

[French p. 55] It is objected that tree stems have been found in certain coal mines in a vertical position, such as they must have been during their life. But it has been observed that these stems themselves were truncated at their lower end, that they have no roots, and that in reality they are only broken, rounded trunks, without branches and without soil above which they could have grown. Now, if they had been buried in place, they would not have lost their roots, their branches, and their productive soil. Thus, the difficulty which these vertical stems, few in number besides, seem to present remains without importance.

But, it is said, what considerable time must have been required for these plants to be transformed into rocks, and for the solidification of these rocks!

It is known today that this transformation, this solidification, is due to several causes: to the compression of the upper layers of the globe; to the addition of a siliciferous or calcariferous cement effected by gases and materials of effusion; to the bitumen contained in coal; and even to electrochemical actions. As for the time necessary for the accumulation of all these plants and the accomplishment of the phenomena, what is taking place at present in America and Holland can give us an idea of it, and proves that historical time would have been more than sufficient. Here are calculations which we borrow from Mr. Maupied, and which can cast a great light upon this question.

[French p. 56] “Everyone knows that, at the present time, the great rivers, and principally those of South America, carry an immense quantity of wood and marsh plants which they transport to the sea. It is said that more than eight thousand cubic feet of vegetable matter pass in a few hours at one of the mouths of the Mississippi. Now, taking as a basis the most disadvantageous calculations, those proposed by the proponents of indefinite periods and which apply to wood reduced to coal, one finds that the coal deposits represent only twenty-two hundredths of the original volume of the wood that produced them. If, therefore, it is supposed that eight thousand cubic feet of vegetable matter pass in twelve hours at one of the mouths of the Mississippi, this gives us sixteen thousand cubic feet in

twenty-four hours, and in three months, one million four hundred thousand cubic feet, which, converted into coal, would furnish only a fifth of this volume, that is to say, nearly three hundred thousand cubic feet: such a layer of coal would already be quite considerable. But if this is repeated at the five mouths of the Mississippi, then the calculation is quintupled; and if these phenomena continue for only five hundred years, one will have a mass of coal of one hundred seventy-six million cubic feet. Now, let these same phenomena have been accomplished at fifty or sixty different points of the globe, where great forests were traversed

[French p. 57] by great rivers flowing either to the sea or into lakes, and there you have sixty coalfields which would not have required more than five hundred years to form.²²"

The peats of Holland also give us instructive information. There, as elsewhere, they are formed by the decomposition of the plants which grow in marshy regions. In removing the peat in order to use it, one digs a more or less extensive ditch into which the water enters or is brought. At first there are produced in it confervae, mosses, lichens, etc.; all these plants accumulate and decompose, and at the end of ten years one has a new peat which is exploitable.

Now, if one admits, as for the coalfields, the simultaneous action of the elevation of the temperature, the compression of the layers, siliciferous or calcariferous materials of effusion, and, finally, electrochemical influences, one understands that a long span of time would not be necessary to make these vegetable deposits pass from the peaty state to the state of coal.

Thus, the formation of the coalfields cannot furnish any support to the system of periods.

4. *Absence of human fossils.*

The supposed absence of every human vestige in the sedimentary rocks was first pointed out by Mr. Buckland in a chapter of

[French p. 58] his work entitled *Supposed Examples of Fossil Human Bones*, examples alleged as a confirmation of the hypothesis according to which the animals whose remains we discover lived and perished before the creation of man.

This argument, which was believed peremptory, was repeated by the Geological Congress held at Chambéry in 1844 as a proof allowing no reply in favor of the periods.

"Geological times preceded the creation of man,²³ and consequently also the chronology of Moses, which begins only at Adam.²⁴ These ancient revolutions must have buried at different depths the plants and animals which then already existed; man could not have been their victim, since he had not been created. Indeed, in digging into the bowels of the earth, one finds there remains of plants and animals in abundance, never human bones.²⁵"

Since that time, this assertion has already received numerous refutations. Indeed, human bones have been found in all the strata called

[French p. 59] ancient transported deposits, in osseous breccias, in bone caverns, and in shelly breccias.

Messrs. Marcel de Serres, Tournal, and de Cristolles found some in the caverns of Bèze (Aude), Pondres and Sauviguargues (Gard), and Argon (Pyrénées-Orientales), where they are mingled and confused with the remains of mammals whose lost species are no longer seen in the animal kingdom of our age. Fragments of contemporary

²²*God, Man, and the World*, vol. III.

²³Always the same vicious circle! One begins by affirming precisely what is in question; and one sets out from there to reason and draw consequences without end.

²⁴The chronology of Moses, as is well known, does not begin at Adam; rather, it goes back to the six days which preceded the appearance of Adam, to the origin of time.

²⁵*Review of the Catholic World*, no. 10, May 1862: "Origin of Things."

pottery accompany them. Bones and fragments of horn, manifestly fashioned by the hand of man, were also discovered there, likewise mingled with the remains of rhinoceroses, fossil hyenas, etc., as well as a human skull belonging to the Ethiopian or African race.²⁶ Finally, according to Mr. Marcel de Serres, certain of these mammalian bones belong to species which manifestly underwent the influence of domestication.²⁷

It would be easy for us to multiply the examples. Those which we have cited suffice to demonstrate that human fossils exist, and that they are encountered with animals which no longer exist and which had been regarded as belonging to another creation.

It had furthermore been admitted that the arrival of man upon the earth had coincided with the end of the last epoch, that is to say, with the end of Cuvier's *diluvium*,

[French p. 60] and that he had existed nowhere before then, because this formation contained nothing that established his presence.

It must be admitted that such a conclusion is far from rigorous and scientific. But then human bones, discovered even in this *diluvium*, came to contradict these assertions. The Marquis de Vibraye found in the grotto of Arcy a fossilized human jaw in a bed of Cuvier's *diluvium*.

This is not all: a learned antiquarian of Picardy, Baron de Perthes, was to make a discovery of quite another significance. We mean the flint axes which he found in the strata that Brongniart named *clysmian*.

This fact presents, whether in its nature or because of the circumstances which accompanied its discovery, so great an interest—above all for the question which occupies us—that our readers will permit us to fix their attention upon it at some length.

The clysmian strata are composed of alternating layers of clay, sand, rolled flint, and chalk, and ordinarily rest upon the Cretaceous stratum. This peculiarity of position between the plastic clays and the white chalk has led certain geologists to confuse them with the Tertiary strata to which they are intimately connected. The beds of these strata in which Baron de Perthes made this valuable discovery are found at Manchecourt, a small

[French p. 61] village situated at the gates of Abbeville: one sees there a section cut perpendicularly, nine to ten meters in height, presenting various layers in the following order: at the surface, black vegetable earth, humus; then come successively beds of clay, sand, loam, rolled and broken flint, and gray and white sand. It is in this sand that the worked flints were found; finally, there is a last bed of rolled and broken flint which rests immediately upon the white chalk.²⁸

Moved by a legitimate interest, we wished to visit these strata, which we recognized to be such as they had been described to us, and in which we were able to gather some of these flints by extracting them from their matrix.

Scarcely had this discovery become known when it threw all the academies into commotion and aroused, by its strangeness, by its characteristics, and by its consequences, a general repulsion, an incredulity which lasted several years. Some claimed that it was impossible; others treated it as absurd and denounced Baron de Perthes's assertions as a scientific heresy, as an outrage done to science, as the aberration of a little-cultivated mind, as a chimera, as a fable. The most moderate regarded these flints as mere sports of nature, which often gives to certain productions

[French p. 62] forms like those of an object worked by the hand of man.

²⁶*Geological Bulletin*, vol. II, p. 195.

²⁷*Annals of the Natural Sciences*, November 1839, p. 244.

²⁸Flints of the same kind have been found in the quarries of Saint-Acheu', near Amiens.

“Finally,” says the conscientious scholar in his report, “they did not doubt my good faith, but they suspected my good sense.”

His perseverance nevertheless ended by triumphing over all these difficulties. His repeated affirmations, supported by the most convincing proofs, forced his adversaries to go to the place in order to examine, under all its aspects, this high question.

The most distinguished members of the Geological Society of London—Messrs. Lyell, Evans, and Prestwich—were the first visitors. After the most minute and attentive verifications, they saw what Baron de Perthes had seen and found what he had found, namely, that these axes were really the work of men; that the stratum in which they were found was indeed the one which had been indicated; that its layers could not have been disturbed since they had been deposited by some current or other; and, finally, that these flints could not have been introduced there by workmen.

Following these excursions, Mr. Prestwich made a report to the Royal Society of England in which he expressed himself thus:

“The non-existence of man upon the earth until after the last geological changes, and the extinction of the mammoths as well as of the other gigantic mammals, were regarded as a manifest thing and an established fact. But now this

[French p. 63] article of faith of science must be revised, for here are instruments fashioned by human hands discovered in the depths of the globe.”

Then he summarizes his work by saying:

1. The flint instruments found near Abbeville are the work of man;
2. These instruments were found in virgin strata;
3. They are joined there with the remains of extinct races;
4. This period was one of the last of geological times and anterior to the time when the surface of the earth had received its present configuration.²⁹

To the names of the English scholars who visited the quarries of Menchicourt several times must be added those of the French scholars who likewise went there and brought away the same convictions. We shall cite, among others, Messrs. Geoffroy Saint-Hilaire and Albert Gaudry.

The latter, attached to the Museum of Natural History and charged with this exploration, after having excavated and analyzed the stratum and himself extracted from it several axes from the rock in which they were embedded among fossil bones, made a report to the Academy of Sciences whose conclusions are as follows:

“1. Our fathers were contemporaries of the *rhinoceros tichorinus*, the *hippopotamus major*, the *elephas primigenius*, the *cervus semonensis*, a great ox, etc., all species now destroyed;

[French p. 64] “2. The stratum named diluvial by geologists was formed after the appearance of man.³⁰”

Messrs. Pictet of Geneva and Favre, professor of geology at the Academy of that city, likewise went to Abbeville,

²⁹See the English newspapers of the month of September 1859, and notably the *Gateshead Observer* of the 10th.

³⁰*Journal of the Institute*, 1st section, no. 5, October 1859.

and their conclusions were the same as the preceding ones.³¹

It is therefore an established, incontestable fact, raised to the authority of scientific fact, that man existed before the formation of this stratum, classed by some in the *diluvium* and by certain others in the Tertiary stratum, since one finds there the irrefutable proof of his presence, that is to say, the work of his hands. If the learned author of the articles of the *Catholic Review*, *On the Origin of Things*, had gone to Menchicourt, he would, like that considerable number of scholars of the first rank, have acquired the conviction that these flint axes could not, as he supposes, “have been left in trenches, cast aside, or forgotten in refilled excavations.”³²

But it does not suffice to establish a fact: considered in isolation in itself, it could not offer great interest. It is its philosophy that must be studied in order to determine precisely its causes, its characteristics, and its consequences.

Why did the discovery of these worked flints so profoundly agitate men’s minds? Whence

[French p. 65] came this universal, obstinate, instinctive repulsion against admitting it? What is the real motive for this calculated incredulity, for this disdain with which it was received? Ah! let us say it: it is because these vestiges of the presence of man, found in the bowels of the globe where the defenders of the periods had sovereignly decided that there ought not to be any, give, in Mr. Prestwich’s words, a glaring refutation to this article of their faith and, by a logical corollary, shake the foundations of all the others.

We do not conceal from ourselves how grave a thing it is, in the midst of the nineteenth century, to touch an article of the creed of the learned. Even on the part of a fact, the attempt is almost impertinent; but do we not have a certain right to rejoice at it?

What has been done for a century, above all in a certain world? The least historical or scientific discovery that seemed by its nature capable of more or less weakening the testimony of the holy books was received with favor; and after having ended by recognizing that Moses was a historian who was worth as much as another, men were delighted to establish that his language had not until now been understood, and that humanity had had to wait six thousand years before knowing how God had created the world.

Well then! since, in spite of the most formal denials, and even of the impossibility so loudly proclaimed by so many geologists, irrefutable witnesses of the existence of man have been found in the strata

[French p. 66] of the *diluvium*, or Tertiary strata, it is no longer permissible to assert that they would be sought in vain in the lower strata. If, despite the long and laborious searches made in these strata and the ease of exploring them because of their position in the scale of geological formations, these works of man had until now escaped all the investigations of science, can one be surprised that, it is said, none have yet been discovered in the lower strata, which withdraw from man’s gaze and whose exploration is much more difficult?

But is it quite certain that fossil human remains have not yet been found in the other strata? Here is a remarkable fact which would seem to prove the contrary. It is reported by Paulian, author of several scientific works, a contemporary of the discovery, who lived very near the place where it was made. We read in his *Dictionary of Physics*, printed at Avignon in 1761 and reprinted later at Nîmes, in the article *Petrification*:

“A rock was blasted at Aix in Provence toward the end of the month of January 1760, and there were found in it, at a depth of five to six feet, petrified human bodies which formed one body exactly with the rock. These bodies were upright at about a foot and a half. Six heads and many bones have been preserved from them; there is one,

³¹We learn that Mr. de Perthes has just discovered, in the same stratum, a human jaw (see the Appendix).

³²*Catholic Review*, no. 25, November 1862.

especially, whose facial features are well marked; the others allow only the skull to be seen. The rest of the head is stone of a hardness equal to that of the hardest marble;

[French p. 67] this part is rough like that of an ordinary stone. These six heads were turned toward the setting sun. A quantity of perfectly petrified bones of legs and thighs was removed. On some of these bones one perceives a very hard, darkened covering. The osseous parts have, in several places, preserved their whiteness; in scraping them, one removes some particles, as one does from hard plaster; and the marrow of these bones is generally crystallized.“

We sought to discover to what formation this rock belonged; all our researches were unable to attain an answer. But the uncontested authority of the author, whose cited work had the honor of several editions; the details, so numerous and so precise, into which he entered; his contemporaneity with the fact; and the proximity of the place where it was discovered scarcely permit this account to be classed among fables.

Let us further cite another fact which several newspapers have just reported and which has not yet been contradicted:

“A petrified man has just been found near Gravelly-Ford (California). The forms of the body are perfectly preserved; he is stretched out upon a rock, in the attitude of sleep; one of his legs is slightly bent, the other is a wooden leg which has also acquired the hardness of stone. When an attempt was made to move this inert mass, it was perceived that it was sealed to the rock upon which it was placed, as upon a pedestal; a sort of cement, formed by the humidity of the

[French p. 68] air and mineral concretions, made of the man and the stone a homogeneous and inseparable block. This natural statue, which the centuries will only render more solid and more indestructible, is one of the most curious monuments that can be seen upon the earth.“

But, even admitting that the absence of human bones and works were well established, this absence could not logically prove his non-existence; it would prove only either that human bones were not found in the circumstances necessary for fossilization, or that they were carried into regions which have not yet been explored, or, again, that he did not inhabit the places where the other fossils were discovered.

Cuvier himself had drawn no other consequence from this absence:

“Everything therefore leads us to think,” he says, “that the human species did not exist in the countries where the fossil bones have been discovered at the epoch of the revolution which buried those bones. *But I do not claim to conclude from this that man did not exist before that epoch.* He could have inhabited a few regions of small extent, from which he afterward repopulated the earth. Perhaps also the places where he was were entirely swallowed up, and perhaps his bones are buried at the bottom of the present seas, with the exception of the small number of individuals who continued his species.”³³

[French p. 69] De la Mettrie also strongly maintained “that, supposing the absence of fossil human bones, it does not follow that man did not exist at the epoch when the fossil bones of the other animals were buried.”³⁴

We pass over in silence several other difficulties alleged by the proponents of the periods, such as progressive creation from the simple to the compound; the marked separation between freshwater and marine-water deposits; the discordant stratification of rocks; the too great quantity of carbonic acid, which would have asphyxiated man if he had existed; the transformation of animal and vegetable species; etc. All these opinions, which their authors presented as realities, were found to be in opposition to the facts and, as such, rejected and condemned by the most competent men.

³³*Discourse on the Revolutions of the Globe.*

³⁴*Lessons in Geology.*

But we believe we must point out more particularly the error of that opinion of the original incandescence of the globe and of the existence of the central fire.

Its defenders entrenched themselves by sheltering behind the name of Buffon, who had imagined this hypothesis; they claimed to establish it as the basis of modern geology. But when our most celebrated mathematicians and physicists—Messrs. Poisson, Ampère, Laplace, and Arago—had submitted this theory to the test of rigorous calculation and of the true principles of science; when

[French p. 70] they had set forth and analyzed the two principal proofs alleged in its favor, namely: 1. The resemblance of volcanic products to certain primitive rocks; 2. The increase of heat as one descends toward the center of the earth; they demonstrated its impossibility.

“If,” says the first, “the increase of temperature observed in the direction of depth really proceeded from the original heat, it would follow that, at the present epoch, this initial heat would increase the temperature even of the surface by a small fraction of a degree; but for this small increase to be reduced by half, for example, more than a thousand million centuries would have to elapse; and if one wished to go back to an epoch when it could have been considerable enough to influence geological phenomena, one would have to recede by a number of centuries that terrifies the boldest imagination, whatever, moreover, may be the idea one can have of the antiquity of our planet.³⁵”

Mr. Poisson opposes many other difficulties to this opinion. “On this supposition,” he says, “the internal temperature would be excessive at less than sixty thousand meters of depth; and at the center, where this temperature would exceed two hundred thousand degrees, as in the greatest part of the terrestrial mass, the materials of which the earth is formed would be in

[French p. 71] the state of incandescent gas, and at such a degree of condensation that their average density would exceed five times that of water. Now, to contain materials thus compressed and heated would require a force of which one could form no idea; the enveloping solidified layer would never be powerful enough to resist the effort of the interior fluids to reduce themselves to vapor; and these fluids, by their power of expansion, would have broken the outer solid envelope as it formed.³⁶”

Mr. Ampère argues, in these terms, from another impossibility: “Those who admit the igneous liquidity of the earth’s interior nucleus appear not to have thought of the action which the earth would exert upon this enormous liquid mass, an action from which would result tides analogous to those of our seas, but far more terrible, both by their extent and by the density of the liquid. It is difficult to conceive how the envelope of the earth could resist, being incessantly beaten by a sort of hydraulic lever fourteen hundred leagues in length.³⁷”

This celebrated physicist, in one of his discourses at the Collège de France, attributes the progressively increasing heat of the earth, as one penetrates into its interior, to electrochemical actions produced by the various mineral materials of which

[French p. 72] it is composed, and which make of it a sort of electric battery. This explanation is the one most generally admitted today.

Laplace, the author of the *System of the World*, had already proved that the hypothesis of the central fire is in direct contradiction with the increase of density in advancing toward the center of the earth. “The precession of the equinoxes,” he says, “and the nutation of the terrestrial axis indicate a diminution in the density of the layers of the spheroid, from the center to the surface, without, however, informing us of the true laws of this diminution. The

³⁵*Mathematical Theory of Heat*, ch. XII.

³⁶*Memoirs on the Temperature of the Solid Part of the Globe*.

³⁷*Theory of the Earth*.

principles of hydrostatics also require that, if the earth was originally fluid, the parts nearest the center should at the same time be the least dense.³⁸

Let us add to these testimonies that of Cuvier, who expressed himself thus upon this question: “All modern theories founded upon the most positive data which astronomy, physics, and geology furnish us admit that the earth was originally in the gaseous state, that is to say, that all the solid substances which compose it today were dispersed in the state of vapor in a space much larger than that which they occupy today.³⁹”

Arago also comes to support these negations of the central fire

[French p. 73] with all the weight of his authority. Consistent with their principles, the Plutonian geologists claim that, at an epoch more or less remote, the world will perish for lack of heat. “Then,” says one of them, “there will no longer be life upon the globe, or at least, there being no longer either life or heat, and the waters forming only a mass of ice, none of the beings which live today will be able to exist there.⁴⁰”

The celebrated astronomer whom we have cited appraises this threat of the Plutonians in these terms: “The ingenious romance of the Plutonian geologists has dissipated like a phantom before the severity of mathematical calculations, and the frightful freezing of the globe, whose epoch Buffon fixed at the moment when the interior heat shall have been completely dissipated, is a pure dream.⁴¹”

“It is demonstrated,” finally says Mr. Godefroy, “that in two thousand years, the total mass of the globe has not undergone the slightest diminution in its dimensions. This result destroys all the foundations of the hypothesis of a central fluidity.⁴²”

Thus, upon this point, the scientific authorities are in perfect agreement with the sacred text; for however much one may torture the expressions of Moses: *Spiritus Dei ferebatur super aquas* [the Spirit of God was borne over the waters]; *Congregationes aquarum appellavit*

[French p. 74] *maria* [he called the gatherings of the waters seas]; *Fiat firmamentum in medio aquarum* [let a firmament be made in the midst of the waters], etc., etc.; one will never be able to make an incandescent liquid mass come forth from them.

Let us listen to Tertullian. “For us,” he says, “for us who are fishes led by Jesus Christ, our leader, we are born in the water, and can preserve our life only by remaining in that water.... Water, indeed, is that element which, before the universe had received all its perfection, remained as though hidden in the power of God. Water alone served as a throne for the divine Spirit; it was by the waters that he separated the earth from the firmament; it was to the waters that he commanded the production of the body of man, which was created not from dry earth, but from mud. Having employed water for so many uses, it was understood that he would employ it again to procure supernatural life for us; for the Spirit of God, who is holy, could have been borne only by a holy thing.⁴³”

³⁸*System of the World.*

³⁹*Discourse on the Revolutions of the Globe*, pp. 23 and 23.

⁴⁰Nérée Boubée, *Elementary Geology*, p. 71, 3rd edition.

⁴¹*Discourse on the Natural Sciences.*

⁴²*The Cosmogony of Revelation*, p. 134.

⁴³*Nos pisciculi secundum nostrum Jesum Christum in aqua nascimur, nec aliter quam in aqua permanendo salvi sumus.... Ista materia unum ex his est quæ, ante omnem mundi suggestum, impolita adhuc specie penes Deum quiescebant. Habes dignationem aquarum, quod divini spiritus sedes, gratior scilicet cæteris elementis. Nam ut firmamentum celeste suspenderet, in medietate distinctis aquis, fecit; et, ut terram aridam suspenderet, segregatis aquis, expediit. Ipsius quoque hominis figurandi opus, sociantibus aquis, absolutum est. De terra materia convenit, non tamen nisi humecta.* [We little fishes, according to our Jesus Christ, are born in water, nor are we saved otherwise than by remaining in water.... This material is one of those things which, before all the furnishing of the world, still unformed in appearance, rested with God. You have the dignity of the waters, because they were the seat of the divine Spirit, more pleasing, certainly, than the other elements. For, in order to suspend the heavenly firmament, he made it with the waters separated at the midpoint; and, in order to suspend the dry land, he laid it bare with the waters separated.

Saint Thomas concludes the discussion theologically by saying: “The authority of Holy Scripture is

[French p. 75] greater than that of the genius of man. This is why we have the certainty that the waters of creation were truly waters, whatever their nature may have been.⁴⁴” Nevertheless, all these authorities, all these testimonies, all these reasons do not prevent several modern writers who have addressed geological questions from regarding the original incandescence of the globe as a generally accepted dogma, or at least an incontestable one, upon which science must support its labors.

[French p. 76]

CHAPTER IV

Inanity of these systems: they rest upon no foundation.

There is a principle which dominates the whole question and which applies to it by full right; it is this: in order to offer serious minds sufficient motives of credibility, a fact must rest upon solid bases, it must be supported by positive, real, incontestable testimonies, and not merely by gratuitous suppositions. Now, the system of periods, or of the pre-Genesis world, has for its foundation only a litany of subsidiary, purely imaginary hypotheses, namely: that the time fixed by Moses is insufficient to explain the structure of the globe; that, in the creation of beings, the animals and plants came, died, and were fossilized in the very places where they are found; that, in the productions of nature, God proceeded successively

[French p. 77] from the simple to the compound (neither more nor less than a workman who had to learn his trade!); that the races originally created were destroyed by a succession of indefinite and indefinable cataclysms; that other races replaced them; etc., etc. All these fine things, and a multitude of others which one does not hesitate to present, with an assurance that astonishes, as certain facts, are in no way confirmed either by tradition, by Scripture, by profane history, or by monuments; they are true phantasmagorias, most often hatched from the brains of their authors in the leisure of the study.

History, tradition, and monuments sanction only two great epochs, two great revolutions of which the globe has been the object. The first is that in which the Bible shows us the earth emerging from nothingness, in the most complete confusion of its elements, then influenced, modified, and ordered according to the plan traced by divine wisdom. The second is that in which the tradition of all peoples represents to us the earth convulsed by the universal flood, and in which Genesis depicts for us the basins of the seas destroyed and the waters of the Ocean covering the earth for five months, then abandoning it in order to invade it anew by an alternating movement of retreat and invasion which in turn left it bare and covered it during seven other months.⁴⁵

[French p. 78] As for the geological periods and the cataclysms which they suppose, mention is made of them nowhere; they are pure hypotheses, more or less singular, invented from the need to accommodate geological phenomena to the works of one’s imagination, all indemonstrable, most of them demonstrated false or absurd; and moreover, it must not be forgotten, hypotheses are not proofs. However much one may posit them dogmatically, as though they ought to be admitted without discussion, they cannot take the place of demonstration; and nothing proves their inanity, their fragility, their falsity better than their great number and the ease with which the latest demolishes those which preceded it.

The work of fashioning man himself, too, was completed with the waters accompanying it. Material was furnished from earth, yet only when moistened.] (*Liber de baptismo*, ch. II [*On Baptism*, ch. II].)

⁴⁴*Major est Scripturæ hujus auctoritas quam omnis ingenii capacitas. Unde quoquo modo et quælibet aquæ ibi sint, ibi esse minime dubitemus.* [The authority of this Scripture is greater than every capacity of human genius. Hence, in whatever manner and of whatever kind the waters may be there, let us not doubt in the least that they are there.] *Quæstio* LXVIII, art. 2.

⁴⁵The flood lasted twelve months and ten days, counting from the moment when the sources of the great abyss were broken open until that of the arefaction or complete desiccation of the earth.

These systems have been brought forth by the dozen; we believe it useful to our thesis to point out their authors and their diversity.

Burnet makes his oily terrestrial envelope collapse into the great abyss.

Woodward makes the waters of the great abyss rise upon this envelope, and he blindly accepts all the suppositions of his predecessors.

Leibnitz wishes the earth and the planets to have been suns.

Whiston contents himself with making the earth an ancient comet.

[French p. 79] *Deluc* admits unlimited periods of time between the various creations, and consequently successive creations.

Cuvier borrowed from Buffon and Deluc their successive creations and their long periods of time, adding to them a regular succession of marine irruptions.

Ampère found in the text *Terra autem erat inanis et vacua* [But the earth was void and empty] that a nebula was the first germ of the earth and of all the other sidereal bodies.

Messrs. Buckland and Chalmers found, as we have already said, that Deluc's indefinite periods did not suffice for the requirements of geological phenomena; they had recourse to the existence of an anterior world, whose relations changed when our present world was organized.

Finally, *Mr. de Beaumont*, the great defender of the system of mountain upheavals, accepts all the hypotheses which have had currency: the primitive incandescence of the globe, the central fire, the contraction of the terrestrial envelope through cooling, the primitive surface of the globe without mountains, indeterminate epochs, successive creations and destructions, regular cataclysms, etc.; in such a manner that Mr. de Beaumont's system is less a system peculiar to him than the synthesis of all the systems.⁴⁶

Singular destiny, that of the mind of man

[French p. 80] which refuses to abdicate its independence and its pretensions in order to take its inspiration from the thoughts of the divine Word, creator of all things! The threat of Scripture is accomplished in its regard: *Scrutator majestatis opprimetur a gloria* [He who searches into majesty shall be overwhelmed by glory];⁴⁷ through his pride, he is delivered over to all doubts and to all aberrations.

We are therefore fully authorized to affirm that all these theories, without any generative principle, full of conflicts and contradictions, deprived of all connection and all logic, are only gratuitous hypotheses, without foundation, and consequently powerless to contradict the cosmogony of Moses.

However much one may accumulate ideas upon ideas, inductions upon inductions, principles will always be the first and most indispensable of the elements of solution; and without a principle, without a base, one will never be able to establish a line of reasoning or arrive at a positive and certain conclusion. Now, there is nothing in the Mosaic account that could cause or permit one to suspect the existence of these alleged creations. The first two verses of the Bible are joined in such a manner that one forms a body with the other, and they leave no gap. The whole indicates a single creation, and the first verse, in which all the works of God are summarized, evidently relates to the tableau of the work of the days which immediately follows it.

[French p. 81]

⁴⁶This summary is extracted from the work of Mr. Soriguet.

⁴⁷Proverbs XXV, 25.

CHAPTER V

These systems are contradicted by the facts.

FIRST FACT

Coexistence of animals and plants in the earliest strata.

According to the system of periods, God having created plants in the third epoch, the vegetable kingdom would have subsisted alone for a certain number of centuries, after which a cataclysm would have come to overturn this state of things, which would have been followed by a new creation. The proponents of the system are therefore forced to admit, in order to be consistent, that the most ancient strata, those which we call primary or transition strata, and which rest immediately upon the primitive strata, must contain only the remains of plants, without any animal fossil, since animals did not exist and were created only on the fifth day, or in the fifth

[French p. 82] epoch. And yet the lowest layers of the Silurian and Cambrian formations, such as the grauwakes, contain pell-mell, with fossil plants, remains of marine animals, mollusks, and polyparies. Mr. Agassiz also established the identity of a species of fish, the *onchus marchisoni*, in the Silurian strata of the rocks of Ludlow.⁴⁸ Plants do not even appear first everywhere; sometimes they appear only a little after mollusks, polyparies, and fishes. As for mammals, on the contrary, which ought to appear only in the sixth period, since they were created only on the sixth day, some are discovered in the secondary strata, in the Jurassic, and in the lower part of the Tertiary strata. These various facts are incontestable.

The system of periods is therefore here in flagrant contradiction with geological facts. Buckland himself, after having maintained that the system of periods is theologically and philologically unassailable—these are his expressions—finds himself somewhat embarrassed by this objection. “It appears,” he says, “that the most ancient marine animals, as well as the first plants, are found distributed in the same manner in the lowest transition strata, so that it is evident, as much as it can be, that the origin of plants and

[French p. 83] that of animals date from the same epoch.⁴⁹”

The system of the six days changed into as many indefinite periods therefore does not accord with the geological fact of the union of plants and animals in the lowest layers of the globe. But what then becomes of this system? “This objection is not insoluble,” says Mr. Marcel de Serres: “One cannot in fact deny that remains of animals exist as deeply buried in the old layers of the globe as plants; but the proportion in which the one and the other are found there is totally different. It is only after the most minute searches that one has succeeded in encountering some remains of animals, while terrestrial plants are so abundant in these strata that the period to which they belonged is the most essentially vegetable of geological times.⁵⁰”

But what does the number of these animal remains matter? Here, one alone is worth a thousand; and according to your system of periods, ought not a single one to be found there, since at that time they had not been created? *If through the most minute searches one has succeeded* in discovering animal fossils where it was claimed that there could be only plants, it follows clearly that one has no right to lay down absolute principles and to deduce general laws,

[French p. 84] even from a succession of long observations, without being obliged to resolve the difficulties to which particular cases give rise. Now, the existence of animal remains in the most ancient layers is a capital fact which does not permit our adversaries to pass over it.

⁴⁸ *Researches on Fishes*, vol. III, p. 201.

⁴⁹ *Geology and Mineralogy*, etc., vol. II, ch. II.

⁵⁰ *On the Cosmogony of Moses Compared with Geological Facts*.

Father Pianciani sought to resolve this embarrassing question in a manner which resolves nothing. “Buckland himself,” he says, “after having cited the words of Mr. de Serres, places no terrestrial animals among the fossils of the transition strata, but only plants that are almost all terrestrial and marine animals; and then, if the great quantity of carbonic acid diffused through the atmosphere was favorable to vegetation and contrary to the life of animals which breathe air in its natural state, *does it not appear more probable* that these animals received existence only when the quantity of this acid had been diminished to the point of no longer being harmful to them? Be that as it may, I shall answer that, if there is found in the transition strata a great abundance of vegetable remains and a small number of animal remains, this fact does not indicate that plants and animals are contemporaneous, but rather that, at the epoch when the one and the other were buried, plants had had much more time than animals in which to propagate.⁵¹”

We ask the Reverend Father to pardon us,

[French p. 85] but this fact of the coexistence of plant and animal fossils proves logically and necessarily either the contemporaneity of the creation of the two kingdoms or the anteriority of the creation of animals. However inferior the number of the latter may be to that of plant fossils, one cannot but admit that the presence of a single animal fossil in a layer of the ground entails the existence of several others.

Nor is it exact to say that the transition strata contain no fossils of terrestrial animals because, it is said, of the too great quantity of carbonic acid which was inimical to them—a quantity which was sought one knows not where, for the needs of the cause. Vestiges of butterfly wings and impressions of beetles have been cited upon the primary aluminous slates of the mines of Andarum, in the province of Scania. The coal deposit of Northumberland has presented arachnids and insects of several species; and the clay shales in Bohemia, two species of arachnids. But even if one were to admit the absence of every terrestrial remain, the presence of marine animals alone suffices to establish the existence of animals in the first epoch.

SECOND FACT

Appearance of birds in the lower layers of the globe.

The creation of birds is likewise placed by Moses

[French p. 86] on the fifth day, or in the fifth period; and nevertheless, for some time, new discoveries have been coming to contradict the assertions of our opponents by showing them fossil birds in the lower layers of the secondary stratum.

“Until these latter times,” says Nérée Boubée, “no irrefutable fact was known which could establish the existence of birds properly so called during the second geological period. But very recently, in the first months of 1836, numerous species of birds have just been recognized and characterized in the red sandstone of the United States.⁵²”

“Birds,” says Mr. de Blainville further, “appear as fossils even in the lower secondary strata; they are represented in the variegated sandstone by simple impressions of their feet.⁵³”

THIRD FACT

The continuous development of the strata.

From the first deposits of the great Silurian, Cambrian, and Devonian formation to the last layers of the Tertiary stratum, all succeed one another in an order so continuous that there has never been discovered between two formations the slightest trace

⁵¹ *Commentatio in historiam creationis Mosaicam* [Commentary on the History of the Mosaic Creation].

⁵² *Elementary Geology*, p. 74, 3rd edition.

⁵³ Memoir read to the Academy of Sciences, December 14, 1837.

[French p. 87] of any soil whatsoever. Mr. Constant Prévost was the first to point out this fact; nowhere did he see a clear and sharply defined line of separation between the various strata. "The succession of these deposits," Mr. Boué likewise said, "is so continuous, the various layers are so interlocked with one another, that it is rarer to find the boundaries of two rocks sharply defined than to see them merge together, whether by transition or by alternation."⁵⁴

Now, without this intermediate soil, how can one conceive that plants and animals could have lived for thousands of years, only afterward to be buried in place, without a single centimeter of vegetable mold ever being found?

Let us cite further upon this subject, whose consequences deal so harsh a blow to the systems in question—let us cite Marcel de Serres: "In the valley of Aix (Bouches-du-Rhône)," says this estimable geologist, "the purely marine limestone and the freshwater limestone are united with one another by a connection as intimate as it is immediate. It must therefore be admitted that both were deposited in the same liquid. If their deposition had taken place under different circumstances, there ought to be found upon the freshwater limestone some deposit or other, composed of products of the intermediate epoch during which this soil would have been inhabited by terrestrial

[French p. 88] animals; and yet no trace of a continental surface exists between these deposits; and the marine limestone being found mingled, alternating with the freshwater limestone, it must indeed be admitted that the one and the other were precipitated in the same liquid. This is all the more true because these marine deposits often contain organized bodies, fluvatile and terrestrial, just as freshwater deposits contain marine fossils."⁵⁵

Thus, then, the following are false: 1. the distinction between marine deposits and *lacustrine* deposits; 2. the supposition of a more or less long interval during which beings would have lived upon a layer of some sediments or other.

FOURTH FACT

The synchronism of formations.

It is known that by the synchronism of formations is understood the contemporaneity of two different causes acting successively: whence came the denomination of aqueous formations and igneous formations. The former was observed and introduced into science by Mr. Constant Prévost; the latter by Messrs. Boué and Dufrénoy. This latter, the igneous cause, has never ceased to modify the surface of the ground,

[French p. 89] at one point or another, whether by volcanoes, by earthquakes, or by metamorphism. "Synchronism," says Mr. Prévost, "and the distribution, upon two parallel lines, of igneous formations and aqueous formations, are henceforth founded upon the observations, as numerous as they are certain, of a great number of geologists. The study of present phenomena and its application to the explanation of ancient phenomena have completed the demonstration, as an incontestable truth, of the synchronous action of the two principal Plutonian and Neptunian causes."⁵⁶

The two principal observations which served as the basis of synchronism are:

1. The generally concordant stratification of the layers of all the strata. Thus, it has been recognized that the layers of the primary strata are in concordant stratification with one another; that those of the secondary strata are in concordant stratification with one another and with the primary strata; and that the layers of the Tertiary strata are so with one another and with the layers of the secondary strata.

⁵⁴*Guide for the Geologist*, vol. I, p. 540.

⁵⁵[Printed note label: (4).] Work already cited.

⁵⁶Memoir of April 14, 1845.

Now, it follows naturally from this observation that all the layers of the primary or transition, secondary, and Tertiary strata, disposed in this manner, prove the action of a continuous cause which has not ceased to act in the same direction, in each locality, from

[French p. 90] the beginning of the deposits until the end; for a change of cause would necessarily have brought about a change of direction and inclination, that is to say, a discordant stratification; there was variation only in the elements and materials upon which this cause exercised its action.

Without doubt, in the succession of the strata, one often encounters upheavals, dislocations, subsidences, and uplifts which alter the order of the stratifications; but it is no less certain that these deposits must originally have been formed before being uplifted, dislocated, and overturned; the cause which formed these deposits therefore acted first to form the regular, undislocated deposits, just like those which were dislocated after their formation. The observation therefore remains true.

2. The second observation is the disorder in which the strata appear at the surface of the globe. The proponents of indefinite cycles had admitted that all the layers of the various strata formed a continuous series without a gap. It is upon this series, thus arranged artificially, that they founded the hypotheses of contemporaneous formations for all the layers which occupy the same level in this supposed series, and the hypotheses of the time and duration that were required to realize this long series of superimposed layers. But this continuous and gapless superposition is contradicted by the facts. There is not a single layer, throughout the extent of the

[French p. 91] strata, which does not appear somewhere at the surface of the ground without being covered by another. Thus, one finds at the surface sometimes the primary stratum, sometimes the secondary stratum, sometimes the Carboniferous, the Triassic, the Liassic, the Jurassic, or the Cretaceous stratum, each resting upon the primitive ground. It would therefore be permissible to conclude from this incontestable fact that all the layers which rest upon granite are of contemporaneous formation. These discoveries concerning the synchronism of strata and formations, and the facts which established it, therefore oppose the acceptance of the hypothetical idea of successive revolutions which would have produced this succession of strata, since they can be only the effect of a double cause acting simultaneously, although variously modified in its effects according to localities.

FIFTH FACT

The same effects attest, in all the strata, the continuous action of the same causes.

If the supposed world anterior to the world of six days had existed, as Buckland and Chalmers claim, one of two things follows: either the causes which acted in the first world differed from those which act in the second, or they were the same.

If they differed, they must have acted

[French p. 92] differently; subject to different laws and separated by a sort of chaos, the two orders of things ought to be distinguished by the difference of their products below and above the point which would have separated their respective actions. And yet there is nothing of the sort, and from one end to the other of the series of strata, the same effects attest the action of the same causes and of the same laws which still act before our eyes.

It is therefore certain that this pre-Genesis world did not differ from ours. But then where is the proof of its existence to be found? It was thought to be found above all in the disappearance of animals whose fossils attest their creation. But we shall first observe that this assertion has been contradicted by new discoveries. We read in the *Pneumatology* of the Marquis de Mirville, a work eminently remarkable from every point of view: "One still recalls the naïve astonishment of the Geoffroy Saint-Hilaires when Mr. de Paravey showed them, in Chinese books and upon some

bricks from Babylon, the dragons of which we were speaking just now, the platypuses, the saurians, etc., which they believed unknown to the earth until them.⁵⁷

We shall add that the most remarkable of these species which are believed destroyed, such as the mastodon, the dinotherium, the megatherium, and the palaeotherium, instead of occupying the deepest layers

[French p. 93] of the globe, those layers which are claimed to belong to the ancient world, are in general found only in fairly superficial Tertiary strata, where they are associated with living species and even with human fossils. It is therefore evident that all these species belong to the same world.

This hypothetical world is therefore in every respect irreconcilable with the established facts of positive geology.

For the person who admits the Bible, subject to interpreting it more or less according to his convenience, there is still another difficulty which it is important to point out. “The Lord God,” we read in chapter II of Genesis, “after having formed from the earth *all the animals* of the earth and *all the birds* of heaven, caused them to come before Adam, so that Adam might see what he would name them; and the name which Adam gave to each animal is its proper name; and Adam gave their names to the domestic animals, the birds of heaven, and the wild beasts.⁵⁸” The ichthyosaurs, plesiosaurs, iguanodons, etc., must therefore have passed before the eyes of the king of creation before disappearing from the scene; and consequently, at a certain epoch, more or less long, they were contemporaries of man.
[French p. 94]

SIXTH FACT

The terrestrial paradise.

“The Lord,” says Moses, “had planted from the beginning a garden of delights, in which he placed man.⁵⁹” By the beginning one must necessarily understand, with the sacred interpreters, the third day of creation, when the continents appeared above the waters and were covered with verdure, trees, and every species of plant.⁶⁰

Now, is it truly in conformity with the spirit of the account of Moses to suppose that between the third and the sixth day—that is to say, between the creation of the terrestrial paradise and that of man, who was its end—periods of several thousand centuries elapsed, filled with numerous revolutions and successive cataclysms which, according to these geologists, would have ravaged the earth, destroyed living beings, and consequently also the paradise of delights planted from the beginning for man? Is it philosophical to admit that God followed such a course of conduct?
[French p. 95]

SEVENTH FACT

The absence of rain during the first periods.

The proponents of these permit us to give them whatever extent we wish. Let us be more reasonable than Mr. Bouchepoin, who assigns to each of them two million years, and let us limit them to three thousand, since it is necessary to stop at some number. Plants were created on the third day, or in the third epoch; the animals of the sea and the birds in the fifth; but it began to rain upon the earth only after the creation of man, we read in the second chapter of Genesis: *Non enim pluerat Dominus Deus super terram* [For the Lord God had not caused it to rain

⁵⁷ *Pneumatology*, vol. II, p. 43.

⁵⁸ *Formatis igitur Dominus Deus, de humo cunctis animantibus terræ, et universis volatilibus cæli, adduxit ea ad Adam, ut videret quid vocaret ea: omne enim quod vocavit Adam animæ viventis ipsum est nomen ejus.* [The Lord God therefore, all the animals of the earth and all the birds of heaven having been formed from the ground, brought them to Adam, that he might see what he would call them; for whatever Adam called any living soul, that is its name.] Genesis II, 19.

⁵⁹ *Plantaverat autem Dominus Deus paradisum voluptatis a principio, in quo posuit hominem quem formaverat.* [But the Lord God had planted from the beginning a paradise of pleasure, in which he placed the man whom he had formed.] Genesis II, 8.

⁶⁰ *Et ait: Germinet terra herbam virentem et facientem semen, et lignum pomiferum, faciens fructum juxta genus suum.* [And he said: Let the earth bring forth green herbage bearing seed, and the fruit tree bearing fruit according to its kind.] Genesis I, 11.

upon the earth]; and according to the commentators, until then there had been only simple dews; whence it follows that plants would have had to exist without water for nine thousand years, and birds for six thousand years.

This is not all: if it is claimed that all the great phenomena of the primitive world are to be explained by the action of secondary causes, how can one understand that the seas and rivers could have existed before rain? As much could be said of all the others, and notably of the appearance of plants before the creation of the sun. If plants need the nourishment furnished to them by humus and the atmosphere,

[French p. 96] do they not equally need the heat of the sun? The fact is that all the phenomena of nature depend upon an interconnection of reciprocal causes and effects so intermingled that, despite all their learning and goodwill, our adversaries will not succeed in deducing them from one another in a satisfactory manner. When, on the contrary, one resigns oneself to accepting the account of Moses purely and simply, one immediately discovers the simultaneous action of a first and universal cause, and all the effects receive at least the explanation permitted by the weakness of human intelligence.

EIGHTH FACT

The rarity of animals during the coal period.

This terrestrial period is characterized in a very remarkable manner by the abundance and strangeness of the vegetation which then covered the continental parts of the globe. But, strangely enough, the fauna of this epoch stood in an inverse relation to the flora: "If, during the coal period," says Mr. Figuier, "the vegetable kingdom was at its apogee, the animal kingdom, on the contrary, was very poor. Among the rare animals of this period, one may cite a few fish analogous to those of the Devonian stratum. A few winged insects came to join this meager

[French p. 97] retinue of living beings.⁶¹ "This excessive poverty of the animal kingdom in the presence of the luxuriant wealth of the vegetable kingdom shocks every conception.

NINTH FACT

The purpose of the creation of the heavenly bodies.

In placing the heavenly bodies in the heavens, the Creator set himself the purpose of making them serve to shine upon the earth: *Posuit ea in firmamento celi ut lucerent super terram* [He placed them in the firmament of heaven so that they might shine upon the earth]; and the text adds, speaking of these same heavenly bodies: that they should serve as signs to indicate the epochs, the days, and the years; *et sint in signa et tempora, et dies et annos* [and let them be for signs and times, and days and years]. Now, since, in the hypothesis of our adversaries, thousands of centuries elapsed between the creation of the heavenly bodies and that of the animals, and a still greater number of centuries between the creation of the heavenly bodies and that of man, it follows that the sun, which was created above all to indicate to man the times, the days, and the years, would have indicated absolutely nothing for thousands of years, since man had not been created.

TENTH FACT

Incompatibility of the periods with divine wisdom.

The defenders of the periods claim that the

[French p. 98] morning, *mane*, of Genesis signifies the beginning of a period or of a creation; and the evening, *vespere*, a revolution, a catastrophe, a destruction of that same creation. But first, on the first day God made light; on the second day he made the firmament. If the word *vespere* signifies a catastrophe, as they say, a ruin, what destruction is

⁶¹ *The Earth Before the Flood*, p. 88.

in question at the end of these alleged periods;⁶² Is it by chance the destruction of light and of the firmament? Who would dare maintain it? In the second place, are these ruins, these upheavals, this destruction compatible with divine wisdom, which made everything with number, weight, and measure: *omnia in mensura, numero et pondere disposuisti* [you have disposed all things in measure, number, and weight]? For what purpose would he have overthrown the work which he had created in the beginning and which he had found good, as Moses observes, who ends each creation with this phrase of praise: *Et vidit Deus quod esset bonum, et factum est ita* [And God saw that it was good, and it was so done]? He indeed recounts to us the special work of each day, but nowhere does he speak to us of these restorations of a work previously destroyed. And let it not be said that Moses kept silent about all these age-long events anterior to the creation of man because they did not concern man. With this system of arbitrary hypotheses without foundation and without reason for being, there would not be a single

[French p. 99] text of Scripture, not a single page of the sacred books, that could not be falsified, truncated, or distorted. We shall establish elsewhere that all the works of God relate to man as to the king of creation.

⁶²Instead of designating the end of the day, the word *vespere* indicated its beginning among the Hebrews: this is the truly natural order; darkness before light.

PART TWO

PHILOLOGICAL POINT OF VIEW

CHAPTER I

Moses is a historian, and not a poet.

In going through the numerous writings which treat this important question, we were not a little surprised to encounter some which dispute Moses's title of historian, claiming that his style is poetic and that he himself forewarns the reader against the interpretation according to the literal sense which one might be tempted to give to his words. It is difficult not to discover, in the claim of the authors who thus try to transform Moses into a poet, a kind of oratorical precaution under cover of which they believe themselves permitted to torture his word at their

[French p. 102] pleasure, in order to make him say what he did not wish to say and what he did not say. "Others have already observed," we read in the *Civiltà cattolica*, "that the first chapter of Genesis is written in a figurative and in some measure poetic style. By its coloring and images, it partakes of poetry. One would call it a canticle or a traditional hymn, placed by Moses at the frontispiece of his books."⁶³

"In the state of ignorance to which humanity was reduced," the *Review of the Catholic World* said in its turn, "expressions were insufficient to retrace the great acts of divine power; Moses was therefore forced to choose those which departed least from the thought which he had to render, but while warning that they were more or less diverted from their habitual acceptation."⁶⁴

Among the numerous criticisms of which the Pentateuch has been the object, and which are summarized in the *Critical History of the Old Testament*, by Richard Simon, and in the *Conjectures on Genesis*, by Astruc and Vater, one does not see the transformation of Moses into a poet, and of the first chapter of Genesis into a sacred cantata, make an appearance. The fact is that, no matter how much one has

[French p. 103] read, read again, and reread this narrative, one discovers nothing in it that justifies this idea; no matter how much one searches for the terms by which Moses would endeavor to warn us that his language must not be taken literally, one does not find them. On the contrary, this assessment is in contradiction with all the characteristics of this primitive document and with all the data of science.

It is in contradiction:

1. With the simplicity of the account, which retraces in precise, clear, positive terms the primordial history of the world. No ornament suited to charming the imaginations, no arrangements, precautions, or means of any kind to forestall the objections of unbelief and win sympathies: narration and nothing but narration. Whether he speaks of natural and perishable things, or of miraculous, sublime, incomprehensible things, the sacred writer employs the same language; he speaks like the copyist whose pen runs beneath an author's dictation. In fact, it was absolutely impossible for Moses to express himself with less affectation, and the poetic grandeur of his work is found, not in the form, but in the substance itself, and solely in the substance of the subject.

⁶³ Si è da altri osservato, che il capo primo del Genesi è scritto in linguaggio figurato, ed in certo modo poetico. Il colorito è le imagine sentono del poetico. Sembra questo quasi un cantico, o imo tradizionale, inscritto da Mosè in fronte de'suoi libri. [Others have observed that the first chapter of Genesis is written in figurative language, and in a certain manner poetic. The coloring and the images partake of the poetic. This seems almost a canticle, or a traditional hymn, placed by Moses at the front of his books.] *La Civiltà cattolica*, no. CXCIII, p. 25.

⁶⁴ *Catholic Review*, no. of January 25, 1862, p. 542.

2. It is in contradiction with the character of the later documents which unfold the history of the world and of humanity, taking Moses as their guide and developing his thought.

^[French p. 104] 3. It is in contradiction with geology itself—not hypothetical geology, but positive geology—which cannot represent to itself, in particular, the history of the formation of our earth otherwise than in the form and the series of forms described by the book of Moses.

4. It is in contradiction with the manner in which Genesis has always been understood by the great majority of the doctors and the Fathers, who have never ceased to consider it a true history, and Moses the oldest, most concise, most exact, clearest, and truest historian. A few quotations will prove the correctness of our reflections:

“Nothing is simpler than the account, given by Moses, of the creation of the universe,” say the commentators of the *Vence Bible*.⁶⁵

The illustrious Bishop of Hermopolis, in his conference entitled *Moses, Historian of Primitive Times*, delights in drawing the attention of his listeners to the naïveté and simplicity of the Mosaic narrative: “Moses,” he says, “left us the history of the first age in the book placed at the head of our sacred books, under the name of Genesis. I shall not dwell upon all that it contains of beauty in its simplicity, of purity in its doctrine. He describes the facts and the events, not as a poet, but as a historian. Let us take great care not to contradict this account and combat it with conjectures

^[French p. 105] and systems which may be nothing but chimeras.”⁶⁶

“The style of Moses,” says Abbé Glaire in his turn, “is simple and without ornament, without any of those oratorical precautions suited to removing the difficulties which might arise in his account. Full of confidence himself in his fidelity, he does not trouble himself to convince his contemporaries; he recounts without ever discussing or proving. The description of the creation of the world bears within itself, in a striking manner, the imprint of truth.”⁶⁷

5. Finally, it is in contradiction with the whole of Genesis. For, if it were admitted, it would no longer be the history of the creation of the world which Moses recounts to us, as has always been believed, and as he himself informs us in chapter II, when he says: *Hæ sunt generationes cæli et terre* [These are the generations of heaven and earth], and, according to the Greek text: *Hic est liber generationis* [This is the book of generation], etc.; it would be the history of its definitive and final reorganization. From that point on, the first verse, thus worded: *In principio Deus creavit cælum et terram* [In the beginning God created heaven and earth], intended by the sacred historian to make known to us the beginning of all things, would be essentially inaccurate and incomplete. Likewise, these expressions, so simple and so forceful: *Fiat lux, fiat firmamentum, fiant luminaria* [Let there be light, let there be a firmament, let there be luminaries], etc., would become unintelligible; they would no longer indicate

^[French p. 106] the acts of creative power, but simply modifications, apparently repairs which God would have made to his work, created previously and then destroyed, without anyone knowing why or how. Yet the revolutions whose necessity people delight in imagining would have been far more radical (if we may be permitted the word) than the revolution caused by the Flood. Well then! Would Moses have spoken to us of the latter in such detail, without making the slightest mention of the former, if the former had occurred? It seems to us that to pose the question is to answer it.

^[French p. 107]

⁶⁵ *Vence Bible*, vol. XXIII, p. 445.

⁶⁶ See the *Conference*, vol. II, p. 46.

⁶⁷ *Historical and Critical Introduction to the Books of the Old Testament*, vol. III, p. 48.

CHAPTER II

The literal interpretation of the days of Genesis conforms to the rules of Sacred Hermeneutics.

FIRST RULE

The words of Scripture must be taken in their literal and natural sense, unless the letter offers a meaning evidently false and contrary either to other passages of Scripture whose meaning cannot be disputed, or to the teaching of tradition, or to the decisions of the Church. Such is the doctrine of the whole School. But theologians and interpreters are careful to observe two things: 1. That the literal sense of Scripture is its principal sense, which one must seek to know before the spiritual sense and the anagogical sense, and that one must concern oneself with the latter only after having established the former, which is as it were the foundation of the others; 2. That the literal sense must not

[French p. 108] be rejected as contrary to reason merely because it contains a mystery or presents something incomprehensible. Now: 1. The Mosaic account, taken literally, presents nothing absurd, nothing contrary to reason; the difficulties raised by the adversaries of the literal sense are far from implying an evident contradiction; 2. It is not contrary to other passages of Scripture whose meaning is clearly established; the texts of the Bible which are cited in favor of the allegorical sense, and notably that of Genesis where it is said: *Istæ sunt generationes cæli et terræ, quando creata sunt in die quo fecit Dominus Deus cælum et terram* [These are the generations of heaven and earth, when they were created, in the day when the Lord God made heaven and earth], and that of Ecclesiasticus: *Creavit omnia simul* [He created all things together], prove nothing against the literal interpretation of the days, as we shall soon establish; 3. Finally, Christian tradition, instead of militating against the literal sense, approves and confirms it, as we shall see in the third part of this work.

This rule therefore does not permit departure from the literal sense of the Mosaic narrative.

SECOND RULE

To grasp the sense of any passage of Scripture, one must carefully examine the sacred text and its context, that is to say, pay attention not only to the words of the text which one wishes to explain,

[French p. 109] but also to what follows and what precedes this text, having recourse when necessary both to the preceding chapters and to the following chapters. According to this rule, it is certain that the words of Moses must be taken according to their literal sense. The sacred author designates therein the various works which God performed on each of the days. Now, just as the names of heaven, earth, the sun, plants, animals, man, etc., are always taken in their natural sense, so by the name of day one must understand a true day, since no context indicates that it must be interpreted metaphorically.

THIRD RULE

To determine in what sense one must take a particular passage or a particular expression, one must further consider the aim which the author proposed to himself and the reasons which led him to write. This twofold consideration further confirms the literal sense of the Genesis account. What does Moses propose to himself? To inculcate in the Israelites the dogma of a creator God, the first foundation of the true religion. In the second place, to turn them away from the errors of polytheism, which accorded worship to the heavenly bodies, to animals, and to plants, and adored them as gods. Finally, to consecrate the celebration of the Sabbath by the very example of God. Now, to attain this threefold aim, is it not

[French p. 110] evident that Moses neither ought nor could speak an allegorical language to a coarse and ignorant people without giving them any explanation of it? Instead of giving them clear, precise ideas concerning the great religious truths—the creation of heaven and earth, that of Adam and Eve, the history of their innocence, their fall, their punishment, the account of the generations from Adam to Noah, etc.—he would have surrendered his word to

the most disparate, the most bizarre interpretations, and would have cast the Israelites into uncertainty and doubt concerning all things.

Moreover, as Christians, we must believe that Moses is a sacred historian and that he wrote the first chapters of Genesis, like all the others, under divine inspiration. The words of Genesis, says Saint Irenaeus, were written by Moses and dictated by the Word.⁶⁸

But if Moses was divinely inspired in composing the cosmogony, the truth of all the details of his account becomes unassailable, whatever may otherwise be the source from which he was able to draw this information, and consequently one cannot depart from the sense which presents itself naturally to the mind.

From these principal rules of sacred criticism, to which we could add that of the comparison of parallel passages, that is to say, of the other

[French p. 111] passages of the same historian which, without being connected to these, may nevertheless relate to them, since they express the same thought—from these rules, we say, it follows manifestly that there is no plausible reason to abandon the literal interpretation of the Mosaic account, and that it is not even permissible, in sound logic, to give it another sense.

[French p. 112]

CHAPTER III

Reply to the objections.

FIRST OBJECTION

The universal and strongest objection is drawn from the Hebrew meaning of the word *dies*. The Hebrew expression *yom*, which is translated by *day*, also signifies, it is said, any length of time, an indeterminate period.

REPLY

1. The word *yom* does indeed express, along with the idea of day, that of epoch, but only sometimes. Ordinarily it has the same meaning in Hebrew as the word *dies* in Latin and the word *jour* in French. When it is taken in the first acceptation, the sense of the context determines it clearly enough

[French p. 113] that it is not possible to be mistaken about it. The texts cited then present a broad sense which renders all error impossible. But in the first chapter of Genesis, where the term *dies* is repeated as many as ten times—*fiant luminaria, et dividant diem ac noctem* [let there be luminaries, and let them divide day and night]; *luminare majus ut præesset diei* [the greater light to rule the day]; *et posuit ea ut præessent diei* [and he placed them to rule the day], etc., etc.—nothing indicates that they must there receive a meaning different from that which is the most natural, the most common, and which our adversaries themselves assign to the texts which we have just cited.

Let us observe, moreover, that in French, in Latin, as doubtless in all the languages of the world, it would be easy to find phrases in which the word *day* sometimes replaces the word *time* or *epoch*, without anyone thinking of distorting the primitive and absolute sense of the first of these words.

2. Not only does nothing indicate another sense, but the sacred historian took care to forestall it by designating the parts of the day: *vesperé et mané*, it was evening, it was morning; expressions which, according to the authors of commentaries on Holy Scripture, have never been applied to periods other than the diurnal revolution. What, indeed, would these terms *light* and *darkness*, *evening* and *morning*, which suit our solar day so perfectly and suit it

⁶⁸*Mosis litteræ verba sunt Christi*. [The writings of Moses are the words of Christ.] (Irenaeus, *Against Heresies*, bk. IX, ch. IV.) The source unmistakably prints the anomalous book number IX.

alone, signify on the supposition of the periods? Let us add that the ignorant Hebrews whom Moses addressed certainly could only have regarded as

[French p. 114] days of twenty-four hours the three days posterior to the creation of the sun, whose mission was to divide the day and the night, the days and the years: *Ut dividerent diem ac noctem, dies et annos* [That they might divide day and night, days and years], since they knew no others. But they must consequently also have regarded the first three days as such, since the former and the latter were designated by the same expression. It is also important to observe that time, that is to say, the duration of contingent beings, began before the sun, which, in this respect, was to serve only to measure it for the use of humanity.

3. We have said that one of the rules to follow in order to interpret Scripture properly consisted in comparing and consulting parallel or analogous passages. Often a text which appears obscure finds its explanation in other places, in other texts, where the same things are explained more clearly. The application of this rule to the difficulty which occupies us resolves it peremptorily. In the twentieth chapter of Exodus (verses 9 and 10), and in the thirty-first chapter of the same book (verses 15 and 17), Moses says clearly what he understands by the six days of creation, by comparing them to the six days of the week, and the day on which God rested after the completion of his great work to the seventh day of the Sabbath. He says to the Israelites: "You shall work for six days, and you shall rest on the seventh," and the reason which he gives for it is that "God employed

[French p. 115] six days in making heaven and earth.⁶⁹"In these two passages we find the same terms employed to designate either the days of creation or the days of the week, without anything indicating that they must be taken in a different sense. Thus the first days are the model, the type of the days which must succeed them until the end of the world.

The division of time into six days followed by a day of rest was therefore established in memory of the six days of creation. God willed that man should forever celebrate the memory of that first week in which his infinite perfections were manifested outwardly; and the learned Bailly informs us, in his *History of Ancient Astronomy*, that among the peoples of the East the practice of reckoning by weeks divided into seven days went back to time immemorial.⁷⁰ Now, we ask, would the Holy Spirit have made use of the same term, twice in the same sentence, in two such different senses, and that precisely when it was a question of emphasizing the fulfillment of a precept by a solemn similitude, and that without the context warning us of it? In truth, if, by an impossibility,

[French p. 116] he had wished to deceive us concerning the extent of the days of Genesis, he could not have gone about it better.

SECOND OBJECTION

Moses ends his account with these words: *Istæ sunt generationes cæli et terræ quando creata sunt in die quo fecit Dominus* [These are the generations of heaven and earth when they were created, in the day when the Lord made]:⁷¹ such is the origin of heaven and earth; it is thus that they were created on the day when God made them. Now, the word *day* is employed here for *epoch*, since it embraces the six days: this meaning therefore applies naturally to the days of which Moses spoke shortly before.

⁶⁹*Sex diebus operaberis, septimo autem die Sabbatum Domini Dei tui est: sex enim diebus fecit Deus cælum et terram.* [For six days you shall work, but on the seventh day is the Sabbath of the Lord your God: for in six days God made heaven and earth.] (Exodus, ch. XX, vv. 9, 10, and 11.) *Sex diebus facietis opus: in die septimo Sabbatum est, requies sancta Domino: sex enim diebus fecit Dominus cælum et terram, et in septimo ab opere cessavit.* [For six days you shall do work: on the seventh day is the Sabbath, a holy rest to the Lord: for in six days the Lord made heaven and earth, and on the seventh he ceased from work.] (Exodus, ch. XXXI, vv. 15 and 17.)

⁷⁰*Clarifications on Book VII*, p. 8.

⁷¹Genesis, ch. II, v. 4.

REPLY

In conformity with the rules cited above, let us question the preceding texts; they will give us the true meaning of this one. We read there that God blessed the seventh day because on that day he had ceased to produce all the works which he had created in order to form them: *Benedixit diei septimo quia in ipso cessabat ab omni opere suo quod creavit ut faceret* [He blessed the seventh day because on it he ceased from all his work which he had created in order to make it].⁷² And what had he created in order to be formed? Moses tells us: heaven and earth. *Igitur perfecti sunt cæli et terra, et omnis ornatus eorum* [Thus the heavens and the earth were completed, and all their adornment].⁷³

[French p. 117] He created them first, in order to adorn them afterward: *Creavit ut faceret* [He created in order that he might make]. “The Hebrew word *Bara* which is found in the first verse,” says Abbé du Contan de la Morlette, “must be understood of a creation properly so called. To be convinced of this, it suffices to compare this verse with that in which one reads: *Bara laasoth, creavit ut faceret, ut ordinaret* [*Bara laasoth*, he created in order that he might make, that he might order]. God created matter in the beginning and drew it from nothingness, in order to communicate new forms to it on the following days.

“The opposition which exists between *Asah* and *Bara* teaches us all this. *Asah*, which means to make, to form, supposes a preexistent matter upon which the agent operates; *Bara*, which signifies to create, supposes none: *Bara laasoth, creavit ut faceret, ut ordinaret* [*Bara laasoth*, he created in order that he might make, that he might order]. He first created matter in the beginning in order to order it, in order to adorn it afterward in the space of six days.”⁷⁴

It follows from this distinction, established by Moses between creation and formation, that these words: *In Die quo fecit Deus cælum et terram* [In the day when God made heaven and earth], express, not any epoch whatever, but the six days of Genesis, during which God formed the beings which he had created on the first day. Verse 17 of Exodus (ch. XXXI), where Moses repeats the same words, leaves no doubt about his thought: “For God made heaven and earth in six days.”⁷⁵ “It is evident,” says Bishop Frayssinous, “that here the word *day* signifies the six

[French p. 118] days themselves of creation.”⁷⁶ But let us not fail to observe that this sense is given to it by the entire context.

Let us further remark upon the limited scope and the weakness of the observation which is opposed to us. Indeed, the sacred historian employs this word *dies* one hundred and twelve times in the book of Genesis, and he always employs it in its natural meaning. Thus one reads there: *Et post multos dies* [And after many days] . . . *facti sunt dies Adam octingenti anni* [the days of Adam became eight hundred years] . . . *obtinuerunt aquæ terram centum et quinquaginta diebus* [the waters prevailed over the earth for one hundred and fifty days] . . . *primo die mensis apparuerunt cacumina* [on the first day of the month the summits appeared], etc., etc. The passage cited by our adversaries would be the only one in which the word *dies* was taken for *time*. But here again, by putting this word in the ablative preceded by the preposition *in*, Moses indicates clearly enough that he wishes to speak of the time when God formed heaven and earth, as we read elsewhere: *In diebus illis, in illo tempore, in illo anno*: in those days, at that time, in that year.

Several other texts of Scripture are also reported in which the word *day* is taken for an indeterminate time, for any epoch, such as this one: “Before the Lord one day is as a thousand years, and a thousand years are as one day.”⁷⁷

⁷²Ibid., ch. II, v. 3.

⁷³Ibid., ch. II, v. 1.

⁷⁴*Genesis Explained According to the Primitive Texts.*

⁷⁵*Sex enim diebus fecit Deus cælum et terram.* [For in six days God made heaven and earth.]

⁷⁶*Conferences on Religion*, vol. II, p. 202.

⁷⁷*Unus dies apud Dominum sicut mille anni, et mille anni sicut dies unus.* [One day with the Lord is as a thousand years, and a thousand years are as one day.] (2 Peter, ch. III, v. 8.)

Without any doubt, the word *dies* is often taken in Scripture in this sense; but then, as we have observed, the context indicates it clearly. Thus, in

[French p. 119] the passage of Saint Peter which is adduced, it is evident that the prince of the apostles speaks in a figurative sense, since it concerns the eternal rewards and punishments which God will distribute on the day of judgment. He says in the preceding verse: “The heavens and the earth which now exist are carefully kept by the same word, and are reserved to be burned by fire on the day of judgment.”⁷⁸ One therefore cannot invoke this text or other texts of this kind in order to claim that Moses, whose language is that of a historian, did not give the word *dies* its simplest and most natural sense.

THIRD OBJECTION

This third objection turns upon the sense which must be given to the words *mané* and *vesperé*, so often repeated by Moses with the word *day*. Some affirm that, by these words *evening* and *morning*, Moses wished to say simply the beginning and the end of a period.⁷⁹ Others find in them a proof that Moses did not wish to speak of days of twenty-four hours, since he does not say that a day was made from morning and evening, but from evening and morning; now, between evening and morning there is a night and not a day.⁸⁰

[French p. 120] The latter are greatly surprised on seeing to what extent the most natural, most literal sense departs from this translation: *and the evening and the morning was the day*; for “the word *hereb*, which is rendered there by *evening*, really signifies *disorder, confusion*; just as the opposed word *boher* signifies *to arrange, to put in order*. These two words *vesperé* and *mané* must therefore be translated thus: there was confusion, there was order.”⁸¹

The former believe they demonstrate that the word *dies* presents only the idea of *light*, that it is the name given by Moses to light, and that consequently the words *mané* and *vesperé* can indicate only the revolution of an indeterminate space of time.⁸²

It would take too long to enumerate here all the tortures which the Hebrew text has been made to undergo in order to escape the literal interpretation of the Vulgate. One would truly say that the seventy Greek translators, authors of the version which bears their name, did not know Hebrew, and that Saint Jerome, author of the Vulgate approved by the Council of Trent as being the best translation of the sacred books, knew neither Greek nor Hebrew.

Far from us be the irreverent thought of disputing in the least the knowledge of the Hebrew language possessed by these learned writers; but we

[French p. 121] shall nevertheless permit ourselves to observe that, in order to grasp properly the thought of the sacred historian in the original, it is not enough to have studied this language, to know how to read and understand it; one must also know its genius, its syntax, its idioms or Hebraisms; and, frankly, this knowledge can be acquired only by a special and constant study throughout one’s whole life; and there are few men who have had the taste and the leisure to devote themselves to it.

Among those whose perfect competence in this matter no one would dare deny, there are two of recognized and incontestable authority. We shall report their testimony in reply to the difficulty proposed.

⁷⁸*Cæli autem qui nunc sunt, et terra, eodem verbo repositi sunt, igni reservati in diem judicii.* [But the heavens which now exist, and the earth, are stored up by the same word, reserved for fire unto the day of judgment.] (v. 7.)

⁷⁹*Studies on Christianity*, vol. I, p. 380.

⁸⁰*La Civiltà cattolica: Cosmogony Compared with Genesis.* No. CXCHL.

⁸¹*Review of the Catholic World.* “Origin of Things.” No. of January 25, 1862, p. 550.

⁸²Grevin. *Studies on the First Chapter of Genesis*, p. 42.

The first is Abbé Glaire, dean and professor of Holy Scripture at the faculty of theology of Paris, author of several very remarkable works on the Old and New Testaments. Like all those who translated the Bible before him—Abbé de Vence, Carrière, Le Maistre de Sacy, etc.—he translates the first chapter of Genesis thus:

“God said: let there be light, and there was light. God, seeing how beautiful the light was, separated it from the darkness and called it day, after having given the darkness the name of night. Thus passed the evening and the morning of this first day . . . thus passed the evening and the morning of the second day . . . thus passed the evening and the morning of the third day . . . thus passed the evening and the morning of the fourth day . . . thus passed

[French p. 122] the evening and the morning of the fifth day . . . thus passed the evening and the morning of the sixth day.⁸³”

Throughout the translation, there is never any question of period, revolution, beginning and end, or disorder and arrangement, but solely of day, evening, and morning, in conformity with the usage of the Jews, who date the beginning of the day from evening.

The second testimony is that of Chevalier Drach, the most celebrated Hebraist in Europe, a former rabbi and honorary librarian of the Propaganda in Rome. Independently of the Hebrew language, which has been the object of his studies since his childhood, he also possesses the other Oriental languages; he has just worked on the reprinting of Origen’s Hexapla, which contains, as is known, the Bible in six languages. In the frequent relations which we have had the honor of having with him, we several times brought the conversation to the days of Genesis, taking care to cite the arguments of those who regard them as so many periods, and here was his reply: “The system of epochs which Catholics have embraced in order to escape the troublesome objections of unbelieving geologists is untenable in every respect. The word *dies*, in Hebrew *yom*, signifies *day*, and not *epoch*, unless the context indicates that it must not be taken

[French p. 123] in its natural sense. Now, in the first chapter of Genesis, the entire context indicates that it must be taken in its literal sense, by designating the very parts of the day, by saying: *it was evening, it was morning*, according to the usage of the Hebrews, who marked an entire day by these two expressions: evening and morning. Moses therefore employed the two accepted terms to designate the same idea: *it was evening, it was morning, one day: Mané et vesperé, dies unus* [Morning and evening, one day].

“The verse where it is said is objected,” he continued: *Iste sunt generationes celi et terræ, quando creata sunt, in die quo fecit Deus cælum et terram* [These are the generations of heaven and earth, when they were created, in the day when God made heaven and earth]. Here, evidently, it is said, the word *dies* is indeed taken for a time or epoch, since it embraces all the creations. Those who employ language so affirmative prove that they are strangers to the Hebrew language. Indeed, in Hebrew the word *create, bara*, has only one meaning, that of creating, of drawing from nothingness; whereas the word *facere*, in Hebrew *asah*, likewise signifies to make and to fashion. Now, the ancient synagogue itself had remarked that Moses, in the account of creation, employed the verb *create* only three times; he used it: 1. to designate the creation of primary matter, of the formless elements of the globe, contained in these words: *In principio Deus creavit cælum et terram* [In the beginning God created heaven and earth]; 2. to designate the creation of the animals, because of the breath of life which is in them and which is distinct from matter: *creavitque Deus cete grandia et omnem animam viventem* [and God created the great sea creatures and every living soul]; 3. to designate

[French p. 124] the creation of man in the image of God. But when it is a question of the other formations, the sacred historian employed the word *facere*, which means to fashion, to form, because on those days God fashioned the formless matter which he had created on the first day. The words *in die quo* therefore relate to that day on which God created heaven and earth *in principio* [in the beginning].

⁸³Genesis, ch. I. Translation of Abbé Glaire.

“Here is further what the rabbis say in the *Talmud* and the *Médrasch*: ‘The light of the first day was nothing other than the brilliant brightness of the Messiah; it shone for the space of one of our days; then disappeared, to return the following day.’ Despite all this, men eager to give us ingenious and learned systems have pronounced from the height of their authority that what is in question here is nothing less than six revolutions, each of I know not how many thousands of years. This idea appears untenable to me: for me, a day is a day.⁸⁴”

FOURTH OBJECTION

Our days of twenty-four hours are regulated by the movement of the earth around the sun. Now, how could Moses have assimilated the days of creation to our solar days, since the sun was created only

[French p. 125] on the fourth day to spread light and mark the days, the nights, and the times?

REPLY

One might perhaps, in order to reply to this objection, confine oneself to saying that, even if our days of twenty-four hours were not regulated, measured by the movement of the earth around the sun, that would not prevent time from existing; and add that it would have been easy for Moses, by virtue of divine inspiration, to determine a duration of time corresponding to the first three days of creation, as though this duration had been measured after the pattern of the following days, that is to say, after the creation of the sun.⁸⁵ But this reply would not appear satisfactory to everyone, and we would not wish to seem to seek to evade a difficulty which led a man such as Origen to pronounce himself strongly against the literal sense of the Mosaic account. It is the same difficulty, moreover, which caused Saint Augustine to incline toward the idea of a creation accomplished in a single cast, as we shall show in its place. One understands the embarrassment of the one and the other when one transports oneself to the centuries in which they lived and thinks of the astronomical systems then adopted. But one

[French p. 126] is surprised to encounter it among modern writers. Here is the manner in which this difficulty is presented in the *Studies on Christianity* by Mr. Nicolas, who regards it as insoluble and makes of it the principal argument of his opposition to the literal interpretation.

“By the word *day* employed in the cosmogony of Moses, one may understand epoch, revolution.

“But I say more: one must understand this word in this way, and to see in it an ordinary day would be to overturn the text itself and the sense of Genesis: nothing is easier to demonstrate.”

And as if this expression *one must* were not yet strong enough, the learned author adds: “Every reflective mind will attach itself to this explanation, not only as permitted, but as willed by the economy of the sacred text.”⁸⁶

The illustrious apologist will be surprised when he sees, in the third part of our work, if it falls under his eyes, that, doubtless without knowing it, he treats as unreflective minds the very great majority of the Fathers, doctors, theologians, and interpreters who did not accept his explanation and pronounced themselves in favor of the literal sense.

We admit it, this threat of passing off every opponent as an *unreflective mind*, this obligation to surrender, imposed in terms so absolute, so

[French p. 127] imperious by such an authority, would be of a nature to embarrass us, if Mr. Nicolas had not himself taken care to attenuate its scope by warning his readers that he is not very sure of what he advances on this matter, because he has not made a special study of it: “As,” he says, “I do not wish to take upon myself responsibility for

⁸⁴These thoughts are reproduced in a discourse on the days of Genesis which Mr. Drach delivered at a meeting of the *Catholic Circle*.

⁸⁵In other words, the sun constitutes neither duration nor time, any more than our clocks constitute them.

⁸⁶Vol. I, p. 372.

a requirement (it is indeed great enough!) which perhaps arises from the imperfection of our special knowledge, I refer the reader to the learned work of Mr. Godefroy, *Cosmogonie de la révélation* [*Cosmogony of Revelation*].⁸⁷

Well and good! There are our consciences reassured; it is neither a geologist nor a theologian who speaks.

But what, then, is this explanation which must close all discussions and satisfy all requirements? Here it is: "It will first be granted to me without difficulty that the word *day* has the same sense for the six days of creation, and that it is no different for the first than for the second, than for the third, etc. They are six similar days, since the terms which Moses uses for each of them are identical; that is clear.

"Now, it is only on the fourth day that the heavenly bodies are formed, in order, says the biblical text, *that they may separate the day from the night, and that they may serve as signs to mark the times and the seasons, the days and the years*.

"The three preceding days were therefore not

[French p. 128] days of this kind, having their morning and their evening, their separation of day and night, since the heavenly bodies which make these divisions, *which separate the day from the night and mark the days and the years*, did not yet exist. It is therefore impossible, for these first three days, to take literally these words: *and from the evening and the morning the first day was made*. And then how are they to be understood, if not: *and from the beginning and the end the first epoch was made*, or, as Moses says, *the first generation*?

"But if one is forced to understand the first three days in this way, one cannot escape the conclusion that it must be so for the other three, and that, the six days being, as has been acknowledged, similar, they are not six days but six epochs of some duration.⁸⁸

Science replied to this objection by admitting, as alone true, the theory of undulations proposed by Huygens and victoriously defended by Fresnel, that is to say, by teaching that light exists independently of the heavenly bodies, and that the sun is not the focus of light, but a simple agent intended to make the luminous fluid which fills space, and which is called ether, vibrate.⁸⁹ This difficulty was the result of a confusion which was made

[French p. 129] between two very different things: the luminous fluid and the sensation of light. The one is distinct from the other; and the luminous fluid can exist without the sensation of light. Now, it is from the movement and repose of the luminous fluid that day and night result for us; it is not the sun which makes them; it can only indicate them; and if the movement of the earth was not yet established then, as some astronomers claim, we must suppose that the luminous fluid was set in motion by some agent, if not by the immediate will of the Creator.

Whether it is the sun or any other cause which makes the luminous fluid vibrate matters little; but what is worthy of remark is that, even after the creation of the sun, on the fourth day, the rays of this heavenly body did not produce the sensation of light, because there was no organized being to receive it. This phenomenon began only on the fifth day, that is to say, after the creation of the animals. And yet, would anyone dare say that the fourth day, when the sun existed, could not be called day because there was no animal upon the earth to receive the light?

There is therefore nothing in science which opposes giving the first three days the same duration as the following ones. Moreover, the sacred text employs the same expressions to designate them as for the other days: they are therefore similar to them.

[French p. 130] Saint Basil had foreseen this difficulty and had resolved it in these terms:

⁸⁷Vol. I, p. 379.

⁸⁸Vol. II, p. 359.

⁸⁹By striking a fire steel, by lighting a candle, it was easy to recognize that light is independent of the sun.

“Now, without doubt, since the creation of the sun, the day is that air which the sun itself illuminates so long as, remaining in our hemisphere, it shines upon the earth. Night is the shadow of the earth which succeeds the day when the sun hides itself. But then day was made, and when it ceased, night succeeded it in turn, not through the effect of the movement of the sun, which did not exist, but through the projection of that primitive light which filled space and through the subsequent retraction of that same light, and this according to the measure fixed by God.⁹⁰”

Saint Ambrose, developing this text: *Et vocavit Deus lucem diem et tenebras noctem* [And God called the light day and the darkness night], observes that God called the light day and the darkness night in order to distinguish day and night by their proper name. That is why, he says, we must remark that the rising of the light appears to us to open the day before the sun. Indeed, the beginning of the day closes the end of the night, so that a place may be assigned [French p. 131] at once to the night and to the day. The sun illuminates, but it is light which makes the day. Thus the sky often covers itself with clouds, to the point of hiding the sun and allowing none of its rays to pierce through, while light makes the day appear and drives back the darkness.⁹¹

Saint Bonaventure is equally formal and equally explicit in his second book of the *Sentences*. He begins by proving that the light created by God on the first day was a corporeal, material, and not spiritual light, whose principal function was to make day and night. He then replies to this objection, namely, that on this supposition the creation of the sun would have been useless. “No,” he says, “because, although this light made the day in a nature proportioned to the needs of that time, it nevertheless pleased God to render this light fuller, more resplendent through the creation of the sun, in order to embellish and perfect his works.⁹²”

He then asks in what manner this light

[French p. 132] made day and night. He cites the opinion of the Fathers on this subject, among others Saint Basil, Saint Gregory, Saint John Damascene, and Bede. The Greek Fathers think that it was *emissione et contractione radiorum*, by the emission of the rays and their contraction. “During the first three days,” says Saint John Damascene, “day and night were made in conformity with the order of the Lord through the projection and retraction of light.⁹³” And the Latin Fathers said that it was through its own revolution.

Moreover, one will find the same explanation and still others in the Fathers and Doctors whom we shall cite in the third part.

FIFTH OBJECTION

This objection relates to the word *unus*, which Moses employs to express the first day. This word does not correspond to the second and third day; it is the word *primus*. Therefore, if Moses had wished to speak of a true day, he would

⁹⁰*Nunc quidem dies, post solem factum, is aer est quem sol ipse illuminat, dum est in nostro hemispherio, supra terram relucens. Nox umbra est terrae quae diei, sole se occultante, succedit. Tunc vero fiebat dies, cui cedenti nox vicissim succedebat, non quidem secundum motionem solis, sed primigenia illa luce suum splendorem diffundente, seque rursum contrahente; idque pro mensura a Deo definita.* [Now indeed, after the sun had been made, day is that air which the sun itself illuminates while it is in our hemisphere, shining above the earth. Night is the shadow of the earth which succeeds the day when the sun hides itself. But then day was made, and as it gave way, night succeeded it in turn, not indeed according to the movement of the sun, but through that primordial light diffusing its splendor and drawing itself back again; and this according to the measure fixed by God.] Saint Basil, in his *Hexameron*, homily II.

⁹¹*Vocavit Deus lucem diem et tenebras noctem, ut et nomine ipso diem noctemque distingueret. Advertimus itaque quod lucis ortus, antequam sol, diem videatur aperire: principia enim diei noctis exitum claudunt, finisque temporis, et status limes nocti et diei videatur esse prescriptus. Diem sol clarificat, lux facit. Frequenter caelum nubibus textitur, ut sol tegatur, nec ullus radius illius appareat: lux tamen diem demonstrat, tenebras abscondit.* [God called the light day and the darkness night, so that by the very name he might distinguish day and night. We therefore observe that the rising of light seems to open the day before the sun: for the beginnings of day close the end of night, and the end of the time and the fixed boundary seem to have been prescribed for night and day. The sun brightens the day; light makes it. Frequently the sky is covered with clouds, so that the sun is hidden and no ray of it appears: nevertheless light displays the day and hides the darkness.] (In the *Hexameron*, bk. I, ch. IX, v. 35.)

⁹²*Liber de Sententiis [Book of Sentences], distinction XII.*

⁹³*In primis tribus diebus reflexo et contracto lumine, dominico et praecepto dies et nox fiebat.* [During the first three days, with the light reflected and contracted, day and night were made at the Lord’s command.] The malformed phrase *dominico et praecepto* is retained as printed; the English gives its apparent intended sense.

have said: *Factum est vespere et mane dies primus* [And evening and morning were made, the first day], where it is said: *dies unus* [one day].

REPLY

No, Moses ought not to have used the word *primus*.

[French p. 133] Indeed, by saying “the first day,” he would have seemed to say that this was the first creation of God; which is false, since the creation of the angels and of the formless elements of heaven and earth had already taken place. Here is the reason by which Saint Ambrose justifies the choice Moses made of the word *unus*: “It is wisely that Moses said *one day*, and not *the first day*; for, according to this order, he was able to name the following days: the second, the third day; but thereby he established that the twenty-four hours of day and night must be designated under the name of day, as if he were saying: twenty-four hours measure the time of one day.⁹⁴”

Saint Thomas had posed this objection to himself and had resolved it thus:

“One day is spoken of at the first institution of the day, to mark that the duration of twenty-four hours belongs to a single day. That is why, by employing the word *unus*, Moses wished to determine the measure of the natural day; or else to show that the day is completed by the return of the sun to one and the same point; or again, because after the completion of the week, one returns to the first day, which is the same as the octave. These are the three reasons which Saint Basil adopts.⁹⁵”

[French p. 134] Several other objections drawn from astronomy are also formulated against the literal interpretation of the Mosaic days, such as the following: from evening to morning there is night, and Moses does not speak of it. The meridian not existing, the first day could not be measured. These days could not have had the same duration; therefore they were not ordinary days, etc.

We have already indirectly resolved these difficulties by indicating, according to the holy Greek and Latin Fathers, in what manner the primitive light made day and night. We shall return to them in a forthcoming chapter, in which we propose to establish that all the acts of creation were miraculous and consequently placed outside the laws which now govern the course of the world.

⁹⁴In the *Hexaemeron*, bk. I, ch. IX, v. 37.

⁹⁵*Dicitur unus dies in prima diei institutione ad designandum quod viginti quatuor horarum spatia pertinent ad unum diem: unde per hoc quod dicitur unus, prefigitur mensura diei naturalis. Vel propter hoc ut significant diem consummari per reditum solis ad unum et idem punctum; vel quia completo septenario dierum reditur ad primum diem, qui est unus cum octavo. Has tres rationes Basilii assignat.* [One day is spoken of at the first institution of the day, to designate that the spaces of twenty-four hours belong to one day: hence, by the fact that it is called one, the measure of the natural day is determined. Or for this reason, to signify that the day is completed by the return of the sun to one and the same point; or because, when the cycle of seven days is complete, there is a return to the first day, which is one with the eighth. Basil assigns these three reasons.] (Saint Thomas, question LXXIV, article 1.)

PART THREE

SCRIPTURAL POINT OF VIEW

CHAPTER I

The question which occupies us is much more scriptural than geological.

We have now reached the culminating point of our thesis.

When one seeks to account for the more or less erroneous, more or less false assessments which the proponents of the periods have doctrinally established in their works, one cannot refrain from experiencing a singular astonishment at the assurance with which mere laymen believe themselves permitted to interpret Holy Scripture, and at the authority with which they pronounce

[French p. 136] in the last resort upon the sense which must be given to this or that passage. Thus, we have just seen how the illustrious author of the *Studies on Christianity* imposes, with all the authority of his word, the duty of concurring in his view, *the only one acceptable to a reflective mind*.

The *Review of the Catholic World*, in one of its articles on the origin of things, reproduces nearly the same language, “and calls the attention of its readers to the sacred text: *and the evening and the morning was the first day*; these words seem to it, indeed, not to have been sufficiently understood until now.”⁹⁶

Mr. Grevin, in his study on the first chapter of Genesis, does not fear to affirm “that by demonstrating that the word *dies* presents only the idea of light,⁹⁷ he has destroyed, at their foundations, all the reasoning of those who see only periods of twenty-four hours in each of the phases of creation.”⁹⁸

Mr. Godefroy, in his *Cosmogony*, is still more affirmative: “Let us not be unbelieving toward the word of the Lord,” he exclaims; *non sis incredulus verbo illius* [do not be unbelieving toward his word]; “let us believe firmly, since it is God himself who has spoken; let us believe that it was only in the fourth

[French p. 137] epoch, the fourth day of Genesis, that the earth had luminaries to make the distinction between day and night and to mark the days, the years, and the seasons.”⁹⁹ “A Doctor of the Church would not speak otherwise.

Mr. Marcel de Serres, in order to explain his thought, informs us that: “Little satisfied with the translation of the Vulgate and even with that of the Septuagint—so much the worse for Saint Jerome and the Septuagint!—we sought to account for the thought of the legislator of the Hebrews, and here is how we grasped it.”¹⁰⁰

Mr. Buckland pronounces as a theologian: “The system of periods,” he says, “is philologically and theologically unassailable.”¹⁰¹

We ask pardon of these honorable scholars; they mistake the object of their studies and the role which those studies confer upon them. They imagine themselves discoursing upon a profane history, as they would discourse upon that

⁹⁶No. of January 25, 1862.

⁹⁷We repeat it: the word *dies*, especially in the historical style (and Moses is nothing but a historian), represents above all the idea of a duration of twenty-four hours, whatever may otherwise be the manner in which this duration is measured.

⁹⁸

42.

⁹⁹*Cosmogony*, p. 185.

¹⁰⁰Cited in the introduction to Mr. Godefroy’s *Cosmogony*, p. XXXII.

¹⁰¹*Geology and Mineralogy in Their Relations with Natural Religion*, vol. II, ch. I.

of Livy, Thucydides, or Xenophon; they are mistaken. Moses is a historian, it is true; but a sacred historian. He wrote his book, not only with the assistance, but under the inspiration of the Spirit of God. The right to interpret [French p. 138] it therefore does not belong to laymen, especially with so much assurance, even if it were to bring it into harmony with what they call the requirements of science. The Church alone, to which the deposit of revealed truths was entrusted, is invested with this right; and the Church speaks not only through her councils and her decrees, but also through the organ of the Fathers, doctors, and interpreters, according to Bellarmine, who says: “From this passage of Saint Peter: *No prophecy of Scripture is explained by a private interpretation*, it evidently follows that no private individual is the judge of the true sense of Scripture. We must therefore recognize only the Church as judge. Now, the Church speaks only through the mouth of the pastors and doctors, and especially when they are assembled in general council.¹⁰²”

This obligation to follow the teachings of the interpreters of Scripture recognized by the Church is imposed even upon priests by the profession of faith prescribed by Pius IV in his constitution *Injunctum nobis*. Here is its formula: “I, N. . . , admit with firm faith Holy Scripture in the sense which our holy mother the Church teaches and has always taught,

[French p. 139] to whom it belongs to judge of the true sense and interpretation of the Holy Scriptures; and I shall never receive or interpret it except according to the unanimous opinion of the Fathers.¹⁰³”

This reserve is, moreover, entirely natural; for is the right to explain and comment upon the civil code recognized in anyone other than advocates and jurisconsults?

And let no one come to object to us that an article of faith and morals is not in question here. What is in question here is, first, texts of Holy Scripture, whose interpretation belongs to the Church, like that of all the others. What is in question, in the second place, is the foundation, the keystone of the whole edifice of Christianity, the chapter of Scripture to which all theological truths are attached and which separates Christian science from that which is not Christian. Ah! Our enemies know it well. In attacking the book of Moses, they are not unaware that they undermine the Christian religion at its base; and it is by resting upon the arbitrary interpretation of his word that they have come to proclaim the eternity of matter and pantheism in all its degrees.

[French p. 140] Thus the Fathers and the doctors of all the centuries have studied the cosmogony of Moses with an attention, a perseverance, and a zeal which reveal the importance that they attached to it. It is with the aid of their learned commentaries that we must seek the sense of the sacred text. This text is the expression of revelation and of tradition; its precise sense is entrusted to the Church and to her interpreters, who alone have the mission of determining it. It is therefore to be completely ignorant of the rules of biblical exegesis to say: “The simplest common sense indicates that Moses cannot be responsible for the errors of his commentators; and that there can be no kind of solidarity between the cosmogony of Genesis and that of the holy Fathers.¹⁰⁴”

[French p. 141]

¹⁰² *Constat ex illo versiculo Petri (cap. I, v. 20); Omnis prophetia Scripturæ propria interpretatione non fit; evidenter colligitur non esse judicem veri sensus Scripturæ ullum hominem privatum. Restat igitur ut judicem agnoscamus solam Ecclesiam. Porro Ecclesia non aliter loquitur quam per os Pastorum et Doctorum, ac præcipue in generali concilio congregatorum.* [It follows from that verse of Peter (ch. I, v. 20): No prophecy of Scripture is made by private interpretation; it is evidently gathered that no private man is the judge of the true sense of Scripture. It remains, therefore, that we recognize the Church alone as judge. Moreover, the Church speaks in no other way than through the mouth of pastors and doctors, and especially when they are assembled in general council.] (*On the Word of God*, bk. II, ch. 5.)

¹⁰³ *Ego N. . . firma fide sacram Scripturam juxta eum sensum quem tenuit et tenet Sancta Mater Ecclesia, cujus est judicare de vero sensu et interpretatione sacrarum Scripturarum, admitto; nec eam unquam, nisi juxta unanimum consensum Patrum accipiam et interpretabor.* [I, N. . . , admit with firm faith Holy Scripture according to that sense which Holy Mother Church has held and holds, to whom it belongs to judge of the true sense and interpretation of the Holy Scriptures; nor shall I ever receive or interpret it except according to the unanimous consent of the Fathers.] (Constitution *Injunctum nobis*.)

¹⁰⁴ Godefroy, *Cosmogony of Moses*, Introduction, p. XVI.

CHAPTER II

All the material beings that God has created have reference to man, as the compendium and the head of the world of bodies.

If this proposition is true, it suffices to demolish radically the gigantic edifice of the pre-Genesis world and of the indefinite intervals which would have preceded the creation of man. But this capital fact is demonstrated philosophically and theologically to the point of evidence.

It is an axiom accepted by all Christian philosophers and even by the sages of paganism—Plato, Aristotle, Cicero, etc.—that God is himself the exemplar and final cause of all his external operations; and that he loves himself with such a love that all his works tend to proclaim his ineffable perfections. Saint Thomas, after having summarized Aristotle's doctrine on this subject, posed to himself this double

[French p. 142] question: "Is there another exemplar cause of things, and another final cause than God?—No, he answers, God is the first exemplar cause and the final cause of all beings.¹⁰⁵"

In support of the metaphysical considerations which he develops in order to prove his thesis, he invokes this passage from Proverbs: "The Lord has made all things for himself,¹⁰⁶" that is, for his glory. It follows from this that all the works of God must reproduce his image and procure his glory. Now, we see this image, this divine likeness, appear nowhere in inanimate creatures and in animals. What are minerals, plants, animals? A mere indication of the power and wisdom of the Creator; but one could not say, without falling into absurdity, that they reflect the image and likeness of God. They can therefore be attached to God, and fulfill their destiny, only through the ministry of man, who, by his mixed nature, unites matter and spirit in himself, and in whom the divine image and likeness shine.

[French p. 143] Irrational creatures must also procure the glory of God, that is, according to the language of the School, his external glory. We read, indeed, frequently in the Holy Scriptures, that these creatures proclaim the glory of God: "The heavens recount the glory of God.¹⁰⁷" "I shall be glorified by the beast of the fields.¹⁰⁸" "For the invisible perfections of God, as well as his eternal power and his divinity, have become visible since the creation of the world, through all that has been made; so that they are inexcusable, because, having known God, they did not glorify him as God.¹⁰⁹" But this glory, irrational creatures can procure for God only by manifesting to the eyes of man his attributes, the knowledge of which leads man to glorify his Creator. Man alone can therefore attain this end of creation; he alone can raise to the Creator his homages, and those of the whole material creation.

Is this not what the order of creation loudly proclaims? The earth is created first, as the habitation of all the beings which are to people the

[French p. 144] world; then comes light and with it the heat, electricity, and atmosphere necessary for the life of its guests. The earth being thus prepared, plants are seen to arise to serve as nourishment for the animals, which are created in their turn on the fifth day. But why this earth, these plants, these animals, this light, these stars? For what needs did these immense forests grow? For whom these majestic shades? For whom these sublime spectacles? What mysterious

¹⁰⁵ *Utrum causa exemplaris sit aliquid præter Deum? Respondeo dicendum, quod Deus est prima causa exemplaris omnium rerum. — Utrum, Deus sit causa finalis omnium rerum? Respondeo dicendum quod divina bonitas est finis omnium rerum.* [Is the exemplar cause something besides God? I reply that it must be said that God is the first exemplar cause of all things. — Is God the final cause of all things? I reply that it must be said that the divine goodness is the end of all things.] (*Summa*, first question XIV, arts. 3 and 4.)

¹⁰⁶ *Universa propter semetipsum operatus est Dominus.* [The Lord has wrought all things for himself.] (Prov., ch. XVI, v. 4.)

¹⁰⁷ *Celi enarrant gloriam Dei.* [The heavens recount the glory of God.] (Ps. XVIII, v. 1.)

¹⁰⁸ *Glorificavit me bestia agri.* [The beast of the field has glorified me.] (Isaiah, XLIII, v. 20.)

¹⁰⁹ *Invisibilia enim ipsius a creatura mundi per ea quæ facta sunt intellecta conspiciuntur; sempiterna quoque ejus virtus et divinitas; ita ut sint inexcusabiles; quia cum cognovissent Deum, non sicut Deum glorificaverunt.* [For his invisible things, from the creation of the world, being understood through the things that have been made, are beheld; his everlasting power also and divinity; so that they are inexcusable; because, when they had known God, they did not glorify him as God.] (To the Romans, ch. I, v. 20.)

beings contemplated these marvels? All these questions remain insoluble for our adversaries, and their powerless reason plunges into an abyss and falls silent before them.

Indeed, who would dare to say that these material beings existed for themselves? Who would dare to believe that an infinitely wise and infinitely powerful God would have proposed to himself as an end, in the manifestation of this wisdom and this power, coarse, transitory, perishable beings, which are ignorant of themselves, and whose existence bears no proportion to the end which an infinite intelligence must necessarily propose to itself? No, such a supposition is condemned by common sense. Another being was required to explain—one might almost add, to justify—the appearance of all the others, and to connect the material world to the spiritual world, creation to the Creator.

Everything, therefore, was created for man: the earth, the air, and the light for the plants; the plants for the animals; and the whole for man, who by his double

[French p. 145] nature serves as a bond of union between the creatures and the Creator. This is their end, their destiny.

This supreme investiture, as king and pontiff of the world, God conferred upon man when he said: “Let us make man to our image and to our likeness, and let him have dominion over the fishes of the sea, and over the birds of the heavens, and over the animals, and over the whole earth, and over all the reptiles that move upon the earth;¹¹⁰” then, after having realized his admirable designs, he said to our first parents: “Behold, I have given you all the plants spread over the surface of the earth and which bear their seed, and all the fruit trees which have their germ within themselves, to serve for your nourishment; and I have given their pasture to all the animals of the earth, to all the birds of the heavens, to everything that lives and moves upon the earth.¹¹¹”

This thought of God in creation, the Sage recalls to us when he says, addressing the Lord:

[French p. 146] “You have formed man by your wisdom, so that he might have dominion over the creatures which you have made and that he might direct the universe in equity and in justice; and that he might render judgments in uprightness of heart.¹¹²” “What is man?” exclaims the Psalmist; “you have given him dominion over the works of your hands; you have put all things beneath his feet.¹¹³”

The whole magnificent plan of eternal wisdom, when it deigns to manifest itself outside itself, is there: God creating everything for his glory: *Universa propter semetipsum operatus est Dominus* [The Lord has wrought all things for himself]; irrational creatures destined to prove it by manifesting his adorable power and wisdom; then man, an intelligence incomparably superior to matter, charged with bearing to the foot of the throne of the Most High the homages of the creatures incapable of doing so. Saint Paul summarized this admirable divine synthesis in these words: “For all things are yours, whether the world, or life, or death, or things present, or things future; but you, you are Jesus

¹¹⁰*Faciamus hominem ad imaginem et similitudinem nostram, ut præsit piscibus maris, et volatilibus cæli et bestiis, universæque terræ, omnique reptili quod movetur in terra.* [Let us make man to our image and likeness, that he may rule over the fishes of the sea, and the birds of the heavens, and the beasts, and the whole earth, and every reptile that moves upon the earth.] (Gen., I, 26.)

¹¹¹*Ecce dedi vobis omnem herbam afferentem semen suum super terram, et universa ligna quæ habent in semetipsis sementem generis sui, ut sint vobis in escam; et cunctis animantibus terræ, omnique volucri cæli, et universis quæ moventur in terra, et in quibus est anima vivens, ut habeant ad vescendum.* [Behold, I have given you every herb bearing its seed upon the earth, and all trees which have within themselves the seed of their kind, that they may be food for you; and to all the animals of the earth, and every bird of the heavens, and all things that move upon the earth and in which there is a living soul, that they may have something to eat.] (Gen., ch. I, vv. 29 and 30.)

¹¹²*Constituisti hominem ut dominaretur creaturæ quæ a te facta est, ut disponat orbem terrarum in æquitate et justitia; et in directum cordis judicium judicet.* [You appointed man that he might have dominion over the creature which was made by you, that he might order the world in equity and justice; and judge judgment in uprightness of heart.] (Wis., ch. IX, vv. 2 and 3.)

¹¹³*Quid est homo? Constituisti eum super opera manuum tuarum; omnia subjecisti sub pedibus ejus.* [What is man? You appointed him over the works of your hands; you subjected all things beneath his feet.] (Ps. VIII, v. 7.)

Christ's, and Jesus Christ is God's.¹¹⁴

Nothing is more expressive than the language of the Fathers

[French p. 147] and of the interpreters in this place. Saint Ambrose observes that it is with reason that man was created last, as one who was to be the king of creation: "It was just," he says, "that man should be created in the last place, as being the compendium of all the other works, the cause of the world, the one for whom all things were made, as one who was to inhabit all the elements."¹¹⁵

Theophilus, bishop of Antioch, says: "God created all the things which previously did not exist, in order to make his greatness known and understood through his works."¹¹⁶

To those who ask whether God has need of the homages of man, Saint Jerome replies: "God has no need of the praises of anyone whatsoever; but these praises are useful to those who address them to him; and while they recognize in each of his works his majesty and his greatness, a thousand astonishing marvels burst forth on all sides to praise him."¹¹⁷

[French p. 148] Why was man created last? Saint Gregory of Nazianzus asks himself? "No one ought to be astonished," he answers, "that man was created last, by the very hand of God and shining with his image. Was it not necessary first to prepare a dwelling worthy of him, for this king of creation, and then to introduce him into it surrounded by his guards of honor?"¹¹⁸

Let us listen again to Lactantius: "I shall show why God made man. Just as he fashioned the world for man, so he made man for himself, as the Pontiff of the divine temple, as the spectator of his works and of celestial things."¹¹⁹

Finally, Cornelius a Lapide summarizes in these terms the thought of the Fathers whom we have already cited: "Man is the end, the compendium, the bond, and the knot of the

[French p. 149] world which God created, for he possesses and unites in himself all the degrees of spiritual and corporeal beings; this is why he is indeed a little world, as he is called. Plato also calls him the horizon of the universe, because he determines and gathers in himself the upper hemisphere, in other terms, heaven and the angels, and the lower hemisphere, in other terms, the earth and the brutes. Indeed, man resembles the angels on one side, and the brutes on one side."¹²⁰

¹¹⁴*Omnia enim vestra sunt, sive mundus, sive vita, sive mors, sive praesentia, sive futura: vos autem Christi: Christus autem Dei.* [For all things are yours, whether the world, or life, or death, or things present, or things future; but you are Christ's; and Christ is God's.] (I Corinthians, III, 22.)

¹¹⁵*Recte homo creatur novissimus, quasi totius summa operis, quasi causa mundi, propter quam facta sunt omnia, quasi omnium habitator elementorum.* [Rightly man is created last, as though the sum of the whole work, as though the cause of the world, for whose sake all things were made, as though the inhabitant of all the elements.] (Epist. XXXVIII to Horatius.)

¹¹⁶*Deus omnia fecit quae antea non exstiterunt, ut ex operibus magnitudo ipsius cognosceretur et intelligeretur.* [God made all things which did not exist before, so that from his works his greatness might be known and understood.] (Bk. I to Antal., no. 4.)

¹¹⁷*Non quod Deus laude alicujus indigeat, sed quod laus Dei laudatoribus prosit; et dum per singula opera majestatem ipsius magnitudinemque agnoscunt ad laudandum eum miracula stuporis erumpunt.* [Not that God needs the praise of anyone, but because the praise of God benefits those who praise him; and while through each work they recognize his majesty and greatness, marvels of astonishment burst forth to praise him.] (On Ephesians, I, 14.)

¹¹⁸*Cur homo creatus est postremo? Si postremus homo creatus est, idque cum Dei manu atque imagine ornatus sit nemini mirum videri debet. Construendum enim prius tanquam regi palatium erat, atque ita rex introducendus, omni jam suo satellitio stipatus.* [Why was man created last? If man was created last, and indeed, since he was adorned by God's hand and with his image, it ought to seem astonishing to no one. For first a palace had to be built for him as for a king, and then the king had to be introduced, now surrounded by all his retinue.] (Oration XLIV.)

¹¹⁹*Ostendam cur Deus hominem fecerit. Sicut mundum propter hominem machinatus est, ita ipsum propter se, tanquam divini templi antistitem, spectatorem operum rerumque caelestium.* [I shall show why God made man. Just as he fashioned the world on account of man, so he made man himself on account of himself, as the pontiff of the divine temple, the spectator of his works and of celestial things.] (On the Anger of God, ch. XIV.)

¹²⁰*Creati mundi homo est finis, compendium, vinculum et nexus; omnes enim rerum spiritualium et corporalium gradus in se habet et necit homo; ideoque est et vocatur microcosmus, atque a Platone vocatur horizon universi, quia determinat et in se conjungit superius hemisphaerium, puta caelum et angelos, atque inferius, puta terra et bruta. Homo enim partim angelis, partim brutis est similis.* [Man is the end, compendium, bond, and knot of the created world; for

Thus, therefore, it remains demonstrated by the whole Christian tradition, and even by reason, that material beings were created so that, through them, man might rise to knowledge of the Creator, of his greatness, of his power, of his goodness, so that, in knowing him, he might admire him, love him, bless him, serve him, glorify him—the sole end which God proposed to himself in all his creative operations: *Universa propter semetipsum operatus est Dominus* [The Lord has wrought all things for himself].¹²¹ And from that point, what becomes of these fantastic worlds created by the imagination in the vain hope of finding in them the solution to the difficulties which one encounters in the study of the phenomena of

[French p. 150] nature? “Castles in the air,” says Cuvier, “which disappear like vain appearances.”¹²²

Moreover, why be astonished at these difficulties, when science presents so many others which, despite all its efforts, it will never resolve? “The objections heaped up against Moses,” says de Maistre, “have disappeared before true science; but those were greatly wise who scorned them before any examination, or who examined them only to find the answer, but without doubting for an instant that there was one.”¹²³

Let us end this chapter with this question which Saint Thomas posed to himself, and which summarizes well what we have just said: he asked himself whether God had created several worlds? “No,” he answers, “because Scripture makes mention only of one world: *Mundus per ipsum factus est* [The world was made through him], says Saint John, and not *mundi* [worlds];” and the reason which the Angelic Doctor gives for it is that, all things having to be regulated in a single order, and to tend toward the same end, the world must be one. “This is why,” he adds, “Aristotle, in his twelfth *Metaphysics* (text 52), concludes from the unity of the order existing in things to the unity of God who governs them; and Plato, in his *Timaeus*, proves the unity of the world, as image, by the unity of the exemplar which is God.”¹²⁴

[French p. 151]
[French p. 152]

CHAPTER III

The world was created in time, that is, on the first day of time.

The proponents of the pre-Genesis world apply the words of Moses: *In principio Deus creavit caelum et terram* [In the beginning God created heaven and earth]—apply, we say, the word *principio* to a kind of time of indefinite duration, anterior to the several creations of the six days. We find it affirmed nowhere, they say, that God created heaven and earth on the first day, but in the beginning; and the beginning may have taken place at a remote epoch, even beyond the periods during which all the physical revolutions whose trace geology has recovered were accomplished.

This interpretation of the word *in principio* is condemned by Scripture and by tradition. Moses himself reveals to us the sense which we must give to this word

man has and joins in himself all the degrees of spiritual and corporeal things; and thus he is and is called a microcosm, and is called by Plato the horizon of the universe, because he bounds and joins in himself the upper hemisphere, namely heaven and the angels, and the lower, namely the earth and the brutes. For man is like the angels in part, and like the brutes in part.] (*Commentary on Genesis*, ch. I, v. 26.)

¹²¹Prov., ch. XXVI, v. 4.

¹²²Report of Cuvier to the Institute of France, in 1806.

¹²³*Evenings of Saint Petersburg*, XLIIth conversation.

¹²⁴*Utrum sit unus mundus tantum? Respondeo dicendum quod contra plures mundo, dicitur in Joann 1-10: Mundus per ipsum factus est, ubi singulariter mundum nominavit, quasi uno solo mundo existente. Ratio quare mundus est unus, hoc est, quia debent omnia esse ordinata uno ordine et ad unum. Propter quod Aristoteles in XII, Metaph. (text. 52) ex unitate ordinis in rebus existentis, conclusit unitatem Dei gubernantis: et Plato (in Timaeo, aliq. a princ.) ex unitate exemplaris, probat unitatem mundi, quasi exemplati. [Is there only one world? I reply that it must be said that, against several worlds, it is said in John 1-10: The world was made through him, where he named the world in the singular, as though one world alone existed. The reason why the world is one is this: because all things must be ordered in one order and toward one. On account of this, Aristotle, in XII *Metaphysics* (text 52), from the unity of the order existing in things, concluded the unity of the God who governs; and Plato (in the *Timaeus*, somewhat after the beginning), from the unity of the exemplar, proves the unity of the world, as of the copy.] (Question XLVII, art. 3.)*

[French p. 153] *principio*, that is, that of the beginning of the world, when he says: “The Lord God had planted, from the beginning, a garden of delights, in which he placed the man whom he had formed.¹²⁵” The Psalmist, speaking of the creation of the world, replaces the word *principium* with *initium*, the beginning of time: “In the beginning, Lord, you founded the earth; and the heavens are the work of your hands.¹²⁶”

Jesus Christ in the Gospel is still more explicit: “From the origin of creatures,” he says, “God formed man and woman.¹²⁷”

The creation of man and woman therefore dates from the beginning of all creatures. Thus this is the only sense which the Fathers and the councils gave to these words: *in principio*.

Saint Basil, in his *Hexameron*, expresses himself in these terms: “Because many thought that the world is coeternal with God, the sacred historian deliberately chose these expressions, and said: *in the beginning*, that is: from the origin of time, God created, etc.¹²⁸”

[French p. 154] Saint Ambrose uses the same language: “At the beginning of time God made heaven and earth; for time began with this world, and not before this world.¹²⁹”

Saint Augustine, combating the error of those who “admit, it is true, that the world was made by God, but who maintain that the epoch of its creation is not that of the origin of time, in such a way that this creation would be scarcely comprehensible,” shows that time began with the world: “It is beyond doubt,” he says, “that the world was made, not in time, but with time.¹³⁰”

The Fourth Council of the Lateran, summarizing the traditions of the preceding centuries, decreed that “the Creator of all things is the God who, by his almighty action, drew at once from nothing, at the beginning of time, each of the creatures, that is, the angelic creatures and the terrestrial creatures.¹³¹”

[French p. 155] We are not unaware that several authors interpret these words: *in principio Deus creavit*, etc. [in the beginning God created, etc.], in the sense that the word *principio* signifies “in the Word of God, who is the beginning and the end of all things.¹³²” But Saint Thomas gives us the reason for this spiritual sense, which in no way destroys the literal sense. To this question: “Did the creation of things take place at the beginning of time?” he answers affirmatively, because in Genesis it is written: “In the beginning God created heaven and earth, that is, heaven and earth were

¹²⁵*Plantaverat autem Dominus Deus paradisum voluptatis, a principio, in quo posuit hominem quem formaverat.* [Now the Lord God had planted a paradise of delight, from the beginning, in which he placed the man whom he had formed.] (Gen., ch. II, v. 8.)

¹²⁶*Initio, tu, Domine, terram fundasti; et opera manuum tuarum sunt cæli.* [In the beginning, you, Lord, founded the earth; and the heavens are the works of your hands.] (Ps., ch. X, v. 6.)

¹²⁷*Ab initio autem creaturæ, et masculum et feminam fecit Deus.* [But from the beginning of creation, God made male and female.] (Saint Mark, ch. X, v. 6.)

¹²⁸*Quoniam multi opinabantur mundum Deo esse coeternum, ad istorum hominum errorem tollendum, consulto hæc verba elegit, et dixit in principio, id est in principio temporis creavit Deus, etc.* [Because many thought the world to be coeternal with God, in order to remove the error of those men, he deliberately chose these words and said *in principio*, that is, at the beginning of time God created, etc.] (Homily I, no. 6.)

¹²⁹*In principio temporis Deus cælum et terram fecit: tempus enim ab hoc mundo, non ante mundum.* [At the beginning of time God made heaven and earth: for time began from this world, not before the world.] (*On the Hexameron*, bk. I, ch. VI.)

¹³⁰*Mundum fatentur a Deo quidem factum, non tamen eum volunt temporis habere, sed sue creationis initium, ut modo quodam vix intelligibili sit factus... procul dubio non est factus mundus in tempore, sed cum tempore.* [They confess that the world was indeed made by God; nevertheless they do not wish it to have the beginning of time, but that of its own creation, so that it was made in a certain scarcely intelligible manner... beyond doubt the world was not made in time, but with time.] (*On the Literal Meaning of Genesis*, ch. XXIII.)

¹³¹*Deum esse creatorem omnium, qui sua omnipotenti virtute simul ab initio temporis utramque de nihilo condidit creaturam, angelicam scilicet et mundum.* [That God is the creator of all things, who by his almighty power at once, from the beginning of time, created both creatures out of nothing, namely the angelic and the world.] (*On the Catholic Faith*, ch. I.)

¹³²*In Verbo Dei quod est principium et finis omnium.* [In the Word of God, who is the beginning and end of all things.] (Saint Paul, to the Colossians, ch. I, v. 16.)

created at once and at the same time.¹³³

He then gives the reason for which this word, *in principio*, is taken in a spiritual sense: “This expression of Genesis, *in principio*, is taken in three different senses in order to exclude three errors. Indeed, some have supposed that the world has always existed and that time had no beginning: it is to repel this idea that it is said: *in principio*, in the beginning, namely at the beginning of time. Others have thought that creation had two beginnings, one for good, one for evil;

[French p. 156] it is to repel this idea that it is said: *in principio*, that is, in God the Son, according to this word of the Apostle: It is in him, that is, in the Son, that all things were created. Some, on the contrary, maintained that corporeal things were created by God through the intermediary of spiritual creatures, and it is to repel this idea that it is said: God created heaven and earth in the beginning, that is, before all beings. These four things were designated as having been created at once, namely the empyrean heaven, corporeal matter which must be understood under the name of earth, time, and the angelic nature.¹³⁴

Suarez professes the same doctrine in his *Treatise on the Six Days*, chapter nine.

Another question which the Fathers and

[French p. 157] the theologians posed to themselves, which they resolved diversely and with which the popes and the councils occupied themselves, is connected with that which we have just examined and corroborates, from a certain point of view, our thesis. We wish to speak of the time of the year in which the world was created. It is certain that, Scripture keeping silence concerning this time, only tradition can be invoked to fix it. Among the most celebrated theologians, some, such as Petau and Natalis Alexander, think that the world was created in autumn, either, they say, because, at the beginning of the world, the trees were laden with ripe fruit, which occurs in autumn and not in spring, or because the most ancient peoples of the East dated the beginning of the year from autumn. But the greatest number of theologians and Fathers maintain that the world was created in spring. They support their assertions with the following arguments:

Saint Ambrose says: “God created heaven and earth at that beginning when the Jews celebrate Passover, because it was necessary for the world to take its origin at the epoch when the season of spring is favorable to all things.¹³⁵”

The same reasons are alleged by Saint Basil

¹³³ *Utrum creatio rerum fuit in principio temporis? Respondeo dicendum quod creatio rerum fuit in principio temporis, quia in Genesi dicitur: In principio Deus creavit caelum et terram, id est simul, uno tempore, caelum et terra creata sunt.* [Did the creation of things take place at the beginning of time? I reply that it must be said that the creation of things took place at the beginning of time, because it is said in Genesis: In the beginning God created heaven and earth, that is, at once, at one time, heaven and earth were created.] (Question XLVI, art. III.)

¹³⁴ *Illud verbum Genesis in principio, etc., tripliciter exponitur ad excludendum tres errores. Quidam enim posuerunt mundum semper fuisse, et tempus non habere principium: ad hoc excludendum exponitur: in principio, scilicet temporis. Quidam vero posuerunt duo esse creationis principia, unum bonorum, aliud malorum: ad hoc excludendum exponitur: in principio, id est in Filio, secundum illud Apostoli (Ad Coloss., cap. I, v. 16) in ipso, scilicet in Filio, condita sunt universa. Alii vero dixerunt corporalia esse creata a Deo, mediantibus creaturis spiritualibus; et ad hoc excludendum exponitur: in principio Deus creavit caelum et terram, id est ante omnia. Quatuor enim ponuntur simul creata, scilicet caelum empyreum, materia corporalis quae nomine terrae intelligitur, tempus et natura angelica.* [That expression of Genesis, *in principio*, etc., is expounded in three ways in order to exclude three errors. For some posited that the world had always existed and that time had no beginning: to exclude this it is expounded: *in principio*, namely, of time. Others posited that there were two principles of creation, one of good things, the other of evil things: to exclude this it is expounded: *in principio*, that is, in the Son, according to that saying of the Apostle (To the Colossians, ch. I, v. 16), in him, namely in the Son, all things were created. Others, however, said that corporeal things were created by God through the mediation of spiritual creatures; and to exclude this it is expounded: in the beginning God created heaven and earth, that is, before all things. For four things are posited as created at once, namely the empyrean heaven, corporeal matter which is understood by the name of earth, time, and the angelic nature.] (Question XLVI, art. 3.)

¹³⁵ *In hoc principium mensium quo Pascha celebrant Judei, caelum et terram fecit Deus, quod inde mundi capi oportebat exordium, ubi erat opportuna omnibus verna temporis.* [At this beginning of the months in which the Jews celebrate Passover, God made heaven and earth, because it was fitting that the beginning of the world be taken from there, where the springtime of the season was favorable to all things.] (*Hexaemeron*, bk. I, ch. IV.)

[French p. 158] in his *Hexaemeron*, and by Saint Gregory of Nazianzus in his *Sermon on the Birth of the Savior*.

Saint Cyril of Jerusalem adopts the same opinion; he says, speaking of spring: “This season is that of the first month in which the Hebrews celebrate the feast of Passover; it is also that of the creation of the world; for it was then that God said: Let the earth bring forth verdant plants, etc.¹³⁶”

In his *Commentary on Exodus*, Theodoret sets forth that “God formed the creatures at that time when the germination of the trees takes place. Indeed, it is when spring begins that one ordinarily sees the meadows flower, the fields produce their seeds, the trees form their fruits.¹³⁷”

Saint John Damascene uses the same language: “The course of the sun determines four different seasons; in the first is spring, for it is in spring that the Lord made the universality of things.¹³⁸”

[French p. 159] “It was fitting, indeed,” says Saint Augustine, “that the world should be redeemed at the same time in which it was created; in order to show that he had rightly made all things according to the will of his Father, the eternal Word willed to redeem and reform the world by his Passion, at the epoch when he had created it, that is, at the equinox.¹³⁹”

The Fathers did not limit themselves to indicating the epoch at which God created the world: they even fixed its day, which is Sunday: *die dominica* [on the Lord’s day]. This is what the Church herself proclaims in the hymn of the Sunday office, when she says: “This day is the first of all days, that on which the world received existence, that on which the Creator, in rising again, delivered us by his death.¹⁴⁰”

This is what Saint Leo, pope, teaches in his letter to Dioscorus, bishop of Alexandria, in which he recommends to him that he maintain the practice of ordaining deacons and priests on Sunday: “On this day,” he says, “which is consecrated by so many mysteries of the divine benefits, so that all that the Lord established as most exalted may be accomplished in the solemnity of this

[French p. 160] day. It is on this day that the world took its origin, and it is also on this day that, through the resurrection of Christ, death found its ruin and life its beginning.¹⁴¹”

¹³⁶*Hoc tempus (ver) est primi Hebræorum mensis in quo celebratur festivitas Paschæ. Hoc tempus creationis mundi: tunc enim dixit Deus: Germinet terra herbam virentem, etc.* [This time (spring) is that of the first month of the Hebrews in which the festivity of Passover is celebrated. This is the time of the creation of the world: for then God said: Let the earth bring forth the verdant plant, etc.] (*On the Resurrection of Christ*, art. X.)

¹³⁷*Eodem tempore Deus creaturas condidit cui rei rem facit arborum germinatio. Incipienti enim vere prata florere solent, segetes semina concipiunt, arbores fructum emittunt.* [At the same time God created the creatures, to which fact the germination of trees lends confirmation. For when spring begins, the meadows are accustomed to flower, the fields conceive seeds, and the trees put forth fruit.] (*On Exodus*, question LXXII.)

¹³⁸*Per solem quatuor versiones constituuntur, et prima quidem verna est; in ipsa enim Deus fecit universa.* [Through the sun four seasons are constituted, and the first indeed is spring; for in it God made all things.] (*On the Catholic Faith*, bk. II, ch. VII.)

¹³⁹*Ut omnia se voluntate Patris recte condidisse doceret, tunc voluit passione sua mundum redimere et reformare, quando eum creaverat, id est in æquinoxio, etc.* [In order to teach that he had rightly created all things by the will of the Father, he then willed by his Passion to redeem and reform the world when he had created it, that is, at the equinox, etc.] (*Questions from the New Testament*, question LIV.)

¹⁴⁰*Primo dierum omnium.*

[On the first of all days.]

Quo mundus extat conditus.

[On which the world stands created.]

Vel quo resurgens conditor.

[Or on which the Creator, rising again,]

Nos morte sua liberat.

[Frees us by his death.]

¹⁴¹*Die dominica quæ tantis divinarum dispensationum mysteriis est consecrata, ut quidquid est a Domino insignius constitutum, in hujus diei dignitate sit gestum; in hac die mundus sumpsit exordium; in hac die per resurrectionem Christi, et mors interitum, et vita accepit initium.* [The Lord’s day, which is consecrated by so many mysteries of the divine dispensations, so that whatever was more illustriously established by the Lord might be accomplished in the dignity of this day; on this day the world took its beginning; on this day through the resurrection of Christ, both death received destruction and life received a beginning.]

The holy Council of Trent confirms this opinion when it says: “One must offer the holy sacrifice of the Mass at least on Sunday, on which God created light, rose from the dead, and poured out the Holy Spirit upon his disciples.¹⁴²”

Thus Suarez declares that this is the belief of the whole School: “For it is established,” he says, “that it was on Sunday that the world was created, as to the substance of heaven and earth, and that light was made on the same day, not only spiritual and angelic light, but also material light, by whose existence that day was the first of all, as Saint Augustine and Bede remark.¹⁴³”

[French p. 161] The consequences to be drawn from the two considerations developed in this chapter appear to us compelling and decisive. If any pre-Genesis world had existed before the present world, or if the days of Moses were not ordinary days, it would be absurd to say that the world was created on Sunday in spring; and what God says and repeats in chapters XVI, XX, and XXXV of Exodus, and in chapter V of Deuteronomy, concerning the sabbath, would become inexplicable:

“Gather (the manna) for six days; but the seventh day is the sabbath of the Lord; this is why none of it will be found.¹⁴⁴”

“You shall work six days; as for the seventh day, it is the sabbath of the Lord; remember to sanctify the sabbath.¹⁴⁵”

“You shall work for six days; the seventh day shall be for you a holy day; it is the sabbath and the rest of the Lord.¹⁴⁶”

“You shall work for six days; the seventh is the day of the sabbath, that is, the rest of the Lord your God.¹⁴⁷”

[French p. 162] “God completes his work on the seventh day.—He rested on the seventh day.—He blessed the seventh day, etc.¹⁴⁸”

The sanctification of the sabbath was therefore preserved in memory of the rest of the Lord, who began his works on Sunday and completed them in six days, in order to rest on the seventh day. But these repeated recommendations of the Lord, this rest, this sabbath, this Sunday, in six days, are nonsense in the opinion of the proponents of the two systems which we combat.

[French p. 163]

¹⁴² *Offerre sacrificium Missæ saltem die dominico, in quo Deus lucem condidit, et a mortuis resurrexit, ac Spiritum-Sanctum in discipulos infudit.* [To offer the sacrifice of the Mass at least on the Lord's day, on which God created light, rose from the dead, and poured the Holy Spirit into his disciples.] (In session II.)

¹⁴³ *Constat enim in die dominica creatum esse mundum, quoad substantiam cæli et terræ; et in eadem factam esse lucem, non solum spiritualem et angelicam, sed etiam hanc materiale, ratione cujus hæc fuit prima dierum omnium, ut notant Augustinus (Serm. 251) et Beda (de Officio eccles., cap. I.)* [For it is established that the world was created on the Lord's day, as to the substance of heaven and earth; and that on the same day light was made, not only spiritual and angelic light, but also this material light, by reason of which this was the first of all days, as Augustine (Sermon 251) and Bede (*On the Ecclesiastical Office*, ch. I) note.] (*On Feast Days*, bk. II, ch. IV.)

¹⁴⁴ *Sex diebus colligite; in die autem septimo Sabbatum est Domini; idcirco non inuenietur.* [Gather for six days; but on the seventh day it is the sabbath of the Lord; therefore none will be found.]

¹⁴⁵ *Sex diebus operaberis, septimo autem die Sabbatum Domini est; memento ut diem Sabbati sanctifices.* [You shall work for six days, but on the seventh day it is the sabbath of the Lord; remember to sanctify the day of the sabbath.]

¹⁴⁶ *Sex diebus facietis opus; septimus erit vobis sanctus: Sabbatum et requies Domini.* [For six days you shall do work; the seventh shall be holy for you: the sabbath and the rest of the Lord.]

¹⁴⁷ *Sex diebus operaberis, septimus dies Sabbati est, id est requies Domini Dei tui.* [You shall work for six days; the seventh is the day of the sabbath, that is, the rest of the Lord your God.]

¹⁴⁸ *Complexit Deus die septimo opus suum... requievit die septimo... benedixit diei septimo...* [God completed his work on the seventh day... rested on the seventh day... blessed the seventh day...]

CHAPTER IV

Ecclesiastical authors wrongly invoked in favor of these systems

Unable to conceal from themselves that the interpretation of the texts of Moses belongs more to the domain of theology than to that of geology, all the defenders of these systems invoke in their support the Fathers, the doctors of the Church, and the theologians. Some maintain that their opinion is not new, that it was adopted and upheld by a great number of ecclesiastical authors. Others affirm with incredible assurance that they are doing nothing but reproducing the language of the holy Fathers and the doctors, leaving it to be understood that all or almost all share their ideas. Yet the number of those whom they take pleasure in citing is, in the final analysis, very limited.

We are going to enumerate them all here; we shall then assess the value of their words with respect to the

[French p. 164] subject that occupies us, reporting them textually.

The following have been cited:

Saint Barnabas, - Saint Irenaeus, - Origen, - Saint Augustine;

Saint Athanasius, - Saint Gregory of Nazianzus, - Saint Basil;

Saint Eucherius, - Saint Caesarius, - Saint Hildegard;

Albert the Great, - Bossuet, - Frayssinous, - Pius VII;

Saint Clement of Alexandria, - Bishop Wiseman, - Perrone, - Rohrbacher, - Bishop Billet;

Bishop Gousset, - the editors of the *Civiltà cattolica*;

Then some Jewish authors:

Josephus, - Cohen, - Philo, - Rabbi Abahu.

We find ourselves here rather embarrassed in translating our thought. After having read, reread, and examined all the passages cited from these authors, and consulted their works in order to know their opinion thoroughly, we have had to recognize, with astonishment, that of all these writers invoked by our adversaries, only one, Origen, whose doctrine we shall assess, is favorable to the systems that we combat. Too often one has confined oneself to seizing from an author an isolated passage which seemed more or less to favor these opinions, but which, in reality, does not render his true doctrine. One has stopped at the surface of

[French p. 165] the phrase, without penetrating to the depth of the thought. These errors would have been avoided if longer quotations had been reported, and in their original language. A few lines of a writer reveal his thought only in a very incomplete manner, and often very inaccurately, especially when these lines lose their natural coloring beneath that which is given to them either by the version in a different language or by the translator's particular style. Since these assertions may appear grave, we are going to try to justify them; and, so as not to deserve the reproach that we permit ourselves to address to our adversaries, we shall cite *in extenso*, together with the translation, the text of the authors.

SAINT BARNABAS

An epistle has been cited from this apostle in which, basing himself on this saying of the Psalmist, *A thousand years are one day before you*, "he says that the heavenly days have a duration of a thousand years. He even adds that man's existence upon the earth must likewise comprise six of these heavenly days, in struggles, combats, and painful labor, then a seventh of rest."

Apart from the fact that we do not know what consequences one might draw from this passage in the question of the days of Moses, Dom Cellier informs us,

[French p. 166] according to Eusebius, that this epistle is not by Saint Barnabas.¹⁴⁹

SAINT IRENAEUS

The *Civiltà cattolica* reports a text of the great bishop of Lyon in order to prove that the Holy Scriptures often employ the word *day* in an allegorical sense: something that no one has ever thought of contesting. And, by isolating it from the context and applying it to the question that occupies us, it presents this holy Father to its readers as an adversary of the literal sense. Here is this passage: Speaking of the threat made to Adam, Saint Irenaeus says “that Adam and Eve incurred death on the very day on which they ate the forbidden fruit, for the day of creation is one.”¹⁵⁰

But if the quotation had been continued so as to make this Father’s thought clearly grasped, one would have seen that Saint Irenaeus admits the literal interpretation, as we are going to show by filling this gap. After the words reported above, Saint Irenaeus continues thus: “For there was an evening and a morning which formed one day; but on that very day Adam and Eve ate the forbidden fruit, and on that same day

[French p. 167] they died. Now, if, referring to the circle and course of time, according to which one day is called the first, another the second, another the third, one wishes to know exactly on which of the seven days Adam incurred death, one has only to consult the dispensations of the Lord: Now, it is manifest that on the day when Adam incurred death by disobeying God, the Savior underwent it by obeying his Father. This is why the Savior, recalling this day to himself, suffered the Passion on the day before the sabbath, which is the sixth day of creation.”¹⁵¹

In another chapter, commenting on these words of Genesis: *Thus were completed the heavens, the earth, and all that they contain. God completed on the sixth day all the works that he had made, and he rested on the seventh day, after having created all his works.*¹⁵² Saint Irenaeus says: “Such is at once both the narrative of the works done, and

[French p. 168] of how they were done; and the prophecy of future things. For if, for the Lord, one day is as a thousand years, and if he took six days to accomplish all these works, it is clear that their duration supposes a duration of six thousand years.”¹⁵³

ORIGEN

Of all the Greek and Latin Fathers, Origen is the only one who admitted other worlds than the one we inhabit. But the timidity with which he proposes this opinion, and the weakness of the reasons upon which he supports it,

¹⁴⁹*History of Ecclesiastical Authors*, vol. I, p. 499.

¹⁵⁰*In ipsa itaque die mortui sunt, in qua et manducaverunt, quoniam conditionis dies unus.* [Thus they died on the very day on which they also ate, because the day of creation is one.] (*Adversus Hereses*, bk. V, ch. XXVIII.)

¹⁵¹*Factum est enim vespere et mane dies unus; in ipsa autem hac die manducaverunt, in ipsa autem et mortui sunt, secundum autem circulum et cursum dierum, secundum quem alia quidem prima, alia autem secunda, et alia tertia dies vocatur, si quis velit diligenter discere qua die ex septem diebus mortuus est Adam, inveniet ex Domini dispositione. Manifestum est itaque quoniam in illa die mortem sustinuit Dominus, obediens Patri, in qua mortuus est Adam, inobediens Deo. Hunc itaque diem, recapitulans in semetipsum Dominus, venit ad Passionem pridie ante Sabbatum quae est sexta conditionis dies, hoc est Parasceve.* [For evening came, and morning came, one day; but on this very day they ate, and on this very day they also died. But according to the circle and course of the days, according to which one day is called first, another second, and another third, if anyone wishes carefully to learn on which day of the seven days Adam died, he will find it from the dispensation of the Lord. Thus it is manifest that on that day on which Adam died, disobedient to God, the Lord underwent death, obedient to the Father. Therefore the Lord, recapitulating this day in himself, came to the Passion on the day before the Sabbath, which is the sixth day of creation, that is, the Parasceve.] (*Ibid.*)

¹⁵²*Et consummata sunt caelum et terra, et omnis ornatus eorum. Et consummavit Deus in die sexto omnia opera sua quae fecit, et requievit die septimo ab omnibus operibus suis quae fecerat.* [And heaven and earth were completed, and all their adornment. And God completed on the sixth day all his works that he had made, and he rested on the seventh day from all his works that he had made.] (Gen., ch. II, vv. 1 and 2.)

¹⁵³*Hoc autem est et factorum narratio, quemadmodum facta sunt, et futurorum prophetia! Si enim dies Domini quasi mille anni, in sex autem diebus consummata sunt quae facta sunt, manifestum est quoniam consummatio ipsorum sexies millesimus annus est.* [But this is both a narrative of things done, according as they were done, and a prophecy of future things! For if a day of the Lord is as a thousand years, and in six days the things that were done were completed, it is manifest that their consummation is the six-thousandth year.] (Bk., ch. XXVIII.)

prove sufficiently that he was not convinced of it. “Just as,” he says, “after the destruction of this world, there will be another world, according to this saying of the prophet Isaiah: *There will be a new heaven and a new earth which I shall cause to subsist in my presence, says the Lord*; likewise we believe that other worlds existed before the present world; which Ecclesiastes has taught us by saying: *What is it

[French p. 169] that has been? That which shall be. What is it that has been done? That which shall be done. Nothing new beneath the sun. No one can say: Behold a new thing; for already it has been in the ages elapsed before us.* These testimonies prove to us at once that there have been anterior ages, just as there will be posterior ones.¹⁵⁴”

But it must be observed that, according to the interpreters, notably Saint Augustine and Saint Jerome, the object and purpose of the book of Ecclesiastes is to teach men true wisdom, the good way, the discernment of error and truth, and the vanity of the pleasures of this world; and to show them that the goods of the future life alone are solid and real, in order to inspire in them contempt for the former and love for the latter. The sense that Origen gives to these passages is therefore strange, to say the least.

In his commentaries on Genesis, this Father admits the two senses of the sacred text, the literal sense and the allegorical sense; here is what he says:

[French p. 170] “*God called the light day and the darkness night; and there was an evening and a morning which formed one day.* According to the letter of the text, God called the light day, and the darkness night. But let us see what spiritual sense must be given to these words... Moses does not say that the evening and the morning formed the first day, but one day; because time did not exist before the world. Time began to exist only through the following days. Indeed, the second, the third, the fourth day, and the others thereafter served to designate time. God says: *Let the earth bring forth verdant plants, with their seed, trees with fruits, each according to its species.* According to the letter, the sacred historian is evidently speaking of the fruits that the earth produces. But let us apply this passage to ourselves. If, therefore, we have not become an arid and sterile earth, let us give God every kind of abundant fruit.¹⁵⁵”

[French p. 171] If, in his *Periarchon*, Origen combats the literal interpretation, it is because he does not conceive that there can be an ordinary day in the absence of the heavenly bodies: “What man of sense,” he exclaims, “can think that there was a first, a second, a third day, without sun, or moon, or stars?¹⁵⁶”

¹⁵⁴ *Sicut post corruptionem huius mundi erit alius mundus, juxta Isaïam dicentem: Erit celum novum et terra nova quæ ego faciam permanere in conspectu meo, dicit Dominus; ita et antequam hic esset, fuisse alios credimus, quod Ecclesiastes ostendit dicens: Quid est quod fuit? Ipsum quod futurum: et quid est quod factum est? Ipsum quod faciendum est. Nihil sub sole novum; nec valet quisquam dicere: ecce hoc recens est; jam enim præcessit in sæculis quæ fuerunt ante nos. (Eccl., cap. I.) Quibus testimoniis utrumque probatur quod et ante fuerunt sæcula, et futura sunt postmodum. [Just as after the corruption of this world there will be another world, according to Isaiah, who says: There will be a new heaven and a new earth which I shall cause to remain in my sight, says the Lord; likewise we believe that before this one existed there were others, which Ecclesiastes shows, saying: What is that which has been? The very thing that shall be; and what is that which has been done? The very thing that shall be done. Nothing new beneath the sun; nor can anyone say: behold, this is recent; for it has already preceded us in the ages that were before us. (Eccl., ch. I.) By these testimonies both things are proved: that there were ages before, and that there will be ages afterward.] (Periarchon, bk. III, ch. V.)*

¹⁵⁵ *Et vocavit Deus lucem diem, et tenebras vocavit noctem. Et factum est vespere et mane dies una. Secundum litteram, Deus lucem vocat diem, et tenebras noctem. Secundum vero spirituales intelligentiam, videamus quid sit. Non dixit dies prima, sed dixit dies una; quia tempus nondum erat, antequam esset mundus. Tempus autem esse incipit ex consequentibus diebus. Secunda namque dies, et tertia, et quarta, et reliquæ omnes tempus incipient designare. Dixit Deus: Germinet terra herbam virentem, et facientem semen juxta genus suum, etc. Secundum litteram manifesti sunt fructus quos terra non arida producit. Sed referamus ad nos. Si jam non simus facti terra arida, afferamus fructus uberes et diversos Deo. [And God called the light day, and he called the darkness night. And evening came and morning came, one day. According to the letter, God calls the light day, and the darkness night. But according to the spiritual understanding, let us see what it is. He did not say the first day, but said one day; because time did not yet exist before the world existed. But time begins to exist from the following days. For the second day, and the third, and the fourth, and all the rest begin to designate time. God said: Let the earth put forth the verdant plant, and the plant making seed according to its kind, etc. According to the letter, manifest are the fruits that the earth, not arid, produces. But let us refer this to ourselves. If we have not now been made arid earth, let us bring abundant and diverse fruits to God.] (On Genesis, homily I, ch. I.)*

¹⁵⁶ *Quinam queso, sensum habenti convenienter videbitur dictum quod dies prima, et secunda, et tertia, in quibus et vespere nominatur et mane, fuerint sine sole, et sine luna, et sine stellis. [To whom, I ask, having understanding, will it suitably seem to have been said that the first, and second, and third days, in which both evening and morning are named, were without sun, and without moon, and without stars?] (Periarchon, bk. IV, p. 470., Paris ed.)*

Moreover, Origen's opinion here carries very little weight, since, with respect to creation, he professed several opinions that were condemned by the Church.

Thus he first says "that it was not for himself, nor according to a primary intention, that God produced corporeal and visible beings; but that he first created souls, and that he afterward formed, on the occasion of sin, the bodies destined to be like the prisons into which sinful souls would be driven, in order to be punished and purified there."¹⁵⁷

He then says "that the souls of men are of the same nature as the angels."

[French p. 172] He maintains, in the third place, that "all the souls that are united to bodies had sinned beforehand."

All these errors were condemned at the Council of the Lateran, under Leo X (eighth session), and at the fifth general synod.

Thus Saint Jerome pointed out these books of Origen, the *Periarchon*, or the treatise *De Principiis*, as infected with several errors. When Avitus begged him to send him the translation he had made of them: "You will receive what you have asked for," the illustrious doctor replied to him; "but know well that many things deserving reprobation are encountered in them; and that one can walk there, according to the word of the Lord, only as one walks in the midst of scorpions and snakes."¹⁵⁸

[French p. 173]

SAINT AUGUSTINE

Saint Augustine being the doctor whom all the proponents of epochs have invoked in their favor, as having professed the same opinions, we are going, in order to assess his doctrine on this subject properly, to enter into developments that may be found a little long, but which we judge necessary. It is not astonishing, moreover, that ideas contrary to those he actually expressed are attributed to this great doctor; for he spoke of the days of creation in several of his works, and his assessments are not always the same. In order to formulate his doctrine exactly, we shall study it in his *Genesi ad litteram* and in his *City of God*, where he treated more particularly the question of creation in six days. Like several other Fathers, Saint Augustine gives the words of Moses a double sense, an allegorical sense and a literal sense; and, far from believing in epochs anterior to the Adamic world, he says and repeats, in several places, that God created the world in a single instant. When one attentively reads the first four books of his treatise *Genesi ad litteram* and the eleventh book of the *City of God*, one finds three ideas relating to the six days of creation clearly set forth there:

1. Saint Augustine does not believe that these days are

[French p. 174] natural days, because the sun was not created until the fourth day:

"Why then," he says, "was the sun made, to preside over the day that would shine upon the earth, if that light, which was itself called day, sufficed to produce the day?"

¹⁵⁷ *Deum non per se, nec ex primaria intentione, corporeas | et visibiles creaturas produxisse; sed prius creasse animas; et occasione peccati illarum corpora creasse quæ essent, quasi ergastula in quibus animæ peccantes detruderentur, ut ubi punirentur et purgarentur.* [That God did not produce corporeal and visible creatures for themselves, nor from a primary intention; but first created souls; and on the occasion of their sin created bodies that would be, as it were, prisons into which sinful souls would be thrust down, so that there they might be punished and purified.] (*Periarchon*, bk. I.)

¹⁵⁸ *Dixit secundo animas hominum esse ejusdem naturæ cum angelis. Tercio, omnes animas quæ corporibus uniuntur prius peccasse. Omnes isti errores damnati sunt in concilio Lateranensi sub Leone X, sessione octava, et in quinto synodo generali. Ex testimonio Hieronymi, hi libri Origenis, nempe Periarchon, sive de Principiis, repleti sunt multis erroribus. Avito enim postulante ut translato a se eos libros ad eum mitteret: Accipe, inquit Hieronymus, quod petisti; sed ita ut scias detestanda in iis tibi esse quam plurima; et, juxta sermonem Domini, interscorpiones et colubres incedendum.* [He said, secondly, that the souls of men are of the same nature as the angels. Thirdly, that all souls which are united to bodies had sinned before. All these errors were condemned at the Lateran Council under Leo X, in the eighth session, and at the fifth general synod. According to the testimony of Jerome, these books of Origen, namely the *Periarchon*, or *De Principiis*, are filled with many errors. For when Avitus asked him to send to him those books which he had translated, Jerome said: Receive what you have asked for; but so that you may know that there are very many things in them for you to detest; and, according to the word of the Lord, one must walk among scorpions and snakes.] (Extract from Saint Augustine, *De Civitate Dei*, bk. XI, ch. XXIII, and from his *Commentatus Leonardus coqueus*.)

“I know that it has been said that the Creator first caused the element of light to enter into his works, when he said: *Let there be light, and light was*; and that, when the heavenly bodies are afterward spoken of, what was made from this same light was reported in the order of the days in which it pleased the Creator to make all things. As for the nature of the light that eclipsed itself before evening, in such a way that night passed in its turn, God did not indicate it; and it seems very difficult to me to discover it. For one could not believe that this light was extinguished in order to make way for the darkness of night, and lighted anew in order to produce the morning, before this took place through the action of the sun; which began on the fourth day, according to the testimony of the same Scripture.¹⁵⁹”

2. Saint Augustine always explained the six days allegorically, considering the day as the creation and perfection of the thing created; the night as the cessation or interruption of the divine work; or else regarding the six days as the different degrees of knowledge through which the angels knew the world.

He says: “*There was an evening and a morning which formed one day*. From these words, it appears that this work of God was done in the space of one day, at the end of which evening arrived, that is, the beginning of night; passing in its turn, the night completed the entire day, until the morning of another day began, on which God was going to resume the continuation of his work.¹⁶⁰”

And farther on, in the same book, he says: “Thus, this day, whose evening and morning can be explained in the manner indicated above, is understood, not of the

[French p. 176] movement of the celestial bodies, but of the development and progression of spiritual knowledge. Indeed, the blessed society of the angels first contemplated, in the divine Word, the *fiat* that God pronounced; and, consequently, it was there also that it knew this word: *and it was done thus*. When the thing itself was made, the angels knew it in itself; which is signified by these words: *and there was an evening*; then they referred this knowledge of the accomplished work to the glory of the truth that had shown them its reason; which is signified by these words: *and there was a morning*. Thus, in all these days, there is only one day, which must not be compared to ordinary days, which are counted and determined according to the course of the sun; they were, on the contrary, determined in another certain manner common to the three days said to have preceded the appearance of the heavenly bodies.

“And let it not be thought that my ideas about this spiritual light, about the creation of this spiritual day, about the angelic beings, and about the contemplation that they enjoy in the divine Word, cannot be applied to the notion of day, evening, and morning in a proper sense, but only in a figurative and allegorical sense. For, if this light presents certain distinctive characteristics, whether at its decline, which we call evening, or at its new rising, which we call morning, why should we not give the name of evening to the moment when, from the

¹⁵⁹ *Ut quid ergo factus est sol in potestatem diei qui luceret super terram, si lux illa diem faciendo suffecerat, quæ dies vocata est? Hoc a quodam dictum scio primum naturam lucis inductum in opera Creatoris, cum dictum est: Fiat lux et facta est lux; postea vero, cum de luminaribus dicitur, quod ex ipsa luce factum sit, fuisse commemoratum ordine dierum quo visum est Creatori cuncta esse facienda. Quæ natura lucis quæ transierit facta vespera, ut vicissim nox peragentur, nec ille dixit, nec facile inveniri posse arbitror. Neque enim extinctam esse credendum est, ut nocturnæ tenebræ succederent; et rursus accensam, ut mane fieri antequam, hoc solis officio gereretur; quod a quarto die cæpisse fieri eadem testatur scriptura.* [Why, then, was the sun made for dominion over the day, that it might shine upon the earth, if that light, which was called day, had sufficed for making the day? I know that it was said by someone that the nature of light was first introduced among the works of the Creator, when it was said: Let there be light, and light was made; but afterward, when the luminaries are spoken of, that which was made from that same light was mentioned in the order of days in which it seemed good to the Creator that all things should be made. What the nature of the light was that passed away when evening was made, so that night might pass in turn, neither did he say, nor do I think it can easily be discovered. For it must not be believed that it was extinguished so that the darkness of night might succeed; and lighted again so that morning might occur, before this was performed by the office of the sun; which the same Scripture testifies began to take place on the fourth day.] (*De Genesi ad litteram*, bk. I, ch. II.)

¹⁶⁰ *Facta est vespera, et factum est mane dies unus. Unde videtur illud opus Dei factum per spatium diei; quo peracto ad vesperam ventum est, quod est initium noctis. Itemque peracto nocturno spatio completus est totus dies, ut mane fieri in alterum diem, in quo die Deus aliud consequenter operaretur.* [Evening came, and morning came, one day. Whence it appears that that work of God was done through the space of a day; when it had been completed, evening was reached, which is the beginning of night. And likewise, when the space of night had been completed, the whole day was complete, so that morning might come into another day, on which day God would consequently perform another work.] (*Ibid.*, ch. X.)

[French p. 177] contemplation of the Creator, one descends into the view of the creature, and the name of morning to the moment when, from the knowledge of the creature, one rises to the glorification of the Creator?¹⁶¹ "

3. Finally, Saint Augustine thought that the creation of all things was made at the same time, and he sought to explain how this does not contradict the succession of the six days, since, according to him, the succession [French p. 178] of the days relates to the successive knowledge of the creatures that the angels had in the Word, and that solar days were made only to facilitate for us the understanding of the spiritual days, that is, of the degrees by which we can raise ourselves up to the Creator.

"The Creator," he says, "of whom Scripture has reported that he completed all his works in six days, is the same of whom it said elsewhere, with the same reason, *that he created all things at once*. Consequently, he who made all things at once made at once his diverse works in those six or seven days, or rather in one day repeated six or seven times. Why, then, was it necessary to describe these six days in so distinct and express a manner? Because those who do not know how to understand these words, *God created all things at once*, would no more be able to arrive at the end to which these words ought to lead them if they were not permitted to pause a little over the details. How, then, have we said that, with respect to the knowledge obtained by the angels, the communication of this light had been made to them seven times, from evening to morning, since it sufficed for them to know once, and at the same time, the three things, that is, the day, the evening, and the morning?

"For they had had the day of knowledge when they had contemplated at once all the creatures in the Word, as soon as they had been made; and they had had its evening when they had

[French p. 179] known them in their own nature. Furthermore, how were the things that are said to have been made in six days, some before and others afterward, able at the same time to have been made all at once? Because Scripture, whether it recounts the works of God accomplished during the said days or reports that he made all things simultaneously, is always truthful; and because, in both cases, it is one and the same Scripture, inspired by one and the same spirit of truth.¹⁶² "

¹⁶¹*Dies ergo illa cujus vespere et mane secundum supra dictam rationem accipi potest, ipse repetitur non circuitu corporali, sed cognitione spiritali, cum beata illa societas angelorum, et primitus contemplatur in Verbo Dei quod dixit Deus: fiat; et ideo prius in ejus cognitione fit, cum dicitur: et sic factum est; et postea rem ipsam factam, in ea ipsa cognoscit, quod significatur facta vespere, et eam deinde cognitionem rei factæ ad illius veritatis laudem refert, ubi rationem videret faciendæ: quod significatur factum mane. Ac sic per omnes illos dies; unus et dies, non istorum dierum consuetudine intelligendus, quos videmus circuitu solis determinari et numerari; sed alio quodam modo a quo et illi tres dies qui ante conditionem istorum luminariorum commemorati sunt, alieni esse non possunt. Nec quisquam arbitretur illud quod dixi de luce spiritali, et de condito die spiritali, et angelica creatura, et de contemplatione quam habet in Verbo Dei, non jam proprie, sed quasi figurate atque allegorice convenire ad intelligendum diem, vespem et mane. Nam si in istis diebus habet quamdam distinctionem suam lux in occasum, quam vespere nuncupamus, et ad ortum iterum reditum quod mane dicimus, cur et illic vespem non dicimus, cum a contemplatione Creatoris creatura despicitur; et mane, cum a cognitione creature, in laudem Creatoris insurgitur? [Thus that day, whose evening and morning can be understood according to the reason stated above, is itself repeated not by a corporeal circuit, but by spiritual knowledge, when that blessed society of angels first contemplates in the Word of God what God said: let it be; and therefore it first comes to be in their knowledge, when it is said: and thus it was made; and afterward it knows the thing itself that was made, in the thing itself, which is signified by evening having been made; and it then refers that knowledge of the thing made to the praise of that truth in which it saw the reason for its being made, which is signified by morning having been made. And thus through all those days there is one day, not to be understood according to the custom of these days, which we see determined and numbered by the circuit of the sun, but in another certain manner from which those three days that are commemorated before the creation of these luminaries cannot be alien. Nor let anyone suppose that what I said concerning spiritual light, and the created spiritual day, and the angelic creature, and the contemplation that it has in the Word of God, is suited to understanding day, evening, and morning not now properly, but as it were figuratively and allegorically. For if in these days the light has a certain distinction of its own in its setting, which we call evening, and a return again to its rising, which we call morning, why should we not also call it evening there when, from contemplation of the Creator, the creature is looked down upon; and morning, when from knowledge of the creature one rises to the praise of the Creator?] In *Genesim ad litteram*, bk. IV, ch. XXVII.)*

¹⁶²*De quo enim Creatore scriptura ista narravit, quod sex diebus consummaverit omnia opera sua, de illo alibi non utique dissonanter scriptum est quod creaverit omnia simul. Ac per hoc et istos dies sex vel septem, vel potius unum sexies septiesve repetitum simul fecit qui fecit omnia simul. Quid ergo opus erat sex dies tam distincte dispositeque narrare? Quia scilicet ii qui non possunt videre quod dictum est: creavit omnia simul, nisi cum eis sermo tardius incedat, ad id quo eos ducit, pervenire non possunt. Quomodo ergo diximus septies repetitam lucis illius præsentiam per angelicam cognitionem a vespere ad mane, cum ipsa tria simul, id est et diem, et vespem, et mane simul ea habere suffecerit; cum simul universam creaturam, sicut semel facta est, contemplaretur propter diem, et in ejus ipsius natura cognosceret propter vespem? Imo vero et prius atque posterius per sex dies quæ commemorata sunt, et simul omnia facta sunt? Quia et hæc Scriptura quæ per memoratos dies narrat opera Dei, et illa quæ simul eum dicit fecisse omnia, verax est, et utraque una est, quia uno Spiritu veritatis inspirante*

We find the same doctrine in the admirable work the *City of God*.

[French p. 180] “It is very difficult for us, and even impossible,” Saint Augustine first says there, “to understand what the days of creation were; how much more so to explain them?”¹⁶³

But, in the following chapter, he sets forth the sense in which he understands this explanation.

“We see,” he says, “that our ordinary days have an evening only through the setting of the sun, and a morning only through its rising. Now, the first three days passed without the sun, since the sun, according to Scripture, was created only on the fourth day. It is true that it shows us light made at the beginning by the word of God, and God separating it from the darkness, calling the light day and the darkness night. But what was this light, by what twofold movement did it successively produce evening and morning? This is what escapes our senses; we could not understand what it is; and nevertheless we must believe it without any hesitation.

“Indeed, either it is a corporeal light, whether it resides in the higher regions of the world, far from our sight, or whether it served later to kindle the sun; or else this name of light designates the holy city, the city of the holy angels and blessed spirits, of which the Apostle says: *It is that Jerusalem above, our eternal mother in the heavens.* - *You*

[French p. 181] *are all children of light*, he says elsewhere, *and children of the day: we are not the sons of night and darkness*. This day, however, has in some manner its evening and its morning; for, in comparison with the knowledge of the Creator, the knowledge of the creature grows pale, like evening; it is light, it is morning, when it refers to the glory and love of the Creator; and it does not decline toward night so long as the creature does not refuse its love to the Creator. Finally, Scripture, in enumerating the days of creation in order, never employed the expression *night*. It says nowhere: *Night was made*; but: *There was an evening and a morning which formed one day*. Thus with the second day and the others. For the knowledge of the creature is weaker in itself, and, so to speak, paler, than when it is produced in the wisdom of God, as in the source from which it emanates. Thus the name of evening appears to it to be more suitable than the name of night, although, I repeat, this knowledge is transformed into morning when it refers to the glory and love of the Creator. And when the creature proceeds thus in the knowledge of itself, it is one day; in the knowledge of the firmament which, placed between the upper waters and the lower waters, is called heaven, it is the second day; in the knowledge of the earth and the sea, and of all the plants attached to the earth by their roots, it is the third day; in the knowledge of the two principal luminaries and of all the heavenly bodies, it is the fourth

[French p. 182] day; in the knowledge of all the animals, birds or fishes, it is the fifth day; in the knowledge of all the terrestrial animals and of man himself, it is the sixth day.¹⁶⁴

conscripta est. [For of that Creator of whom this Scripture related that he completed all his works in six days, it is written elsewhere, by no means discordantly, that he created all things at once. And through this, he who made all things at once also made at once those six or seven days, or rather one day repeated six or seven times. Why, then, was there need to narrate six days so distinctly and orderly? Because those who cannot see what was said, he created all things at once, cannot arrive at that to which the discourse leads them unless it advances more slowly with them. How, then, have we said that the presence of that light was repeated seven times through angelic knowledge, from evening to morning, when it would have sufficed for it to have those three at once, that is, day, evening, and morning; when it contemplated at once the whole creation, as it was made at once, on account of the day, and knew it in its own nature on account of the evening? Indeed, how were both the earlier and the later things that were commemorated through six days, and all things at once, made? Because both this Scripture, which narrates the works of God through the days mentioned, and that which says that he made all things at once, are truthful, and both are one, because they were written by the inspiration of one Spirit of truth.] (*De Genesi ad litteram*, bk. V, ch. XXXIV.)

¹⁶³*Dies creationis cujusmodi sint, aut perdifficile nobis, aut etiam est impossibile cogitare; quanto magis dicere?* [What sort the days of creation are is either very difficult for us, or even impossible, to conceive; how much more so to express?] (*De Civitate Dei*, bk. IX, ch. VI.)

¹⁶⁴*Videmus quippe istos dies notos non habere vespere, nisi de solis occasu; nec mane, nisi de solis exortu. Illorum autem tres primi dies sine sole peracti sunt, qui quarto die factus refertur. Et primitus quidem lux Verbo Dei facta, atque inter ipsam et tenebras Deus separasse narratur; et eandem lucem vocasse diem, tenebras autem noctem. Sed qualis illa sit lux, et quo alternante motu, qualemque vespere et mane fecerit, remotum est a sensibus nostris; nec ita ut est, intelligi a nobis potest; quod tamen sine ulla hesitatione credendum est. Aut enim aliqua lux corporea est, sive in superioribus mundi partibus longe a conspectibus nostris, sive unde sol postmodum accensus est; aut lucis nomine significata est sancta civitas in sanctis angelis et spiritibus beatis, de qua dicit Apostolus: quae sursum est Jerusalem, mater nostra aeterna in caelis; et alio loco: omnes enim vos filii lucis estis, et filii Dei: non sumus noctis neque tenebrarum. Fit tamen et vespera diei ejus*

[French p. 183] It would be easy for us to draw from his works a multitude of other quotations that would confirm this doctrine of Saint Augustine concerning the nature of the six days. The passages that we have reported suffice to demonstrate that, far from having considered these days as epochs, this great doctor formally taught that all creatures had been made in a single stroke; and that, if he did not regard the days of Genesis as ordinary days, it was because, in his opinion, light did not exist without the sun. As for his mystical interpretation, it is evident that it cannot give any support to the thesis of indeterminate periods.

We shall conclude with an observation that confirms our assessments concerning the abuse that can be made of a text when it is taken in isolation and without reporting the context.

One cites above all, in favor of the allegorical sense of the word *dies*, these words of Saint Augustine: “However little one is versed in the study of the Holy Scriptures, one knows that it is their custom to use the word

[French p. 184] *day for that of time*.” In recalling this passage of the holy bishop, after having invoked his authority as a proponent of epochs, one naturally gives it to be believed that it applies to the interpretation of Genesis. Yet it is nothing of the kind; and it is thus that readers are led into error. Saint Augustine is speaking here of the Last Judgment, which is the subject of the twentieth book of the *City of God*. “For how many days,” he says, “will this judgment last? We do not know; but those who devote themselves to the study of the Holy Scriptures know that the word *day* is often taken there for that of *time*. This is why, when we speak of the day of God’s judgment, we say the last day.¹⁶⁵”

SAINT ATHANASIUS

When one reads this doctor’s commentaries on various passages of the Old Testament, one wonders how his testimony could have been invoked in favor of the allegorical sense of the words of Moses. He poses there several

et mane aliquatenus, quoniam scientia creaturæ in comparatione scientiæ Creatoris, quodam modo vespera sit; itemque lucescit et mane fit, cum et ipsa refertur ad laudem dilectionemque Creatoris; nec in noctem vergitur ubi non Creator creaturæ dilectione relinquitur. Denique Scriptura, cum illos dies dinumeraret ex ordine, nusquam interposuit vocabulum noctis. Non enim ait alicubi: facta est nox; sed facta est vespera, et factum est mane dies unus. Ita dies secundus, et cæteri. Cognitio quippe creaturæ in seipsa decoloratio est, ut ita dicam, quam cum in Dei sapientia cognoscitur, velut in arte qua facta est. Ideo vespera congruentius quam nox dici potest, quæ tamen, ut dixi, cum ad laudandum et amandum refertur Creatorem, recurrit in mane. Cum in cognitione firmamenti, quod in terra aquas inferiores et superiores cælum appellatum est, fit dies secundus. Cum in cognitione terræ ac maris omniumque gignentium, quæ radicibus continuata sunt terræ, dies tertius. Cum in cognitione luminarium majoris et minoris omniumque siderum, dies quartus. Cum in cognitione omnium ex aquis animalium natalitium atque volatilium, dies quintus. Cum in cognitione omnium terrenorum atque ipsius hominis, dies sextus. [For we see that these familiar days have no evening except from the setting of the sun, nor morning except from the rising of the sun. But the first three of those days passed without the sun, which is reported to have been made on the fourth day. And first, indeed, light was made by the Word of God, and God is related to have separated it from the darkness, and to have called that same light day, but the darkness night. But what sort of light that was, and by what alternating motion it made evening and morning, is removed from our senses; nor can it be understood by us as it is; which nevertheless must be believed without any hesitation. For it is either some corporeal light, whether in the higher parts of the world far from our sight, or that from which the sun was afterward kindled; or by the name of light is signified the holy city among the holy angels and blessed spirits, of which the Apostle says: Jerusalem which is above, our eternal mother in the heavens; and elsewhere: for you are all sons of light, and sons of God: we are not of night nor of darkness. Yet to some extent there is both an evening and a morning of its day, since the knowledge of the creature in comparison with the knowledge of the Creator is in some manner evening; and likewise it grows light and becomes morning when it is referred to the praise and love of the Creator; nor does it incline toward night where the Creator is not abandoned by the creature’s love. Finally, Scripture, when it enumerated those days in order, nowhere interposed the word night. For it does not say anywhere: night was made; but evening was made, and morning was made, one day. Thus the second day, and the others. For the knowledge of the creature in itself is a fading of color, so to speak, compared with when it is known in the wisdom of God, as in the art by which it was made. Therefore it can more fittingly be called evening than night; yet, as I said, when it is referred to praising and loving the Creator, it returns into morning. In the knowledge of the firmament, which is called heaven between the lower and upper waters, the second day is made. In the knowledge of the earth and sea and of all growing things that are joined to the earth by roots, the third day. In the knowledge of the greater and lesser luminaries and of all the heavenly bodies, the fourth day. In the knowledge of all aquatic animals and flying creatures, the fifth day. In the knowledge of all terrestrial creatures and of man himself, the sixth day.] (*De Civitate Dei*, bk. XI, ch. VII.)

¹⁶⁵ *Per quot dies hoc iudicium teneatur, incertum est; sed Scripturarum more sanctarum diem poni solere pro tempore, nemo, qui illas litteras quamlibet negligenter legerit, nescit. Ideo autem, cum diem iudicii Dei dicimus, addimus ultimum vel novissimum.* [For how many days this judgment will be held is uncertain; but no one who has read those writings, however negligently, is unaware that, according to the custom of the Holy Scriptures, day is ordinarily put for time. Therefore, when we speak of the day of God’s judgment, we add last or final.] (*De Civitate Dei*, bk. XX, ch. I.)

questions relating to the first chapter [French p. 185] of Genesis, and the solution that he gives proves that he adopted the literal sense.

“1. What light,” he says, “designated day from night before the creation of the sun? For the sun and the other luminous bodies were made afterward. How, then, must these words be understood: *and the evening and the morning formed one day*, when the sun did not yet exist?”

“*Answer. Let there be light*, said God, *and light was*. It was therefore that light which distinguished day from night; but that light was not the sun. Do you wish to know what it was? It was that morning light which appears with the dawn and which illuminates the world before sunrise. And let it not be believed, however, that it is that radiance of the sun which appears before the sun itself in order to illuminate the world; but it is that which Scripture mentions in these words: *and God said: let there be light, and light was*. Now, since that light was very great and very brilliant, God divided it into these diverse luminous bodies, namely the sun, the moon, and the others.¹⁶⁶”

[French p. 186] “2. Did time begin with night or with day? Which of the two existed first!

“*Answer.* From the original creation of the world, that is, from the time when Adam was formed, it is day that existed first, according to the very testimony of Scripture reporting that God said: *let there be light, and light was; and that he called the light day, and the darkness night*. It is the former that was produced in the first place, for it is through it that the first day existed, and it is this light, with which he began, that the darkness followed.¹⁶⁷”

SAINT GREGORY OF NAZIANZUS

The writers who cited this doctor as favorable to their systems forgot to report the

[French p. 187] passage from his works upon which they rely in order to claim his opinions for the benefit of these systems. In consulting the works of the illustrious bishop, we found that, on the contrary, he adopted the literal interpretation of the word *day*.

After having set forth that God himself was the light of the world he had just created, he adds: “What need had the things, whether visible or invisible, which enjoyed the higher light, of a second light? For it was fitting that the higher light should begin its work with light, which it caused to serve in dissipating and driving away the darkness, as well as that vast chaos and that confusion which reigned everywhere. And from the beginning, God did not bring forth in a single stroke the organized light of the sun, but an incorporeal light constituted without the sun, which was nevertheless afterward given to the sun in order to illuminate the universe; for, having observed with respect to

¹⁶⁶ *Quale lumen separabat diem et noctem, antequam sol creatus esset? Nam sol et reliqua luminaria postea demum sunt facta; quomodo ergo illud intelligendum: et fuit vespere et mane dies, cum sol nondum esset? Responsio. Fiat lux, dixit Deus, et facta est. Illa igitur erat quæ distinguebat diem ac noctem, et dixit Deus: fiat lux et facta est lux. Lux illa non est sol. Qualis vero lux sit, audi: est hoc lux illa matutina quæ exoritur diluculo; et mundum illustrat, antequam sol oriatur. Nec est, ut aliquis putet, quod solis hic splendor sit qui, solem præveniens, statim lucet, et mundum illustrat; sed hoc illud ipsum est quod dicit Scriptura, et dixit Deus: fiat lux, et facta est lux. Hæc lux magna et spendidissima cum esset, divisit eam Deus in luminaria illa, solem et lunam et reliqua. [What light separated day and night before the sun was created? For the sun and the other luminaries were made only afterward; how, then, is this to be understood: and there was evening and morning, one day, when the sun did not yet exist? Answer: Let there be light, God said, and it was made. That, therefore, was the light which distinguished day and night; and God said: let there be light, and light was made. That light is not the sun. Hear, then, what sort of light it is: it is that morning light which rises at dawn and illuminates the world before the sun rises. Nor is it, as someone may think, this radiance of the sun which, preceding the sun, immediately shines and illuminates the world; but it is that very thing of which Scripture speaks: and God said: let there be light, and light was made. Since this light was great and most brilliant, God divided it into those luminaries, the sun, the moon, and the others.] (*Questions from the Old Testament*, question XLVII.)*

¹⁶⁷ *Quenam est principium, et primus habet nox vel dies? Responsio. A primitiva quidem mundi creatione, videlicet ubi eo tempore quo factus est Adam, prior fuit dies, sicut etiam divina Scriptura loquitur, quod dixerit Deus: fiat lux, et facta est lux; et quod lucem vocaverit diem, tenebras vero vocaverit noctem. Primum posita fuit lux; per hanc enim exiit primus dies, et a luce primum inchoante, in tenebras postea devenimus. [What is the beginning, and which has the first place, night or day? Answer. From the first creation of the world, namely at that time when Adam was made, day was prior, just as divine Scripture also says that God said: let there be light, and light was made; and that he called the light day, but called the darkness night. Light was placed first; for through it the first day came into existence, and, beginning first from light, we afterward came into darkness.] (*Ibid.*, question LIV.)*

other things an order such that first matter was created, and only afterward received its form, that is, the qualities, configuration, and magnitude assigned to each object, God seemed to wish here to make a greater prodigy shine forth, and assigned the form before creating the matter. Indeed, it is light that is the form of the sun, and he produced the matter in fabricating the sun, that eye of day. Thus, after the creation of light, the first, the second, the third day was counted among the days, and so on to the seventh day, and to the end of

[French p. 188] the divine work; and it is these days that divided and distinguished the accomplishment of the works of creation.¹⁶⁸ "

In the same discourse, Saint Gregory, speaking of the feast of the Dedication among the Jews and of its relations with Sunday, addresses this question to himself: "Why is this character given to Sunday today?" and he replies: "Just as the first creation began on a Sunday, which results clearly from the fact that the seventh day which followed it was a sabbath day; likewise the second creation also had to begin on a Sunday, in order that one day might be the first

[French p. 189] of those that followed it and the octave of those that had elapsed: the sublime outdoing the sublime, and the marvelous the marvelous.¹⁶⁹ "

A few pages farther on, seeking the reasons that elevate the number seven in the Holy Scriptures above the other numbers, Saint Gregory says: "One may allege this great reason for it: that God, when he had produced, formed, and embellished matter with all its qualities and all its ornaments, in the space of six days, rested on the seventh day after the completion of his works."¹⁷⁰

Finally, in his commentaries on his *Discourses*, Elias of Crete develops the doctor's thought concerning the creation of light and the sun thus: "The sun is a composite, since it was made in part on the first day, when God said: *let there be light and light was*, and in part on the fourth day. Thus the sun is a composite of matter and

[French p. 190] form; for the form of the sun is light itself, as Saint Gregory says, and its matter is the solar body itself.¹⁷¹ "

¹⁶⁸ *Quid enim secundo lumine opus iis rebus visibilibus et invisibilibus, quæ maximum habebant? Conveniebat quippe magno lumini opificium suum a lumine auspicari, quo tenebras vastumque illa rerum congeriem et confusionem omnia occupantem, solvit ac depulit. Nec vero id organicum a principio, nec una quidem sententia solare protulit, verum incorporeum et soli expers; sed postea ad orbem terrarum illustrandum soli traditum est. Nam, cum in aliis rebus hanc rationem tenuisset, ut materiam prius conderet, ac deinde eam forma convestiret, ordine videlicet ac figura magnitudineque unicuique rei impositis; hic ut majoris cujusdam miraculi specimen ederet, formam materiam priorem protulit. Forma enim solis lumen est, ac postea materiam induxit, solem hunc nimirum, diei oculum fabricatum. Ita procreato lumine, primum quiddam inter dies numeratur, et secundum, et tertium, ac sic deinceps usque ad septimum diem et cessationem operibus afferentem, quibus ea quæ creata sunt, dividuntur ac distinguuntur.* [For what need had those visible and invisible things, which possessed the greatest [light], of a second light? For it was fitting that the great light should begin its work from light, by which it dissolved and drove away the darkness and that vast heap and confusion of things which occupied everything. Nor indeed did he bring it forth from the beginning as organized, nor by one decision as solar, but as incorporeal and without the sun; but afterward it was entrusted to the sun to illuminate the globe of the earth. For, since in other things he had maintained this order, that he first created matter and afterward clothed it with form, with order, figure, and magnitude imposed upon each thing, here, in order to give an example of a certain greater miracle, he brought forth form prior to matter. For light is the form of the sun; and afterward he introduced matter, namely this sun, fashioned as the eye of day. Thus, light having been produced, a first something is numbered among the days, and a second, and a third, and so thereafter as far as the seventh day and the cessation brought to the works, by which the things that were created are divided and distinguished.] (*Forty-third Oration*, p. 99; Paris edition.)

¹⁶⁹ *Quid hodiernæ Dominicæ tribuis? Quemadmodum prima creatio initium a dominica die accepit, quod ex eo perspicue liquat, quod septimus ab ea dies Sabbatum efficitur; sic etiam rursus secunda ab eadem dominica incipiat, ut quæ prima sit earum quæ ipsam sequuntur, atque octava ab iis diebus qui ante fluxerunt; sublimi utique sublimior, et admirabili admirabilior.* [What do you attribute to today's Lord's day? Just as the first creation took its beginning from the Lord's day, which is clearly evident from the fact that the seventh day from it becomes the Sabbath, so also in turn let the second begin from the same Lord's day, so that it may be the first of those that follow it and the eighth after those days that flowed before; assuredly more sublime than the sublime, and more admirable than the admirable.] (*Id.*, *ibid.*, p. 700.)

¹⁷⁰ *Ea perspicua causa afferri potest, quod cum Deus, sex dierum spatio, materiam produxisset et formasset, atque omnis generis speciebus et mentionibus exornasset, septimo die ab operibus conquievit.* [This evident reason may be alleged: that when God, in the space of six days, had produced and formed matter, and had adorned it with forms of every kind and with arrangements, he rested from his works on the seventh day.] (*Id.*, *ibid.*, p. 706.)

¹⁷¹ *Sol enim compositus est, quod partim die primo factus est: dixit enim Deus: fiat lux, et facta est; partim die quarto. Atque ideo sol velut a materia et forma compositus est. Nam forma solis ipsa est lux, ut ait Gregorius, materia vero ipsum solare corpus.* [For the sun is composite, because it was made partly on the first day: for God said: let there be light, and it was made; partly on the fourth day. And therefore the sun is composed, as it were,

In summary, Saint Gregory of Nazianzus, in his discussion with the Arians, lays down as a principle that the general creation was successive, but that the creation of each group of plants, quadrupeds, birds, fishes, etc., was simultaneous, and in all the days he understands the days in the literal sense.

SAINT BASIL

This doctor is also one of the Fathers invoked in favor of that world, or of those imaginary worlds which are claimed to have existed before the creation of the present universe. But here again one omits to cite the passages of his works that attest his adherence to such a doctrine. One confines oneself to making, magisterially, an analysis conforming to the thesis that one wishes to defend, and to declaring that such a quotation is taken from the second homily of his *Hexameron*.

We have read and reread this homily

[French p. 191] both in the Benedictine edition and in that of M. Migne. Now, here are the only sentences that make allusion to these ideas, but they are far from sanctioning them.

After having reported some of the impious consequences that are drawn from a false interpretation of the sacred texts relating to creation, this holy doctor adds:

“It may be asked whether the darkness appeared at the same time as the world, or whether it existed before the light? and, in the latter case, why that which is inferior is more ancient? We do not doubt in the least that, if there was something before the creation of this sensible and perishable world, that something was in the light: for neither the angelic hierarchies, nor the whole heavenly host, nor any of the beings endowed with reason, whether or not they had a name, nor the spirits that were subordinate to them, were found in the darkness; they were found, on the contrary, in the light, in the fullness of an entirely spiritual joy, as befitted their state.¹⁷²”

[French p. 192] It is clear that Saint Basil is speaking here of the heavenly spirits, supposing that they were created at the same time as heaven.

We shall recall here also the interpretation that he gives to this text already cited: *God called the light day, and the darkness night*, which, far from being favorable to the theories stated, militates in favor of natural days. He says:

“*And God called the light day, and the darkness night.* Now, this day which is designated after the creation of the sun is the air that the sun illuminates when it shines above the earth in our hemisphere. Night, on the contrary, comes from the earth, whose shadow replaces day when the sun withdraws. But before the creation of the sun, the day, to which night succeeded in its turn, was produced no longer by virtue of the movement of the sun, but by the effect of a certain primitive light, which at one time spread forth, at another suspended, its brightness, according to the measure fixed by God.”

“*And there was an evening and there was a morning, which formed one day.* The word evening is a term common both to day and to night, just as the word morning likewise marks that night approaches day. Therefore, in order to give to day,

of matter and form. For the form of the sun is light itself, as Gregory says, but the matter is the solar body itself.] (*Commentary of Elias of Crete*, vol. II, p. 978.)

¹⁷²*Si ratio querit, sint ne tenebrae, cum mundo simul exorte; an antecedant lucem antiquitate? Et si id est, cur id quod est deterius, ætate sit prius? Arbitramur sane, si quid erat ante mundi sensibilis et corruptivi constitutionem, id in lumine nimirum fuisse. Neque enim angelorum dignitates, neque cælestis exercitus universus, neque omnino si quæ naturæ sint participes rationis, aut nomen sortitæ, aut nomine carentes, spiritusque subministrantes, degebant in tenebris; sed in luce omnique lætitiâ spirituali sibi convenientem statum habuerunt.* [If reason asks whether darkness arose together with the world, or whether it precedes light in antiquity? And if that is so, why is that which is worse prior in age? We certainly think that, if anything existed before the constitution of the sensible and corruptible world, it was assuredly in light. For neither the dignities of the angels, nor the whole heavenly host, nor altogether any natures that partake of reason, whether allotted a name or lacking a name, and ministering spirits, dwelt in darkness; but in light and in every spiritual gladness they had a state suited to themselves.] (*In Hexameron*, homily II.)

in the order of creation, its original prerogative, the sacred historian mentions first the end of the day itself, and only in

[French p. 193] the second place the end of the night, which follows the day. For that first state of the world, prior to the appearance of the primitive light, was not called night, but darkness: the name night was given, in opposition to day, to that lapse of time which is distinguished from it. *And there was an evening, and there was a morning, which formed one day*: by these words Moses designates day and night more clearly.¹⁷³

SAINT CLEMENT OF ALEXANDRIA

In the sixth book of his *Stromata*, this Father

[French p. 194] speaks on various occasions of the days of creation, but never in the sense of our adversaries. After having developed at length the mystical significance of the numbers six and seven, he says: “The birth of the world was accomplished in six days, just as the course of the sun, which is effected by a double movement from one tropic to the other, is completed in six months; for the creations effected on these different days present this remarkable circumstance, that all the things that were made were created simultaneously in the divine thought.”¹⁷⁴

Dom Le Nourry, learned commentator on the *Stromata*, confirms our assessments of the doctrine of this Father. After having condensed everything that he wrote on the creation of the world, he concludes from it that Saint Clement believed in an instantaneous creation. He enumerates some of the reasons on which he based his opinion; then he adds: “Clement reports still other reasons to prove that God did not create the world successively, but simultaneously. He appears to follow Philo’s opinion on this question.”¹⁷⁵

SAINT EUCHERIUS

The *Civiltà cattolica* cites this passage from Saint Eucherius: “*In the beginning God created heaven and earth*. One may without inconvenience understand these words in two ways, that is, either that God created them first, or that he created them in the principle which is Wisdom, in other words in his Word. We have read how the creation of heaven and earth was historically accomplished from the first beginning or principle: let us also see how the doctors understand it in the spiritual sense.”

¹⁷³*Et appellavit Deus lucem quidem diem, et tenebras noctem. Nunc quidem ex illo tum dies post solem factum, is aer est quem sol ipse illuminat, in nostro dum est hemispherio, supra terram relucens. Nox umbra est terræ, quæ diē, sole se occultante, succedit. Tum vero fiebat dies cui cedenti nox vicissim succedebat; non quidem secundum motionem solis, sed primigenia illa luce suum splendorem diffundente, seque rursum contrahente, idque pro mensura a Deo definita. Et facta est vespere, et factum est mane dies unus. Sane vespere et diē et noctis terminus est utrique communis: at mane peræque est noctis ad diem vicinitas. Ut igitur in ordine creationis, primigeniam prerogativam deferret diē, ipsius diē finem priore loco commemorat; diem subnectit quod ultimum est noctis, quando nox diē subsequitur. Prior enim ille mundi status, nimirum ante primigeniam lucem exortam, non nox dicebatur sed tenebræ: nox enim ea temporis portio dicta est, quæ distincte se habet et opposita ad diem. Facta est igitur vespere, et factum est mane dies unus: his plane verbis diem noctemque comprehensim significat. [And God called the light day, and the darkness night. Now, after the sun had been made, day was then the air which the sun itself illuminates, shining above the earth while it is in our hemisphere. Night is the shadow of the earth, which succeeds day when the sun hides itself. But then day was made, and as it withdrew night in turn succeeded it; not indeed according to the movement of the sun, but with that primitive light diffusing its brightness and contracting itself again, and this according to the measure defined by God. And there was evening, and there was morning, one day. Indeed, evening is a boundary of both day and night, common to each; but morning is equally the proximity of night to day. Therefore, in order that, in the order of creation, he might accord the original prerogative to day, he commemorates the end of the day itself in the first place; then he adds that which is the last of night, since night follows day. For that former state of the world, namely before the primitive light arose, was not called night but darkness; for night was the name given to that portion of time which stands distinctly and oppositely to day. Therefore there was evening, and there was morning, one day: by these words plainly he signifies day and night comprehensively.] (In *Hexameron*, homily II.)*

¹⁷⁴*Nam et mundi ortus sex finitur diebus, et motus solis qui fit a conversionibus ad conversiones, seu ab uno tropico ad alterum, perficitur sex mensibus... quæ enim diversis diebus fuerunt creationes, maxima acceptæ sunt consequentia, utpote quod omnia quæ facta sunt, simul creata sunt cum cogitatione. [For both the birth of the world is completed in six days, and the movement of the sun which takes place from turning points to turning points, or from one tropic to the other, is completed in six months... for the creations that took place on different days were received in the greatest sequence, inasmuch as all things that were made were created simultaneously with thought.] (Stromata, bk. VI, p. 683; Paris edition.)*

¹⁷⁵*Alias rationes profert Clemens, cur Deus mundum, non, in tempore, sed simul totum creaverit. Ad hanc opinionem sequi videtur Philonem. [Clement brings forward other reasons why God created the whole world not in time, but simultaneously. In this opinion he appears to follow Philo.] (Le Nourry, Dissertation on the Stromata; Migne edition.)*

One then reads: “*God said: let there be luminous bodies in the firmament of heaven.* If the luminous bodies were made only on the fourth day, how were there three days beforehand? It is to make us understand that this determination of time was intended to mark and distinguish the works: thus, evening marked the completion of the finished work; morning, the opening of the day to come, after the manner of the works of men, most of which begin in the morning and end in the evening.”¹⁷⁶

[French p. 196] In order to grasp this commentator’s thought well, the following passage, which confirms our assertions instead of combating them, ought to have been added. Saint Eucherius says: “*Such was the origin of the heavens and of the earth when they were created on the day when the Lord made the earth and the heavens.* The sacred historian, who related above, day by day and distinctly, the formation of all things, then adds how all things were created in one day, in order to show that all beings existed simultaneously in substance, but not simultaneously, as to their appearance, in their species. Indeed, the elements of things were all created at once, but without the species being formed; and the beings that existed simultaneously as to substance and matter did not appear simultaneously in their species or their form. Thus, in saying that heaven and earth were created

[French p. 197] at the same time, both spiritual substances and bodies are designated together; everything that comes from heaven and everything that the earth produces are indicated as having been created at once. The heavenly bodies were afterward formed in heaven only on the fourth day. Nevertheless, the beings that passed into their species on the fourth day existed in heaven, as to the conditions of their substance. It was the same for the other creatures.”¹⁷⁷

SAINT CAESARIUS

The *Dialogues* of this worthy brother of Saint Gregory of Nazianzus are cited; but, as usual, his words are not reported. Now, Feller informs us that these *Dialogues* are wrongly attributed to Saint Caesarius; but

[French p. 198] they do not belong to him, although they are found in the *Library of the Fathers*.¹⁷⁸

¹⁷⁶*In principio Deus creavit cælum et terram. Hic sensus duobus modis sine offensione accipitur, id est, aut primum omnium fecit; aut in principio quod est sapientia, id est in Verbo suo fecit. Legimus quomodo historialiter creatura cæli et terræ ab exordio principii condita sit; et qualiter a doctoribus spiritualiter accipitur intelligamus. Sequitur: Dixit autem Deus: Fiant luminaria in firmamento cæli. Si quarto die facta sunt luminaria, quomodo tres dies jam ante fuerunt? Nisi ut intelligamus, in ipsa hora temporis, ipsas operum distinctiones ita appellatas: Vesperum, propter transactionem consummati operis; mane, propter incubationem futuri diei: in similitudinem humanorum operum quod plerique mane incipiunt, et vespere desinunt.* [In the beginning God created heaven and earth. This sense is received without offense in two ways, that is, either he made them first of all, or he made them in the principle which is Wisdom, that is, in his Word. We have read how, historically, the creation of heaven and earth was established from the beginning of the principle; let us understand also how it is received spiritually by the doctors. It follows: But God said: Let there be luminous bodies in the firmament of heaven. If the luminous bodies were made on the fourth day, how had three days already been before? Unless we are to understand that, in that very hour of time, the distinctions of the works themselves were so named: evening, on account of the passing away of the completed work; morning, on account of the brooding of the future day: after the likeness of human works, most of which begin in the morning and end in the evening.] (*Commentary on Genesis*, bk. I.)

¹⁷⁷*Istæ sunt generationes cæli et terræ, quando create sunt in die quo fecit Deus cælum et terram. Qui enim superius per dies singulos, distincte omnia condita retulit, qualiter nunc simul omnia uno die creata sint subjunxit; ut aliquando ostenderet quod creatura omnis simul per substantiam extitit, sed non simul per speciem processit. Rerum quippe origo simul creata est; sed simul specie formata non est; et quod simul extitit per substantiam materiæ, non simul apparet per speciem formæ. Cum enim simul factum cælum et terram scribitur, simul et spiritualia et corpora, simul quidquid de cælo oritur simul factum, quidquid de terra producit, indicatur, sidera quippe quarto die in cælo facta perhibentur; sed quod quarto die processit in specie, primo die in cælis extitit per substantiæ conditionem. Sic et cætera.* [These are the generations of heaven and earth, when they were created on the day on which God made heaven and earth. For he who above related distinctly, through the individual days, that all things were established, then added how all things were created simultaneously in one day; so that at some time he might show that every creature existed simultaneously in substance, but did not proceed simultaneously in species. For the origin of things was created simultaneously, but it was not simultaneously formed in species; and that which existed simultaneously through the substance of matter does not appear simultaneously through the species of form. For when heaven and earth are written to have been made simultaneously, both spiritual and corporeal things together, whatever arises from heaven as made simultaneously, and whatever is produced from earth, are indicated; for the heavenly bodies are reported to have been made in heaven on the fourth day, but that which proceeded in species on the fourth day existed in the heavens on the first day through the condition of substance. So also the other things.] (*Commentary on Genesis*, bk. I.)

¹⁷⁸Feller, *Dictionary of Great Men*, article “Caesarius.”

SAINT HILDEGARD

We shall mention, for the record, a few words of this saint that we find in the Review previously cited. She says in one of her letters: “The six days of creation are six works or operations; for the name day is given to the beginning and the completion of each work.¹⁷⁹”

By way of sole reply, we shall report the judgment that Saint Bernard, her contemporary, and the author of the *Universal History of the Church* passed upon the visions and revelations of this saint. The former says: “The writings of Saint Hildegard are not conceived in a human manner, and mortal man could not understand them unless divine love had already reformed him inwardly and in his soul in the image of God.¹⁸⁰”

[French p. 199] The latter observes that “in the collection of her books entitled *The Ways of the Lord*, there are historical errors that come, one knows not whence, whether from the saint, who might not have distinguished her private opinions from supernatural revelations; whether from her brother, who might have added them to his sister’s account; or else from a foreign hand, which might have inserted them afterward. But from whatever quarter these errors or these difficulties come, it remains the case that they greatly impair the authority of the whole collection. In truth, since these private revelations have not been examined and approved in a special manner by the Church, one can scarcely rely upon them to establish either theological dogmas or facts of history.¹⁸¹”

ALBERT THE GREAT

This illustrious child of Saint Dominic professes no personal opinion concerning the sense that ought to be given to the days of Genesis: he confines himself to saying that he believes he ought, on this question, to take the side of Saint Augustine.¹⁸²

BOSSUET

We do not understand, in truth, how anyone

[French p. 200] thought of invoking the authority of this great bishop against the literal interpretation of the days of Genesis. We do indeed read, in his *Fifth Elevation on the Mysteries*, that “God’s design in creation and in the description of it which his Holy Spirit dictated to Moses is to make himself known first as the almighty and entirely free Creator of all things. He who could, with a single stroke of his hand, so to speak, have put both the sketch and the finished work into his picture, nevertheless wished to suspend the efficacy of his action in an orderly manner, and to do in six days what he could have done in an instant. After having made, as it were, the ground of the world, he wished to make its ornament with six different progresses, which he wished to call six days.”

Such language cannot be hostile to our cause, all the less because the Bishop of Meaux speaks here as a moralist and a mystic, and not as a historian like Moses.

The expression *progress* which he used is alleged as favorable to the system of periods; but what signification did Bossuet wish to give to this word *progress*? To learn it, let us consult Bossuet himself. In his *Universal History*, where he speaks of the works of creation no longer as a moralist but as a historian, he employs only the words *days* and *successive acts*, and not the word *progress*: “Moses,” he says, “has taught us that this powerful architect, to whom things cost so little, wished to make them in several successive acts, and to create the universe in six

¹⁷⁹*Sex enim dies creationis sex opera sunt, quia inceptio et completio singuli cujusque operis dies dicitur.* [For the six days of creation are six works, because the beginning and completion of each individual work is called a day.] (*Secunda Epistola ad Golonienses* [Second Letter to the Golonians].)

¹⁸⁰*Hæc scripta non sunt humanitus adinventata, nec potest ea mortalis homo capere, nisi ad Dei similitudinem intus et in anima fuerit reformatus per amorem.* [These writings were not devised in a human manner, nor can mortal man comprehend them unless inwardly and in his soul he has been reformed through love according to the likeness of God.] (*Lives of the Saints*, Bollandists, vol. V, p. 635.)

¹⁸¹Rohrbacher, *History of the Church*, vol. XVI, p. 338.

¹⁸²*Videtur mihi Augustino consentiendum.* [It seems to me that agreement ought to be given to Augustine.] (*Albertus Magnus, Summa*, V, 1, question XII, art. 6.)

[French p. 201] days, in order to show that he does not act from a necessity, or through a blind impetuosity, as some philosophers have imagined... In making the world by his word, he shows that nothing causes him effort; in making it in several successive acts, he makes it seen that he is master of his matter, of his action, and of his whole undertaking... It pleased this great workman to create light even before reducing it to the form that he gave it in the sun and in the heavenly bodies, because he wished to teach us that these great and magnificent luminaries had of themselves neither the precious and brilliant matter of which they were composed, nor the admirable form to which we see them reduced... If, according to the order established in nature, one thing depends upon another, for example the birth and growth of plants upon the heat of the sun, it is because this same God, who made all the parts of the universe, wished to bind them to one another and to make his wisdom shine forth through this marvelous connection.¹⁸³ "

The thought of the great historian appears to us here clearly expressed and favorable to our thesis.

FRAYSSINOUS

In his *Conference on Moses Considered as a Historian of Primitive Times*, the illustrious bishop

[French p. 202] of Hermopolis, after having reported the opinion of the geologists who supported indeterminate periods, adds: "Far removed from every spirit of system, I shall pronounce neither for nor against this opinion. If it is not the most common, it nevertheless has its supporters.

"I could cite modern theologians who have embraced it, or who at least regard it as uncertain: all that it is important to know is that it is not condemned, and that it may be defended without offending the orthodox faith."

It is not useless to observe that Frayssinous used this language forty years ago. One sees clearly that, without pronouncing openly, the celebrated lecturer inclined rather toward the literal sense; and nevertheless one does not fail to cite him as an author favorable to the allegorical sense.

PIUS VII

The *Revue du monde catholique* invokes another still more imposing testimony, that of Pope Pius VII. It concerns a reply that this immortal pontiff is said to have made to the celebrated naturalist Georges Cuvier. We read there that:

"Pope Pius VII, having come to Paris for the emperor's coronation in 1804, received the delegations of all the bodies of the State. That of the Institute was presided over by

[French p. 203] Cuvier, who, in the address that he made to the Holy Father, told him that he had found, in the study of strata, positive proofs of the certainty of the Flood, but that previously the earth bore the imprint of several revolutions and appeared very ancient. The Pope replied to him that the existence of these revolutions and of the long duration of the globe did not concern the Catholic faith in any way, and that it was perfectly permissible to regard the days of creation as successive periods, the length of which nothing determined.¹⁸⁴ "

We sought this reply in vain; we examined all the works of the great naturalist, all the memoirs of the Institute, in whose name he had the honor of speaking, and all the issues of the *Moniteur* of that period; there we found the addresses made to the Pope by the various bodies of the State... all except the one that the learned writer of the *Review* attributes to Cuvier. Does not this gap point to an error?

We made another observation, to which it is permissible to attribute a certain significance. In reporting these various tributes word for word, the *Moniteur* does not reproduce the replies of Pius VII, apparently for the reason that, since

¹⁸³*Discourse on Universal History*, "Creation," ch. I.

¹⁸⁴*La Revue du monde catholique*, no. 10, May 1862, p. 248.

these replies had been made in Italian or in Latin, it was difficult to retain their text, especially since one did not then have the

[French p. 204] aid of stenography. It is therefore regrettable that the *Review* did not cite the original text, or at least indicate the source from which it drew so precious a document; everyone could have assured himself of the characteristics and guarantees of authenticity that it presents, as well as of the fidelity of the translation.

Without any doubt, the honorable reporter of this reply neither invented nor falsified it; but there is no one who cannot easily be mistaken about the true thought of an author whose words pass and pass again through the often unfaithful mouths of those who transmit it, and reach our ears only after so many years. In the course of this work, we have had occasion many times to recognize how important, and even necessary, it is to have recourse to the primitive texts, and the wisdom of the advice with which Chevalier Drach ended his criticism of an erroneous citation concerning the Talmud: "I shall not cease repeating it," he said, "verify, verify, and do not trust citations."

But even admitting the words of the sovereign pontiff just as they are, we do not see what argument can be drawn from them in favor of day-periods. In so solemn a circumstance, when it was a question of consecrating the reconciliation of France with the Church, in the person of the hero who was its promoter, could the Pope, taken unawares on a question with which people concerned themselves very little at that time, have used any other language without offending the

[French p. 205] proprieties, without exciting certain susceptibilities, without even directly confronting the opinion generally adopted by the learned body that bowed respectfully before His Holiness? And, on the other hand, Pius VII remained within the truth in replying that the question to which allusion was made does not concern the Catholic faith, that is, dogma, since the Church has not placed the literal interpretation of the days of Genesis among dogmatic truths.

CARDINAL WISEMAN

In reading attentively his third *Discourse on the Natural Sciences*, in which he sets forth his whole thought on the various geological systems and their relations with the Mosaic account, one recognizes that the illustrious cardinal hesitates to pronounce upon the two hypotheses that we combat, and appears disposed to adopt both at once. There would result from this a mixed system, a system apart, as we have already pointed out, which would admit an indefinite time either between the creation of the first elements of the world and their coordination, or between the various days designated by Moses for this arrangement.

Here, indeed, is what he says first:

"What repugnance is there in supposing that, from the first creation of the crude embryo of this so beautiful world until the moment when it was clothed with all its ornaments, Providence wished to maintain a

[French p. 206] gradual course, in such a way that life advanced progressively toward perfection? Or who will dare affirm that this plan contradicts the sacred word, when it leaves us in complete obscurity concerning that indefinite period in which the work of gradual development is placed? The Fathers of the Christian Church appear to have had exactly similar views; for Saint Gregory of Nazianzus, Saint Justin Martyr, Saint Basil, Saint Caesarius, and Origen suppose an indefinite period between creation and the first regular arrangement of all things."

That is for the first system. Speaking of the second, the learned prelate says: "The authors to whom I have alluded suppose that the days of creation signify longer periods and of indefinite duration, during which a certain number of animate beings existed. That this supposition is plausible is something I could not contest; philologically or critically speaking, I see no objection to it; but it does not appear absolutely necessary to me. Nevertheless, in admitting the hypothesis set forth above, that all the requirements of modern science are satisfied in the intervening space, it is not

said how, between the creation and the organization of the earth under its present forms, it could be that periods longer than a day were still necessary, if we suppose that the laws of nature were abandoned to their ordinary course. For then a longer

[French p. 207] interval would have been necessary for the plants to cover themselves with flowers and fruits and to reach their complete development, as we must suppose that this took place before man was placed in their midst. But it may also be that it pleased God to produce them in all their grandeur and all their beauty from the first instant of their existence.“

“In making these remarks,” he adds, “I am not guided by any personal predilection, by any system. I make no claim whatever to the title of geologist; I have studied this science rather in its history than in its practical principles; rather in order to watch its bearing upon researches wholly religious than in any hope of explaining it personally. I do not claim—it would be presumptuous of me to claim it—to judge between the two methods or to pronounce upon the reasons that each may produce. But I am concerned to make it seen that, without touching the faith, space is not lacking for everything that modern geology may have the right to demand. I am concerned to show—and the great authorities that I have just cited reassure me perfectly on this point—that everything that has been claimed by this science was formerly granted by those men who were the ornament and the light of primitive Christianity, and who assuredly would not have sacrificed one letter of Scripture.¹⁸⁵”

[French p. 208] We believe that we can, without failing in the consideration due to the eminent writer, present the following observations:

1. The Fathers of the Church—Saint Gregory of Nazianzus, Saint Justin, Saint Basil, Saint Caesarius, and Origen—cited by the author as appearing to suppose an indefinite interval between creation and the first day, in reality profess a contrary opinion, as we established previously.
2. After having cited in favor of the epochs the authority of Origen, who exclaimed: “What man of sense can think that there was a first, a second, and a third day without sun, moon, or stars?” Bishop Wiseman adds: “Assuredly, the time between two settings of the sun would be a great anomaly if there were no sun.” But we can add in our turn that, since the time when the illustrious cardinal delivered his discourses, nearly thirty years ago, the progress of astronomy has disposed of this error of Origen by establishing that light does not take its source from the sun and that it is an independent fluid which that heavenly body merely sets in motion.
3. The two principal geological proofs that he adduces in favor of his system—that of a constant symmetry in the mode of deposition for each layer of fossils, which would suppose a regular succession of actions exerted upon different materials, and that of central fire—are today [French p. 209] without foundation; for these hypotheses have been contradicted by the discovery of new facts.
4. Bishop Wiseman supposes that ordinary days would not have sufficed, and that a longer interval was necessary for the plants to cover themselves with flowers and fruits and to reach their complete development, as we must suppose took place before man was placed in their midst. Here the author calls into doubt what is attested formally, explicitly, by the sacred text, namely that God created the plants in all their grandeur and all their beauty from the first instant of their creation; that they were not created in the state of germ, nor of seed that needs time to develop, but in the adult, complete state, fit to produce seeds and fruits and to perpetuate themselves by generation; for we read: “And God said: *Let the earth produce verdant plants with their seed, trees with their fruits, which, each according to its species, contain within themselves their seed in order to reproduce themselves upon the earth.*”¹⁸⁶”

¹⁸⁵ *Third Discourse on the Natural Sciences*, first part.

5. In order to prove the existence of a pre-Adamic world, Bishop Wiseman gratuitously lends to the sacred historian ideas that we do not find in his account: “If,” he says, “Scripture had admitted no

[French p. 210] interval between the creation and the organization of the world, but had declared that these were simultaneous or immediately consecutive acts, we might perhaps have been embarrassed to reconcile these assertions with modern discoveries. But, instead of that, it leaves an indeterminate interval between the two, and even teaches us that there was a state of confusion and struggle, of devastation and darkness; it shows us the sea deprived of a suitable basin, and thus covering now one part of the earth, now another. Hence we can say with truth that the geologist reads, in these few lines, the history of the earth as its monuments have established it: a series of rents, elevations, and dislocations; sudden irruptions of an element restrained by nothing, burying successive generations of amphibious animals; a sudden lowering of the waters, calm but unexpected, embalming in their various beds myriads of aquatic inhabitants. Then, when the earth had been sufficiently broken by that magnificent diversity which God wished to give it, the work was suspended, and the earth remained in that state of lethargic inertia from which it was delivered by the reproduction of light and the subsequent work of the six days of creation.”

And this history of *confusion and struggle, of devastation and darkness, of rents, elevations, dislocations, sudden irruptions of the sea, of burials* [French p. 211] *of generations, etc., etc., is read in these words of Genesis: “In the beginning God created heaven and earth. The earth was formless and bare, and darkness covered the face of the abyss, and the Spirit of God was borne over the waters.* ¹⁸⁷”

In extenuation of the learned and pious cardinal, we must inform our readers that, as he himself informs us, these grand pictures, drawn by a poetic imagination, belong to M. de La Bêche.¹⁸⁸

CARDINAL BILLIET

The *Revue du monde catholique* counts among the defenders of the periods this eminent cardinal, from whom it cites the following passage from a discourse delivered in 1844 during the session of the Geological Society of France at Chambéry: “If anyone in this audience could be alarmed by this admission, we could reassure him somewhat by teaching him that, with the exception of the Flood of which Moses speaks to us in Genesis, all the other great upheavals [French p. 212] experienced by the surface of the globe took place in what it has been agreed to call geological times. Now, these geological times preceded the creation of man, and consequently also the chronology of Moses, which begins only with Adam. These ancient revolutions must have buried, at different depths, the plants and animals which then already existed; man could not have been their victim, since he had not been created. Indeed, in digging into the bowels of the earth, remains of plants and animals are found there in abundance, never human bones. Thus, the discoveries of geology confirm the account of Genesis instead of contradicting it.”¹⁸⁹

No one recognizes more than we do the great scientific authority of the Archbishop of Chambéry; but we permit ourselves to observe that these lines were written nearly twenty years ago, and we have reason to think that His Eminence would not profess the same doctrine today. What geologist, since the discoveries made by science during this long lapse of time, has not modified, changed his ideas? M. Martinet, whom we have already cited and whom we shall cite again, visibly inclined, at the same period, toward the system of periods, as is seen in his *Solution of the Great Problems*; and today, in his *Theology*, he supports the interpretation

¹⁸⁶*Et ait: Germinet terra herbam virentem et facientem semen, et lignum pomiferum faciens fructum, et habens unum quodque sementem secundum speciem suam.* [And he said: Let the earth bring forth the green herb and that which produces seed, and the fruit-bearing tree producing fruit, and each having seed according to its species.] (Genesis, ch. I.)

¹⁸⁷*In principio Deus creavit cælum et terram; terra autem erat inanis et nuda; et tenebræ erant super faciem abyssi; et Spiritus Dei ferebatur super aquas.* [In the beginning God created heaven and earth; but the earth was empty and bare; and darkness was over the face of the abyss; and the Spirit of God was borne over the waters.] (Genesis, ch. I.)

¹⁸⁸See the Discourse in question through the end of the passage cited; and La Bêche’s *Researches on Geological Theories*, ch. XII, p. 42.

¹⁸⁹*Revue du monde catholique*, no. 10, May 1862, p. 248.

[French p. 213] of the days in the literal sense. We ourselves, in a work that we published then, seduced and carried away rather by the prestige of Cuvier, de Beaumont, etc., than by conviction, bent ourselves to an opinion that seemed to tend to become more and more general; but, we confess it, this kind of connivance always weighed upon our conscience like remorse; and we experience a true satisfaction in today making the counterpart of the past.

Moreover, the passage cited, and the lines with which the author of the article in the *Review* follows it, authorize us to suppose that the learned cardinal, as we have already said, abandoned the theory that he formulated in 1844. We read there, indeed, that the principal reason on which his adherence to the ideas of our adversaries rested was found in *the absence of fossil human bones*. Now, on the same page, the author of the article demolishes this proof of *geological times* by saying: “Fifteen years later, the Marquis de Vibraye discovered, in excavating the caves of Arcy, a fossilized human jaw in a bed of this terrain, which by habit continues to be called *diluvium*, a name that Cuvier had given it and which is recognized today to have been deposited during a period called Quaternary.”

Far from being surprising, this change of opinion would be the natural consequence of the discovery reported by M. de Vibraye, a discovery that a multitude

[French p. 214] of others came to confirm, and these discoveries undermine the system of periods at its base.

CARDINAL GOUSSET

This eminent theologian passes upon the system of periods the following judgment, which is far from favorable to it:

“It is true,” he says, “that, in order better to explain in their manner the phenomena presented to us by the internal structure of the globe, several modern naturalist scholars or geologists, among whom is the celebrated Cuvier, have advanced that the days of creation of which Moses speaks were not ordinary days, but epochs or periods more or less long and indeterminate, while seeking to reconcile their systems with Genesis, which they respect as a sacred book. They say that the word *day*, in the language of Scripture, does not have a fixed and invariable sense, and that it does not always signify the space of twenty-four hours, but that it corresponds to the words *time, epoch, period*.

“But this hypothesis, however well founded it may appear, is not yet in the state of demonstration; and it is likely that it will never arrive there, in view of the ease with which the different geological systems modify themselves, combat one another, and destroy one another with time.¹⁹⁰”

[French p. 215]

FATHER PERRONE

Before formulating his opinion on the systems that occupy us, this illustrious religious of the Society of Jesus first sets forth the reasons on which the proponents of the epochs rely.

He says:

“Not all are agreed on the question of knowing whether the six days of which Genesis speaks with regard to creation are really six natural days, or rather six indeterminate and indefinite periods, whether of several days or of several years. Indeed, the proponents of this latter opinion observe that the word *day* in the sacred books does not imply a certain and invariable notion, but that it sometimes expresses the duration of light (*and God called the light day*, Gen., ch. I)—sometimes an indeterminate space of time, as when Moses himself writes in Genesis: *Such was the origin of heaven and earth, on the day when the Lord made heaven and earth, and all the plants of the fields, etc.; on the day*, that is, *at the time*, a locution used, says Petau, among the Greeks and Romans no less than among the Hebrews.

“They observe in addition that the first three days could not have been similar to ours, since it was only on the fourth day that the heavenly bodies were made,

¹⁹⁰*Dogmatic Theology*, vol. I, p. 105.

[French p. 216] so that they might preside over day and night—which must with still greater reason be true of the seventh day, on which God is said to have rested from all the works that he had made and that he preserves. Certainly, they add, if not only Philo the Jew, but Clement of Alexandria, Origen, Procopius of Gaza, and above all Saint Augustine, believed that they could, without injuring the faith, give an allegorical sense to the six days of creation and maintain that the whole work of creation was accomplished in an instant; if Saint Eucherius of Lyon, Conti, Serryus, Mondo, Bertius, and others were able to defend the same opinion without being accused of temerity; if Cajetan and Melchior Canus were able with impunity to explain the first chapter of Genesis in an analogous manner, it follows evidently that nothing prevents the interpretation of indeterminate periods from being admitted.¹⁹¹ "

[French p. 217] Here is the learned theologian's personal opinion:

"As for us," he says, "we neither adopt nor reject this interpretation, to which many modern Catholic theologians and commentators have attached themselves.¹⁹² Let it suffice us to observe that their opinion has not been proscribed by the Church, and that it can be maintained not only without injuring the faith, but even without incurring the reproach of temerity, provided it rests upon serious reasons. If, therefore, evidently true observations force us to depart from the common interpretation, they cannot cause the slightest injury to the Mosaic cosmogony, which,

[French p. 218] in that case, can be perfectly reconciled with them. If, on the contrary, observations of this kind are lacking, the adversaries of the Mosaic cosmogony would be wrong to wish to oppose other observations to it.¹⁹³ "

It follows from these passages:

¹⁹¹ *Nondum exploratum penes omnes esse, num sex dies de quibus est sermo in mundi creatione, sicut revera sex dies naturales, vel potius sex indeterminatæ atque indefinitæ plurium aut dierum aut annorum periodi. Hujus enim sententiæ patroni animadvertunt vocem dies in Libris sacris, non præ se ferre notionem certam et invariabilem, sed interdum tempus lucis (appellavitque lucem diem) interdum indeterminatum temporis spatium, ut in cap. II, Gen., ubi Moyses scripsit: Istæ sunt generationes cæli et terræ, in die quo fecit Dominus cælum et terram, et omne virgultum agri, etc., id est in tempore, quod apud Græcos Latinosque non minus quam Hebræos, inquit Petavius, usitatum est. Animadvertunt præterea tres dies priores similes nostris haud esse potuisse, cum non nisi die quarto facta fuerint luminaria, ut diei ac nocti præessent, quod multo magis valere debet de die septima, in qua Deus ab omni opere quod patrarat quiescere perhibetur, qui adhuc perdurat. Et sane, addunt, si non solum Philoni Judæo, sed et Clementi Alex., Origeni, Procopio Gazensi, ac præsertim sancto Augustino licuit, salva fide, sex dies creationis allegorice interpretari, ac totum creationis opus momento temporis expletum asserere; si, absque temeritatis nota, Sanctus Eucherius Lugdunensis, Conti, Serryus, Mondo, Bertius aliique eandem sententiam tueri potuerunt; si non admodum dissimilem expositionem primi Genesios capiti Cajetanus et Melchior Canus impune dederunt, aperte consequitur, nihil obesse, quominus expositio de sex periodis indeterminatis admittatur. [It has not yet been ascertained among all whether the six days of which there is discussion in the creation of the world are in truth six natural days, or rather six indeterminate and indefinite periods of several days or years. For the proponents of this opinion observe that the word *day* in the sacred books does not carry with it a certain and invariable notion, but sometimes the time of light (*and he called the light day*), sometimes an indeterminate span of time, as in chapter II of Genesis, where Moses wrote: *These are the generations of heaven and earth, on the day when the Lord made heaven and earth, and every shrub of the field, etc.*; that is, *in the time*, a usage which, Petau says, is customary among the Greeks and Latins no less than among the Hebrews. They observe, furthermore, that the first three days could not have been like ours, since the heavenly bodies were made only on the fourth day, so that they might preside over day and night—which must apply much more strongly to the seventh day, on which God is reported to have rested from every work that he had accomplished, and which still endures. And indeed, they add, if not only Philo the Jew, but also Clement of Alexandria, Origen, Procopius of Gaza, and especially Saint Augustine were permitted, with faith preserved, to interpret the six days of creation allegorically and to assert that the whole work of creation was completed in a moment of time; if, without the mark of temerity, Saint Eucherius of Lyon, Conti, Serryus, Mondo, Bertius, and others were able to maintain the same opinion; if Cajetan and Melchior Canus with impunity gave to the first chapter of Genesis an exposition not very dissimilar, it plainly follows that nothing prevents the exposition concerning six indeterminate periods from being admitted.] (*De mundi creatione*, ch. II.)*

¹⁹² We regret that the Reverend Father did not name these theologians and commentators who attached themselves to the system of period-days. As for us, we sought them in vain; we did not find a single one.

¹⁹³ *Hanc vere expositionem quam non pauci ex recentioribus theologis atque interpretibus catholicis tuerentur, nos neque amplectimur neque respuimus. Hoc unum nobis in præsentia satis est animadvertere ejusmodi sententiam non esse ab Ecclesia proscriptum, ac non solum salva fide, sed etiam absque temeritatis nota defendi posse, si graves rationes ipsæ suffragantur. Quare, si evidentes observationes nos cogant a communi interpretatione recedere, nullum detrimentum patitur Mosaica cosmogonia quæ, in hac hypothesi, optime cum iisdem coherere potest; sin vero ejusmodi observationes non habeantur, perperam adversarii eas Mosaicæ cosmogoniæ opponunt. [We neither embrace nor reject this exposition, which not a few among the more recent Catholic theologians and interpreters maintain. For the present it is enough for us to observe this one thing: that an opinion of this kind has not been proscribed by the Church, and can be defended not only with faith preserved, but also without the mark of temerity, if weighty reasons themselves support it. Wherefore, if evident observations compel us to depart from the common interpretation, the Mosaic cosmogony suffers no detriment, since, on this hypothesis, it can be reconciled with those observations very well; but if observations of this kind are not had, the adversaries wrongly oppose them to the Mosaic cosmogony.] (Same, *ibid.*)*

1° That, since the evidently true reasons required by the learned Jesuit in order to range himself on the side of the proponents of the periods do not exist, he embraces the more common opinion, that of the literal interpretation;

2° That the authors cited thought that God created everything simultaneously, and that they thereby condemn the system of epochs;

3° And that, if they did not admit natural days, it was because of the absence of the sun.

ROHRBACHER

The *Civiltà cattolica* cited an extract from this great historian of the Church's address of reception into

[French p. 219] the Royal Society of Nancy, in which he says: "The six days of creation can be regarded as six periods of greater or lesser length, and the first words of Genesis indicate an interval of time anterior to the work of the six days, an indefinite interval between the primitive creation of matter and its successive transformation into the present world.¹⁹⁴"

We have read this address, and we did indeed find in it the passage reported above. But from the time, now long past, when he delivered this address to that when he wrote his history, M. Rohrbacher changed his opinion. In the first pages of volume I, he begins by expressing his doubts with respect to the two systems; he says:

"There are indeed six epochs in the history of creation; but were these epochs, called days, lunar days, days of twenty-four hours? Or were they periods of time whose duration we do not know and which may be supposed more or less long?"

He does not yet resolve this question; he limits himself to citing a passage from Saint Augustine concerning the difficulty.

A few lines farther on, he adds: "Before the present world, had there already been another? Was this shapeless state of the earth, plunged or as though dissolved in

[French p. 220] the waters, its first creation? Or was it a destruction of something anterior? Moses says neither yes nor no.¹⁹⁵"

Up to this point the author leaves us ignorant of his personal ideas; but soon he will reveal them to us. We read, indeed, on page 18:

"God said: Let there be light, and there was light. God, therefore, by his word made light spring forth from darkness. Then the first day began; for there is no day without light. It was not the day of heaven, a day without decline, without cloud, because it is the splendor of God himself; it was a day of the earth, such as the man who was to inhabit it: successive, never remaining in the same state, an image and shadow like him.

"And there was an evening and there was a morning, that is, a succession of light and darkness, of day and night. As soon as there was light, the earth turning upon itself, or the light turning around it, the first day began with morning, noon, evening, midnight, according as the different parts of the earth were illuminated or in shadow. This succession has continued down to us, and will continue until the day of the Lord, a great and terrible day, when he will dissolve the present universe by fire in order to make from it new heavens and a new earth.¹⁹⁶"

[French p. 221] This language is too clear to require commentaries.

¹⁹⁴No. of March 4, 1858.

¹⁹⁵*Universal History of the Church*, vol. I, pp. 10 and 11.

¹⁹⁶*Ibid.*, vol. I, p. 18.

THE CIVILTÀ CATTOLICA

The learned editors of this review, in treating natural cosmogony compared with Genesis, begin by warning their readers that they will limit themselves to reporting the arguments of the two systems, without declaring themselves either for one or for the other: “We do not know,” they say, “whether it is necessary to warn that we are merely reporters and in no way defenders of these systems, as will be perceived better in what follows.”¹⁹⁷

Despite this preliminary statement, a few pages farther on, in the same article, they momentarily abandon this neutrality to declare themselves timidly, but clearly enough, against the periods:

“We do not wish to condemn what the Church tolerates and what such men adopt. But, to tell the truth, it also seems somewhat difficult to believe that the Creator should have willed—even by means of secondary causes—to destroy all vegetable and animal life upon our earth before forming there a creature in his image and allowing him to contemplate

[French p. 222] his works; that he should have willed to annihilate an entire world of living beings before imposing upon it the perfection that constitutes rational life.”¹⁹⁸

JEWISH AUTHORS

JOSEPHUS

This celebrated Jewish historian speaks, it is said, in several places in his works, of a book that he proposed to write on Jewish traditions. To this book he refers the explanation of this passage from the beginning of Genesis: “And there was an evening and a morning, one day. Such was,” he says, “the first day; but Moses does not express himself thus: he calls it only one day. I could give the reason for it,” he continues, “but I propose to do so in a special work, in which I shall give the reason for many things.”¹⁹⁹

Now, here are the somewhat strange conclusions that the authors whom we have in view draw from this work, which did not appear.

[French p. 223] “The treatise on Jewish traditions either was not composed or has not come down to us; so that we do not have the formal explanation of this enigma. But, if one reflects upon it ever so little, the sense is clear enough: Josephus, opposing unity to primacy and observing that Moses did not wish to call this day the first, could have done so only because this day was not really the first of creation; whence it follows that, according to Josephus, there had been days, and consequently creations, anterior to that of the first day of Genesis.”²⁰⁰

A complaisant will can indeed accommodate itself to such reasoning; but logic rejects it.

COHEN

The illustrious author of the *Studies on Christianity* invokes the authority of this Israelite, who, he says, in his translation of the Bible from the Hebrew text, practiced and defended, in notes, the interpretation of the word *day* considered

¹⁹⁷*Non sappiamo se sia necessario avvertire, noi essere soltanto relatori, non già approvatori di queste sistemi; ciò che meglio apparirà in seguito.* [We do not know whether it is necessary to warn that we are merely reporters, not indeed approvers of these systems; this will appear better in what follows.] (No. of March 4, 1858, p. 683.)

¹⁹⁸*Non vogliamo condannare ciò che la chiesa tollera, e tali uomini approvano. Ma, a dir vero, sembra pure un po' duro che il creatore volesse benché per mezzo delle cagioni seconde distruggere ogni vita vegetabile ed animale sulla nostra terra, prima di formarvi una creatura a sua immagine, e darle agio di contemplare le sue opere, ed annullare un intero regno o imperio di viventi, prima d'imporgli la perfezione che la vita ragionevole.* [We do not wish to condemn what the Church tolerates and such men approve. But, to tell the truth, it nevertheless seems somewhat hard that the Creator should have willed, even by means of secondary causes, to destroy all vegetable and animal life upon our earth before forming there a creature in his image and giving him leisure to contemplate his works, and to annihilate an entire kingdom or empire of living beings before imposing upon it the perfection that is rational life.] (No. of March 4, 1858, p. 686.)

¹⁹⁹*Antiqui. Jud.*, ch. I.

²⁰⁰The commentators of the *Complete Course*, vol. III, p. 1614.

as expressing a long period of time.²⁰¹ But M. Nicolas doubtless does not know that this Bible of Cohen is on the Index among the Jews, as M. le chevalier Drach assured us. And when M. l'abbé Glaire asked a Jew whether he read

[French p. 224] this Bible, he was answered: "I should believe my house lost if this bad book were found there."

This version of Cohen is also vigorously opposed by M. Sylvestre de Sacy.

PHILO

To this Jewish writer belongs the first idea of a creation made in a single stroke. In his work on the formation of the world, he develops this thought in the following manner:

"Moses says that the world was formed in six days; not that the Creator had need of a space of time, for it is known that God operates all things at once, not only by an express command, but even by a single thought; but because it was necessary that creation be made in a certain order. Now, number is proper to order, and among numbers, the senary number reproduces itself very frequently in the laws of nature. It was therefore necessary that the world, which is the aggregate of creatures, be composed according to a perfect number, such as that of six. This is why Moses attributes to each of the six days a particular portion of the universe."²⁰²

[French p. 225] A few pages farther on, having arrived at the explanation of the work of the sixth day, he adds: "It would be gross ignorance to think that the world was created in six days, or in any time whatever, since time is nothing other than the space of days and nights, which the sun necessarily traverses in its movement above and below the earth. —Indeed, if the Creator had not made all things at once, there would have been less order among the creatures clothed in such great beauty; for there is nothing beautiful in confusion."²⁰³

RABBI ABAHU

We read in the *Civiltà cattolica* that Rabbi Abahu, cited by Moses Maimonides in his *Moré-Nevokim*, taught, concerning the beginning of

[French p. 226] Genesis, "that God constructed worlds and then destroyed them."²⁰⁴

Here is the reply that we owe to the extreme obligingness of M. le chevalier Drach:

"This proposition *nunc habemus*, etc., does not belong to Maimonides. This rabbi cites it in his *Moré-Nevokim*, the *Guide of the Perplexed*, only as having been advanced by Abahu. He reproves and condemns it, deciding that it is contrary to the first principles of the faith. It is blasphemous and offensive to the divine majesty. Indeed, how can one admit: 1° that almighty God had need to employ thousands of centuries to form the earth? 2° that the God of all knowledge

²⁰¹Vol. I, p. 380.

²⁰²*Sex autem diebus fabricatum est mundum, non quod temporis spatio opus habuerit conditor; Deus enim non jussu solum, verum et cogitatu omnia simul operari creditur; sed quoniam opus erat res creari quodam ordine; ordini autem numerus est proprius; numerorum autem senarius naturæ legibus est fecundissimus. Oportuit enim mundum, cum sit creaturarum absolutissimus, juxta perfectum numerum compingi, nempe senarium. Singulis autem diebus attribuit aliquam universi portionem.* [The world, however, was fashioned in six days, not because the Creator had need of a span of time; for God is believed to operate all things at once, not only by command but also by thought; but because it was necessary for things to be created in a certain order. Number, moreover, is proper to order; and among numbers, the senary is the most productive according to the laws of nature. For it was fitting that the world, since it is the most complete of created things, be joined together according to a perfect number, namely the senary. To each day, moreover, he attributed some portion of the universe.] (*De mundi artificio secundum Moysen*, p. 3.)

²⁰³*Rusticane simplicitatis est putare sex diebus, aut utique tempore, mundum esse conditum; quia tempus non est nisi spatium dierum ac noctium, quod solis motus super terram subque terra meantis necessario conficit. . . . Nam si omnia simul non fecisset conditor, minus ordinis fuisset in rebus tam pulchre conditis: nec enim est quidquam pulchri in confusione.* [It is the mark of rustic simplicity to think that the world was created in six days, or indeed in time; because time is nothing but the span of days and nights, which the motion of the sun passing above the earth and beneath the earth necessarily produces. . . . For if the Creator had not made all things at once, there would have been less order in things so beautifully created: for there is nothing beautiful in confusion.] (*Ibid.*, p. 44.)

²⁰⁴*Nunc habemus quod Deus edificaverit mundo, et illos iterum destruxerit.* [Now we have that God built a world, and destroyed them again.]

did not foresee that he would have to destroy his first trials and begin his work again?²⁰⁵ Yet this is what a Christian scholar, a proponent of epoch-days, is obliged to come to: ‘It was only after many transformations of matter,’ says M. Desdouts, ‘many creations perhaps, which God successively destroyed, like a workman dissatisfied with or disdainful of his trials.’²⁰⁶”

[French p. 227] “Moses Maimonides,” adds M. le chevalier Drach, “is surnamed the great eagle of the synagogue. It is on the basis of his decision that the latter reproved Abahu’s decision. This shows that Abahu is far from being an authority.”
[French p. 228]

CHAPTER V

Ecclesiastical Writers Who Defended the Literal Interpretation of the Days of Moses

In order to know the language of Christian tradition concerning the first verses of Genesis, we consulted the *Patrology* of M. l’abbé Migne, and, thanks to the admirable indexes that crown this colossal work, we were able to discover and read all the commentaries of the Fathers and Doctors on this subject. Well then! We do not fear to affirm it: apart from a very small minority, all these writers, whose genius was still illuminated by the splendors of sanctity, adopted and defended the literal interpretation of the days of Genesis. And those who compose the contrary, very small minority did not declare themselves in this sense because, like Origen and Saint Augustine, they did not succeed in accounting for the existence of light before the creation of the

[French p. 229] sun. But, far from admitting an ante-Genesisic world or indeterminate periods, they believed with Saint Augustine that God had created everything in a single stroke.

To the Fathers and Doctors already cited, and whose testimonies militate in our favor, we shall add:

1° The Council of Palestine, held under Pope Victor in 179. We have already cited the Councils of the Lateran and of Trent.

2° The Doctors and Fathers:

Saint Cyprian—Saint Jerome—Saint Ambrose.

Saint Gregory of Nyssa—Saint Leo, pope—Saint John Chrysostom.

Saint Gregory the Great—Saint Thomas—Saint Bonaventure.

Saint Justin, martyr—Saint Ephrem—Saint John Damascene.

Lactantius—the Venerable Bede—Raban-Maur.

Bruno of Asti—Marius Victorinus.

Hugh of Saint-Victor—Honorius of Autun.

3° The most authoritative interpreters of Holy Scripture:

Corneille de La Pierre—Dom Calmet—Tyrinus.

De Vence—Menochius—Carrière—l’abbé Glaire.

²⁰⁵This consideration, so striking, seems to us to draw great force from this saying so often repeated in the first chapter of Genesis: *And God saw that it was good*. One would therefore have to conclude, according to the ideas of our adversaries, that after these first trials God perceived that it was not good; and he would consequently have set to work again, until he succeeded!

²⁰⁶*Book of Nature*, eighteenth consideration, new ed.

4° The greatest theologians:

Bellarmin—Suarez—Petau.

Perrone—Martinet—Albert Knol.
[French p. 230]

COUNCIL OF PALESTINE

Pope Victor had charged Theophilus, bishop of Caesarea and of Palestine, with fixing the time at which it was right that all the Catholic Churches should celebrate the feast of Easter, there where the Lord and Savior of the world had passed his mortal life. In virtue of this mission, Theophilus convoked all the bishops, not only of his province, but also of several other regions. As soon as this multitude of priests was assembled, the bishop of Caesarea read in the presence of this solemn assembly the letters by which the sovereign pontiff conferred upon him the mission of convoking and presiding over this council, and set forth to it its principal object. Immediately all the bishops said with one unanimous voice that it was impossible to fix with certainty the celebration of the feast of Easter before first determining from what day the origin of the world dated.

Here begins the remarkable dialogue that was established between the delegate of the sovereign pontiff and the members of the council.

The bishops. What day do we believe to have been the first day of the world, if not Sunday?

Bishop Theophilus replied: Prove what you say.

[French p. 231] *The bishops.* According to the testimony of Scripture, there was an evening and a morning that formed one day, then the second, the third, the fourth, the fifth, the sixth, the seventh.

On this seventh day, which he called the sabbath, God rested from all his works. If, therefore, the sabbath is marked in the last place, and as the last day, what can be the first, if not Sunday?

Bishop Theophilus. You have well proved that the first day was Sunday; but what do you think of the time or the season? Indeed, four seasons are counted: spring, summer, autumn, winter. Now, what was the first season of the world?

The bishops. It is written: *Let the earth produce green plants with their seeds, according to their kind, and trees producing fruits according to their kind.* Now, these things take place in spring.

Bishop Theophilus. At what point do you place the origin of the world? Is it at the beginning, in the middle, or at the end of the season?

The bishops. On the eighth day of the equinox of the calends of April.

Bishop Theophilus. Prove what you say.

The bishops. It is written that God made the light, that he called the light day and the darkness night, and that he made an equal division between the light and the darkness.

Bishop Theophilus. You have spoken well of the day and the season; but what do you think of the moon?

[French p. 232] Was it created by the Lord while waxing, or already full, or else while waning?

The bishops. Already full.

Bishop Theophilus. Prove what you say.

The bishops. God made two great heavenly bodies and placed them in the firmament of heaven, so that they might illuminate the earth: the greater for the direction of the day, the lesser for the direction of the night; it was therefore necessary that the moon be full. We have thus investigated how the world was made from its origin, and we see that it was on a Sunday, in spring, on the eighth day of the equinox of the calends of April, at a full moon, when the seasons begin and the elements are reanimated.

Bishop Theophilus. It is now a question of fixing the time at which we must celebrate the feast of Easter.

The bishops. We must celebrate it on Sunday, which has been sanctified by so many and such great blessings.²⁰⁷ "
[French p. 233]

Doctors and Fathers

SAINT CYPRIAN

In his computation concerning Easter, the holy Doctor, proposing to show in what month and on what

[French p. 234] day Easter must be celebrated, begins by citing this text of Genesis: *And God separated the light from the darkness, and he called the light day and the darkness night; and there was an evening and a morning that formed one day.* Then he adds: "When, therefore, Holy Scripture reports and announces to us that the Lord himself separated the light from the darkness, that is, the day from the night, it shows us evidently that this was the first day, followed by the first night, between which the author of all things divided the time equally, that is, exactly.

"If, therefore, we wish to go back, without error, to the first month and to show its beginning and end, let us return to Genesis, which teaches us that God himself separated the first day from the first night. There we see that nothing,

²⁰⁷ *Dixerunt Episcopi: Quem credimus factum fuisse in mundo primum, nisi dominicum diem. Theophilus Episcopus dixit: Probate quod dicitis. Responderunt Episcopi: Secundum Scripturæ auctoritatem factum est vespere et mane dies primus, deinde secundus, tertius, quartus, quintus, sextus, septimus. In quo septimo requievit Deus ab omnibus operibus suis, quam diem Sabbatum appellavit. Ergo cum novissimum diem signet Sabbatum, quis potest esse primus, nisi dominicus dies? Theophilus Episcopus dixit: Ecce de die dominico, quia primus sit probastis; de tempore enim quid dicitis? Quatuor enim mundi tempora accipiuntur: Ver, Estas, Autumnus, Hiems. Quod ergo tempus primum factum in mundo? Episcopi responderunt: Vernum. Theophilus Episcopus dixit: Probate quod dicitis. Episcopi responderunt: Scriptum est: Germinet terra feni herbam secundum genus suum, et lignum fructiferum ferens fructum suum. Hoc autem temporibus Vernis accipitur. Theophilus Episcopus dixit: In quo loco caput mundi esse creditis? In principio temporis, an in medio tempore, aut in fine? Episcopi responderunt: In æquinotio octavo calendarum aprilium. Theophilus Episcopus dixit: Probate quod dicitis. Episcopi responderunt: Scriptum est quia fecit Deus lucem, et vocavit Deus lucem diem et tenebras noctem: et divisit inter lucem et tenebras æquas partes. Theophilus dixit: Ecce de die vel tempore probastis, de luna quis vobis videtur? Utrum crescentem ac jam plenam, aut imminutam, a Deo fuisse consecratam? Episcopi responderunt: Plenam. Theophilus Episcopus dixit: Probate quod dicitis. Episcopi responderunt: Et fecit duo luminaria magna, et posuit ea in firmamento celi, ut luceant super terram; luminare majus in inchoationem diei; luminare minus in inchoationem noctis; non poterat aliter nisi esset plena. Nunc ergo investigabimus quomodo in principio factus fuit mundus, id est die dominico; verno tempore in æquinotio quod est octavo calendarum aprilium; luna plena, per ipsum tantummodo tempus et elementa resurgunt. Theophilus dixit: Nunc igitur agendum est de ordinatione, quomodo debeamus Pascha tenere. Episcopi dixerunt: Numquid potest dies dominicus præteriri, ut in eo Pascha minime celebretur, qui tot et totibus benedictionibus sanctificatus est. [The bishops said: What do we believe to have been made first in the world, if not the Lord's day? Bishop Theophilus said: Prove what you say. The bishops replied: According to the authority of Scripture, evening and morning were made the first day, then the second, third, fourth, fifth, sixth, seventh. On that seventh day God rested from all his works, which day he called the Sabbath. Therefore, since the Sabbath marks the last day, what can be the first, if not the Lord's day? Bishop Theophilus said: Behold, concerning the Lord's day, you have proved that it was first; but what do you say concerning the season? For four seasons of the world are recognized: spring, summer, autumn, winter. What season, therefore, was first made in the world? The bishops replied: Spring. Bishop Theophilus said: Prove what you say. The bishops replied: It is written: *Let the earth bring forth the herb of hay according to its kind, and the fruit-bearing tree bearing its fruit.* This, moreover, is understood of the spring season. Bishop Theophilus said: In what place do you believe the beginning of the world to be? At the beginning of the season, in the middle of the season, or at the end? The bishops replied: At the equinox, on the eighth day of the calends of April. Bishop Theophilus said: Prove what you say. The bishops replied: It is written that God made light, and God called the light day and the darkness night; and he divided equal parts between the light and the darkness. Theophilus said: Behold, you have proved the matter of the day or season; what seems to you concerning the moon? Whether waxing and already full, or waning, was it consecrated by God? The bishops replied: Full. Bishop Theophilus said: Prove what you say. The bishops replied: *And he made two great lights, and placed them in the firmament of heaven, that they might shine upon the earth; the greater light for the beginning of the day; the lesser light for the beginning of the night;* it could not be otherwise unless it were full. Now, therefore, we shall investigate how the world was made in the beginning, that is, on the Lord's day; in the spring season, at the equinox, which is on the eighth day of the calends of April; at the full moon, through that very time alone the seasons and the elements rise again. Theophilus said: Now, therefore, the ordering must be considered: how we ought to observe Easter. The bishops said: Surely the Lord's day cannot be passed over so that Easter should by no means be celebrated on it, which has been sanctified by so many and such great blessings.] (Bede, *De ordinatione feriarum Paschali per Theophilum Episcop. Cæsariensem et reliq. Episcop. Concilium.*)*

except God himself, marked the limits of the second and third days, as well as of the second and third nights; and that from the fourth day onward he charged the sun and the moon with this role. For God made two great luminous bodies: the greater

[French p. 235] to mark the beginning of the day, the lesser to mark the beginning of the night.²⁰⁸

SAINT JEROME

Independently of his *Divine Library*, where all the texts of Genesis, Exodus, and Deuteronomy that relate to the days of creation repeat the same word, *dies*, we find in his works several passages that leave no doubt concerning the literal sense that he gave to this expression. Thus, in the *Book of Hebrew Questions*, he comments in these terms upon the first verse of Genesis, *In principio Deus creavit*, etc. [In the beginning God created, etc.]:

“Several think that the Hebrew version has: God created through his Son and in his Son heaven and earth; this is false, as the reality of the fact proves;

[French p. 236] for in the Hebrew text one finds the word *bresith*, which Aquila interprets as *in the beginning*, and not the word *babem*, which would signify *in his Son*. This sense results both from the first lines of Genesis, which is the first of all the books, and from the beginning of the Gospel of Saint John, which says: *In the beginning was the Word*. This is why the Son says of himself in the Psalter: *It is written of me at the head of the book*, that is, in the first lines of Genesis.²⁰⁹

And concerning this text, *And God finished on the sixth day all the works that he made*, he says:

“In place of the sixth day, one reads in the Hebrew: the seventh day. We therefore have the right to say to the Jews, who glory in the rest of the sabbath, that this sabbath was already abolished at the beginning, since God, according to their version, worked on the seventh day and blessed it because on that day he had finished all his works.²¹⁰”

[French p. 237]

SAINT AMBROSE

Already, as we have observed, all the philological and scriptural difficulties that the adversaries of the literal sense have raised in order to combat it were addressed and resolved by the Fathers. The great Archbishop of Milan gives us a new proof of this in his *Hexameron*: “One might be astonished,” he says, “to read in the account of Moses:

²⁰⁸*Referendo igitur et insinuando nobis sancta Scriptura ipsum Dominum divisisse inter lucem et inter tenebras, id est inter diem et noctem, evidenter ostendit hunc esse primum diem, et sequentem ejus noctem, inter quos omnium artifex equaliter, hoc est irreprehensibiliter, divisit. Volentes igitur hunc mensem vere ostendere, unde incipiat et ubi finiat, revertamur ad Genesim quae retulit nobis ipsum Deum divisisse inter primum diem et primam noctem. Unde recognoscimus, et inter secundum et inter tertium diem et noctem, neminem, nisi ipsum Deum divisisse, et sic a quarto die hoc officium soli et lunae injunxisse: Et fecit Deus luminaria magna, luminare majus initium diei, luminare minus initium noctis.* [Thus, by relating and intimating to us that the Lord himself divided between light and darkness, that is, between day and night, Holy Scripture shows evidently that this is the first day and that its night follows it, between which the artificer of all things divided equally, that is, faultlessly. Wishing, therefore, to show truly whence this month begins and where it ends, let us return to Genesis, which related to us that God himself divided between the first day and the first night. Hence we recognize that no one except God himself divided between the second and the third day and night, and that in this way, from the fourth day onward, he enjoined this office upon the sun and the moon: *And God made the great lights, the greater light for the beginning of the day, the lesser light for the beginning of the night.*] (*De Pascha computus*, p. 745.)

²⁰⁹*Plerique existimant in Hebræo haberi: In Filio Deus fecit cælum et terram; quod falsum esse ipsius rei veritas comprobatur. Nam in Hebræo scriptum est Bresith, quod Aquila interpretatur: in capitulo; et non Babem quod appellatur: in Filio. Isti sensus tam et ipsa fronte Geneseos, quæ caput omnium librorum est, quam etiam in principio Joannis Evangelistæ, ubi legitur: In principio erat Verbum, approbatur. Unde in Psalterio Filius de seipso ait: In capite libri scriptum est de me, id est in principio Geneseos.* [Several think that the Hebrew has: *In the Son God made heaven and earth*; the truth of the matter itself proves this to be false. For in the Hebrew is written *Bresith*, which Aquila interprets: *at the beginning*; and not *Babem*, which is called: *in the Son*. This sense is confirmed both by the very front of Genesis, which is the head of all the books, and also at the beginning of John the Evangelist, where one reads: *In the beginning was the Word*. Hence in the Psalter the Son says of himself: *At the head of the book it is written of me*, that is, at the beginning of Genesis.] (*Liber hebraicarum question. in Gen.*, ch. I, v. 1.)

²¹⁰*Et consummavit Deus in die sexto opera sua quæ fecit. Pro die sexto, in Hebræo habet diem septimum. Arctavimus igitur Judeos, qui de otio Sabbati gloriantur, quod jam tunc in principio Sabbatum dissolutum sit, dum Deus operatur in Sabbato, complens opera sua in eo, et benedicens ipsi diei: quia in illo universa compleverit.* [And God completed on the sixth day his works that he made. In place of the sixth day, the Hebrew has the seventh day. We have therefore constrained the Jews, who glory in the repose of the Sabbath, because already then, in the beginning, the Sabbath was dissolved, while God works on the Sabbath, completing his works on it and blessing that day itself, because on it he had completed all things.] (*Ibid.*, ch. II, v. 2.)

Let there be luminous bodies that illuminate the earth and that divide the day from the night, since he has already said above, in speaking of the creation of light: *God separated the light from the darkness, and there was an evening and there was a morning, which formed one day*. But it must be considered that the light of day is one thing and the light of the sun, the moon, and the stars another, since the sun itself seems to add the brilliance of its rays to the diurnal light that day can produce, whether at its rising or at its setting; for, before the appearance of the sun, the day undoubtedly shines, but it does not gleam.

“There are also some who ask why Scripture

[French p. 238] spoke first of the evening, then of the morning? Perhaps so as not to appear to designate the night before the day. But they do not observe that it gave priority to the day by saying: *And God called the light day and the darkness night*; and that the evening is the end of the day, as the morning is the end of the night. Thus the beginning of the day is indicated by this word of God: *Let there be light, and there was light*. Now, the evening is the end of one day, and the following day succeeds it at the end of the night. As for the intention of God, it results evidently from the fact that he called the light day in the first place, and the darkness night in the second place; and by this very fact he established the law in virtue of which the name *day* is given only to the duration of the twenty-four diurnal and nocturnal hours—and *they formed one day*—as if he had said: The measure of twenty-four hours forms the duration of one day.²¹¹”

[French p. 239]

SAINT GREGORY OF NYSSA

In his *Hexameron*, this Father observes first that several have not rightly understood the purpose that Moses proposed to himself in the account that he gave of the work of the six days; and that, consequently, they wrongly reproach him for not having explained himself in a clearer manner concerning the sun, by saying how, after the first three days, it was created with the other heavenly bodies.

“For,” he says, “in order that the space of a day may elapse between morning and evening, it is not necessary that the sun mark either the evening by setting or the morning by rising. This is what Moses stated in the course of his historical narration in these words: *God saw that the light was good, and separated the light from the darkness; and there was an evening and a morning*. But as soon as this succession of light

[French p. 240] and darkness had been accomplished in the lower regions, after an equal lapse of time, Moses, not wishing the origin of any of the things that followed in a regular order to be attributed to chance or to some other cause, traces the denomination of day and night back to God himself: *God called the light day, and the darkness night*. For, if it was naturally impossible for light to lose its power of illuminating upon arriving at the zenith in the upper regions,

²¹¹ *Movere autem potest quod ait Moyses: Fiat luminaria ad illuminationem super terram, quæ discernant inter diem et noctem; quia super jam ubi lumen fecit dixerat: separavit Deus lucem et tenebras, et factum est vespere et mane dies unus; sed consideremus quia aliud est lumen diei, aliud lumen solis, lunæ et stellarum, eo quod sol ipse radiis suis fulgorem diurno lumine videatur adungere, quod vel ortus diei potest prodere vel occasus. Nam ante solem lucet quidem, sed non refulget dies. Querunt aliqui cur prius vespere, postea mane Scriptura memoravit? Ne forte noctem prius quam diem significare videatur. Nec advertunt primo quod præmiserit diem, dicendo: Et vocavit Deus lucem diem et tenebras vocavit noctem: deinde quod vespere finis diei sit, et mane finis sit noctis. Principium ergo diei, vox Dei est: Fiat lux et facta est lux; finis diei vespere est. Jam sequens dies ex noctis fine succedit. Sententia autem Dei evidens est, quia diem primo vocavit lucem, et secundo vocavit tenebras noctem. Sic legem statuit ut viginti quatuor horæ diurnæ ac nocturnæ diei tantum nomine definiantur, et fit dies unus, sicut dixerat viginti quatuor horarum mensura unius diei tempus est.* [One may, however, be troubled by what Moses says: *Let there be lights for illumination upon the earth, which may distinguish between day and night*; because above, as soon as he had made light, he had said: *God separated light and darkness, and evening and morning were made one day*; but let us consider that the light of day is one thing and the light of the sun, moon, and stars another, because the sun itself seems by its rays to add brilliance to the diurnal light, which either the rising or the setting of the day can reveal. For before the sun, the day indeed shines, but does not gleam. Some ask why Scripture mentioned evening first and morning afterward. Lest it seem to signify night before day. Nor do they observe, first, that it placed day first, saying: *And God called the light day and called the darkness night*; then, that evening is the end of day and morning is the end of night. The beginning of the day, therefore, is the voice of God: *Let there be light, and there was light*; the end of the day is evening. Then the following day succeeds from the end of night. The intention of God, however, is evident, because he first called the light day and secondly called the darkness night. Thus he established the law that the twenty-four diurnal and nocturnal hours are defined only by the name of a day, and one day is made, as it had said: the measure of twenty-four hours is the time of one day.] (Bk. IV, ch. III.)

it was necessary that the lower regions grow dark because of their coarser nature, which causes them to repel the rays of light. God therefore called the absence of light evening. But when the light again traversed the upper part of the circle and illuminated the upper regions, he called this very fact morning.²¹²"

[French p. 241]

SAINT LEO, POPE

This holy Doctor does not treat the question of creation *ex professo*; he nevertheless speaks of it, but very briefly, in one of his discourses. The passage that we are about to cite suffices, moreover, to reveal his thought clearly to us:

"God said: *Let there be luminous bodies in the firmament of heaven, so that they may shine upon the earth*, etc. But what is the sun, what is the moon, if not elements of visible creation and of material light? For, just as diurnal time is one thing and nocturnal time another, so the Creator constituted the luminous bodies with different qualities, although, before they existed, there had already been days without the intervention of the sun and nights without the intervention of the moon.²¹³"

SAINT JOHN CHRYSOSTOM

This great patriarch of Constantinople devotes

[French p. 242] several of his homilies to commenting upon the first chapter of Genesis. He first applies himself to establishing that the days of Moses are ordinary days, as is proved by the passages that we are about to cite:

"*And God called the light day, and the darkness night.*

"From the beginning, God assigned limits to each thing, which each thing kept invariably without exception; but after God had given their names to the light and the darkness, the sacred historian brings them together to say: *And there was an evening, and there was a morning, which formed one day.* He spoke expressly of both day and night in order to establish a certain order and a certain connection among visible things and to prevent all confusion."

"*And there was an evening, and there was a morning, which formed the second day.*

"You see with what care, calling evening the end of the light, morning the end of the night, and day the union of the one and the other, he instructs us, enlightens us, and puts us on guard against the opinion of those who allow themselves to be influenced by human reasonings, lest we regard evening as the end of the day, and so that we may know well that the duration of day and night constitutes the entire day. This is,

²¹²*Quasi fieri nequeat, ut mane et vespera diurnum spatium constituatur, nisi omnino sol et occidens, vespere et oriens mane conficiat. Quod autem in genere narrationis historicæ a Mose conscriptum est: Vidit Deus lucem esse bonam, et divisit inter lucem et tenebras, et factum est vespere et factum est mane. Hac autem lucis tenebrarumque successione, æquis temporis intervallis, in regione inferiore peracta, Moses, ut nihil eorum quæ ordine consecuta sunt, aut fortuito, aut ab alia causa principium habuisse declararet, diei noctisque denominationem Deo tribuens, appellavit, inquit, lucem diem et tenebras noctem. Nam, cum illustrandi vis naturaliter non possit quiescere ubi lux per summam circuli partem transiens ad superiora pervenit, necesse fuit ut inferiora obscurerentur, crassiore natura ut par est, splendorem non admittente. Lucis igitur absessum vesperam nominavit. Rursus autem, cum lux supremum circulum percurreret, et superioribus lumen afferret, illud ipsum factum vocavit mane. [As though it could not happen that morning and evening constitute the daily span unless the sun, altogether, setting, makes evening and, rising, morning. But what was written by Moses in the manner of historical narration is: God saw that the light was good, and divided between light and darkness, and there was evening and there was morning. Now, when this succession of light and darkness had been accomplished in the lower region at equal intervals of time, Moses, in order to declare that none of the things that followed in order had its beginning either by chance or from another cause, attributing the denomination of day and night to God, says that he called the light day and the darkness night. For, since the power of illuminating cannot naturally cease when the light, passing through the highest part of the circle, arrives at the upper regions, it was necessary that the lower regions be darkened, their coarser nature, as is fitting, not admitting the radiance. He therefore named the absence of light evening. But again, when the light traversed the uppermost circle and brought light to the upper regions, he called that very fact morning.] (In Hexameron sancti Basilii explicatione.)*

²¹³*Dixit Deus: Fiant luminaria in firmamento celi, ut luceant super terram, etc. Quid autem est sol, vel quid est luna, nisi visibilis creaturæ et corporeæ lucis elementa? Sicut enim alia diurna, alia nocturna sunt tempora, ita diversam in luminaribus qualitatem Creator instituit, cum tamen, priusquam hæc fierent, et dies sine solis officio, et noctes sine lunæ ministerio præcessissent. [God said: Let there be lights in the firmament of heaven, that they may shine upon the earth, etc. But what is the sun, or what is the moon, if not elements of visible creation and corporeal light? For just as diurnal times are one thing and nocturnal times another, so the Creator established a different quality in the lights, although, before these were made, both days without the office of the sun and nights without the ministry of the moon had preceded them.] (Eighth Sermon.)*

[French p. 243] indeed, what divine Scripture wishes to express in saying: *There was an evening, and there was a morning, which formed one day.*²¹⁴"

Farther down, in applying these words to the third day, the illustrious Doctor says:

"You see how Moses applies himself, by the frequent repetition of his teaching, to making it penetrate our mind well. You see how he says of each of these days: *There was an evening and a morning, which formed the third day*, etc.; not simply and without reason, but so that we may not confuse the order, and may not think that the day comes to an end through the encroachment of evening; and so that we may know that evening is the end of light and the beginning [French p. 244] of night, just as morning is the end of night and the beginning of day. For this is what Moses wishes to teach us by saying: *And there was an evening*, etc."²¹⁵

SAINT GREGORY THE GREAT

This holy pope develops at length the distinction made by the majority of the Fathers between the creation of matter and the creation of form. He says:

"If one gives a minute account of the very origin of things, one soon recognizes that the substance of beings was created at once, but that the species were not formed simultaneously; so that what existed at the same time with respect to the substance of matter did not appear at the same time under the form of the species. Thus, when the sacred historian describes the simultaneous creation of heaven and earth, he retraces at once that of spirits and bodies, at once that of everything that comes from heaven,

[French p. 245] and at once that of everything that the earth produces. For the sun, the moon, and the heavenly bodies were, he says, placed in heaven on the fourth day; but what showed itself on the fourth day in a particular species existed from the first day through creation in the very substance of heaven.

"It is also said that the earth was created on the first day, and that the shrubs developed on the third day, as did everything that grows green upon the earth; but what showed itself on the third day in its species was enclosed, from the first day, in the substance of the earth, whence each of these species came forth. This is why Moses, after having distinctly reported, day by day, all the works of creation, nevertheless added that all things had been made at once, saying: *Such was the origin of the heavens and of the earth when they were created, on the day when the Lord made the earth and the heavens, and all the plants of the fields.* (Gen., II, 4 and 5.) Thus, the historian who had related the creation of heaven and earth, of the plants and the herbs, as accomplished on different days, now testifies that all this was made in one

²¹⁴*Et vocavit Deus lucem diem, et tenebras noctem. Ab initio cuique suos terminos præfixit, quos perpetuo absque impedimento custodivit. Sed postquam utrique suum nomen dedit, utrumque in unum copulans dixit: Et factum est vespere et factum est mane dies unus. Finem diei et finem noctis unum expresse nominavit, ut ordinem aliquam et consequentiam statueret visibilium, nullaque fieret confusio. Et factum est vespere, et factum est mane dies secundus. Vides quanta diligentia nos docet, finem lucis vespere vocans et finem noctis mane, et totum illud diem, ut hoc accurate docti non incidamus in eorum sententiam qui humanis ratiociniis moventur, neque putemus vespere finem esse diei, sed manifeste sciamus utriusque spatium unum diem implere. Hoc enim vult divina Scriptura manifestare dicens: Et factum est vespere et factum est mane dies secundus. [And God called the light day and the darkness night. From the beginning he fixed for each its limits, which each kept perpetually without impediment. But after he gave to each its own name, joining both into one, he said: And there was evening and there was morning, one day. He expressly named the end of day and the end of night one, so that he might establish an order and a succession of visible things and that no confusion might arise. And there was evening, and there was morning, the second day. You see with what diligence he teaches us, calling the end of light evening and the end of night morning, and that whole [span] day, so that, accurately instructed in this, we may not fall into the opinion of those who are moved by human reasonings, nor think that evening is the end of the day, but may know manifestly that the span of both completes one day. For this is what divine Scripture wishes to manifest when it says: And there was evening and there was morning, the second day.] (Homily on Genesis.)*

²¹⁵*Vides quomodo iterando frequenter doctrinam, menti nostræ dictorum vim infligere vult. Vides quomodo de singulis diebus sic dicat: Et factum est vespere et factum est mane dies tertius, non simpliciter nec absque causa; sed ne ordinem confundamus, neque putemus, vespera ingruente, finem accepisse diem; sed sciamus vespere finem esse lucis, et principium noctis; mane autem finem noctis et complementum diei. Hoc enim docere nos vult beatus Moses dicens: Et factum est, etc. [You see how, by frequently repeating the teaching, he wishes to impress the force of the words upon our mind. You see how he speaks thus of each day: And there was evening and there was morning, the third day, not simply nor without cause, but lest we confuse the order or think that, with evening coming on, the day has received its end; but so that we may know that evening is the end of light and the beginning of night, while morning is the end of night and the completion of day. For this is what blessed Moses wishes to teach us, saying: And it was, etc.] (Homily on Genesis.)*

day, in order to show clearly that all creatures existed simultaneously with respect to substance, although they did not simultaneously assume the form of their particular species.²¹⁶

[French p. 246]

SAINT THOMAS

As we observed in our Introduction, the Angelic Doctor devotes numerous pages in his *Summa* to the first chapter of Genesis, where he establishes by the most convincing proofs that the days of creation must be considered natural days. Before citing him, we believe we must point out to those who are not familiar with Saint Thomas that, after

[French p. 247] having posed a question, he reports the arguments of his adversaries before giving it his personal solution.

Question. Is it fitting to place the creation of light on the first day?

It seems that the production of light cannot fittingly be placed on the first day, for by light night is distinguished from day; this is done by the sun, created only on the fourth day, etc.

Answer. But it must be said, as Saint Denis has already said in his work *On the Different Names* (first part, lect. III), that this light was the same as that of the sun, but that it was still incomplete. For, although of the same substance as the sun and endowed with a general power of illuminating, it did not yet have that special and determinate power which was afterward given to it to produce particular effects. Now, this light already sufficed to effect the difference of days and nights.

“A double movement must therefore be recognized in heaven: one general movement for the whole heaven, which brings day and night and which was established on the first day; then another movement which varies according to the different celestial bodies; and it is these movements that cause the differences that days, months, and years present among themselves. This is why on the first day mention is made only of the distinction of day and night produced by the

[French p. 248] general movement; whereas on the fourth day mention is made of the difference of days, seasons, and years, when it is said: *that they may mark the seasons, the days, and the years*. Now, it is this difference that the proper movements of the celestial bodies produce.²¹⁷”

²¹⁶*Quod tamen citius agnoscimus, si ipsas causas originum subtiliter indagamus. Rerum quippe substantia simul creata est; sed simul species formata non est; et quod simul extitit per substantiam materiæ, non simul apparuit per speciem formæ. Cum enim simul factum cælum terraque describitur, simul spiritalia atque corporalia, simul quidquid de cælo oritur, simul factum quidquid de terra producit, indicatur. Sol quippe, luna et sidera quarto die in cælo facta perhibentur; sed quod quarto die processit in specie, primo die in cæli substantia extitit per conditionem. Primo die etiam creata terra dicitur, et tertio arbusta condita, et cuncta terræ virentia describuntur. Sed hoc quod die tertio se in specie protulit, nimirum primo die in ipsa de qua ortum est terræ substantia conditum fuit. Hinc est quod Moyses distincte per singulos dies condita omnia retulit, et tamen simul omnia creata subjunxit, dicens: Istæ sunt generationes cæli et terræ, quando creata sunt in die quo fecit Dominus cælum et terram, et omne virgultum agri. (Gen., II, 4 et 5.) Qui enim diversis diebus creatum cælum et terram, virgultum, herbamque narraverat, nunc uno die facta manifestat, ut liquide ostenderet quod creatura omnis simul per substantiam extitit, quamvis non simul per speciem processit. [Yet we recognize this more quickly if we investigate subtly the very causes of origins. For the substance of things was created simultaneously; but the species was not formed simultaneously; and what existed simultaneously through the substance of matter did not appear simultaneously through the species of form. For when heaven and earth are described as made simultaneously, it is indicated that spiritual and corporeal things were made simultaneously, everything that arises from heaven simultaneously, and everything that is produced from the earth simultaneously. For the sun, moon, and stars are reported to have been made in heaven on the fourth day; but what came forth in species on the fourth day existed by creation in the substance of heaven on the first day. The earth also is said to have been created on the first day, the shrubs founded on the third, and all the green things of the earth are described. But what brought itself forth in species on the third day had assuredly been founded on the first day in the very substance of the earth from which it arose. Hence Moses distinctly related all things founded on the individual days and nevertheless added that all things were created simultaneously, saying: These are the generations of heaven and earth when they were created, on the day when the Lord made heaven and earth, and every shrub of the field. (Gen., II, 4 and 5.) For he who had narrated that heaven and earth, the shrub and the herb, were created on different days, now manifests that they were made in one day, so that he might show clearly that every creature existed simultaneously through substance, although it did not come forth simultaneously through species.] (Moralia, bk. XXXII, ch. II.)*

²¹⁷*Utrum convenienter lucis productio in primo die ponatur. Videtur quod inconvenienter lucis productio in primo die ponatur. Est enim lux qualitas quedam, etc. Sed est dicendum quod, ut Dionysius dicit cap. IV de Diver. nom. (part. I, lect. III) illa lux fuit lux solis, sed adhuc informis quantum ad hoc quod jam erat substantia solis, et habebat virtutem illuminativam in commune; sed postmodum data est ei specialis et determinata virtus ad particulares effectus. Poterat itaque illa lux efficere diversitatem dierum et noctium. Et ideo dicendum est, quod duplex est motus in cælo: Unus communis toti cælo, qui facit diem ac noctem; et iste*

Question. Can the cause of the appearance of the luminous bodies be fittingly determined?

It does not seem that the cause of the appearance of the luminous bodies can be fittingly determined, for the distinction of seasons and days

[French p. 249] began from the first day; the luminous bodies were therefore not made to mark the seasons, the days, and the years.

Answer. “But it must be said, on the contrary, that it is from the first day that the general division of time into day and night was established, as a consequence of the diurnal movement that is common to the entire heaven and that began on the first day; whereas the particular differences of days and seasons, according to which a given day is longer than another, a given season or a given year also longer than another, are produced by the particular movements of the heavenly bodies, which may be supposed to have begun only on the fourth day.²¹⁸”

Question. Do all these days form only a single day?

It seems that the affirmative must be adopted. For one reads in Genesis: *Such was the origin of the heavens and of*

[French p. 250] *the earth, on the day when the Lord made the earth and the heavens and all the plants of the fields.* It is therefore in one day that he made heaven and earth and all the plants of the fields, although he made earth and heaven on the first day and the plants of the fields on the third. The first and the third day therefore form a single day, and, for the same reason, as much must be said of the others.

Answer. But it is the contrary that must be said, for we read in Genesis: *There was an evening and a morning that formed one day, then a second, a third, a fourth day,* etc. There was therefore not only one day. On this question, Saint Augustine departed from the opinion of the other interpreters; for he maintains that what are called the seven days are a single day designated seven times by different things. The other interpreters think, on the contrary, that these days were seven distinct days and not a single one.

videtur institutus primo die. Alius autem est qui diversificatur per diversa corpora; secundum quos motus fit diversitas dierum ab invicem, et mensium et annorum. Et ideo in primo die fit mentio de sola distinctione noctis et diei, quae fit per motum communem; in quarto autem die fit mentio de diversitate dierum, et temporum, et annorum, cum dicitur: Ut sint in tempora, et dies et annos; quae quidem diversitas fit per motus proprios. [Whether the production of light is fittingly placed on the first day. It seems that the production of light is unfittingly placed on the first day. For light is a certain quality, etc. But it must be said that, as Dionysius says in chapter IV of *De Divin. nom.* (part I, lect. III), that light was the light of the sun, but still formless insofar as it was already the substance of the sun and had the power of illuminating in general; but afterward a special and determinate power was given to it for particular effects. That light could therefore effect the diversity of days and nights. And therefore it must be said that there is a double movement in heaven: one common to the whole heaven, which makes day and night, and this seems to have been established on the first day. The other, however, is one that is diversified through the different bodies; according to these movements the diversity of days from one another, and of months and years, is made. And therefore on the first day mention is made only of the distinction of night and day, which is made through the common movement; but on the fourth day mention is made of the diversity of days, seasons, and years, when it is said: *That they may be for seasons, and days and years;* which diversity is indeed made through the proper movements.] (Question LXVII, art. 4.)

²¹⁸*Utrum convenienter causa productionis luminarium describatur. Videtur quod inconvenienter causa productionis luminarium describatur. Nam distinctio temporum et dierum incepta a primo die. Non ergo facta sunt luminaria in tempora, et dies, et annos, id est in horum distinctionem. Sed dicendum est in contrarium quod in primo die facta est communis distinctio temporis per diem, et noctem secundum motum diurnum, qui est communis totius celi, qui potest intelligi incepisse primo die. Sed speciales distinctiones dierum et temporum, secundum quod dies est calidior die, et tempus tempore, et annus anno, fiunt secundum speciales motus stellarum, qui possunt intelligi quarto die incepisse.* [Whether the cause of the production of the luminous bodies is fittingly described. It seems that the cause of the production of the luminous bodies is unfittingly described. For the distinction of seasons and days began from the first day. Therefore the luminous bodies were not made for seasons, days, and years, that is, for the distinction of these. But it must be said to the contrary that on the first day the common distinction of time by day and night was made according to the diurnal movement, which is common to the whole heaven and which may be understood to have begun on the first day. But the special distinctions of days and seasons, according as one day is hotter than another day, and season than season, and year than year, are made according to the special movements of the stars, which may be understood to have begun on the fourth day.] (Question LXX, art. 2.)

It must therefore be said that on the day when God created heaven and earth, he also created all the plants of the fields in actuality, but before they appeared upon the earth, that is, potentially: Saint Augustine assigns to the third day what the other interpreters trace back to the first formation of things.

One also objects what is read in Ecclesiasticus (XXIII, 1): *He who lives eternally created all things together*. Now, this could not be if several days had been employed for the works of creation, for several

[French p. 251] days do not elapse together. There were therefore not several days, but a single one.

But it must be answered that God created all things together with respect to their substance, in some fashion formless, but not together with respect to their completion under the relation of their character and their ornaments; and it is for this reason that the sacred historian makes particular use in this place of the word *created*: *Creavit omnia simul* [He created all things together].²¹⁹

[French p. 252] *Question*. “Does Scripture employ suitable expressions to describe the works of the six days?”

“It seems that the negative must be admitted. For the expressions *evening* and *morning* do not suffice to mark the divisions of the day, since the day is also composed of other parts. Thus, strictly speaking, one cannot say that the evening and the morning formed the second or the third day. Furthermore, it is the word *first*, and not the word *one*, that would correspond exactly to the words *second* and *third*. One should therefore have said: *There was an evening and a morning that formed the first day*, instead of saying: *that formed one day*.”

Answer. “It must first be said with Saint Basil that it is fitting to derive the name of any given time from its principal part, that is, from the day. Evening and morning are taken as the two termini of the day, of which morning is the beginning and evening the end; or because by evening one designates the beginning of night, and by morning the beginning of day. Now, in order to trace the first division of things, it sufficed to designate only the beginnings of the times; if evening was spoken of first,

[French p. 253] it is because, the day beginning with light, the end of the light—that is, evening—arrives before the end of the darkness and of the night, which is morning; or else, according to Saint John Chrysostom, it is to indicate

²¹⁹ *Utrum omnes isti dies sint unus dies. Videtur quod omnes isti dies sint unus dies. Dicitur enim: (Gen., XI, 24.) Istæ sunt generationes cæli et terre, in die quo fecit cælum et terram et omne virgultum agri. Unus ergo est dies, in quo fecit cælum et terram et omne virgultum agri. Sed cælum et terram fecit in primo die, virgultum autem agri tertio die. Ergo unus est primus dies, et tertius, et pari ratione omnes alii. Sed contra est quod Genesi dicitur: Factum est vespere et mane dies secundus, et dies tertius; et sic de aliis. Secundum autem et tertium dici non potest, ubi est unum tantum. Ergo non fuit unus dies tantum. In hac questione Augustinus ab aliis expositoribus dissentit. Vult enim quod omnes qui dicuntur septem dies, sunt unus dies septemplex rebus presentatus. Alii vero expositores sentiunt quod fuerunt septem dies diversi, et non unus tantum. Dicendum est ergo quod in die in quo Deus creavit cælum et terram, creavit etiam omne virgultum agri, in actu, sed antequam oriretur super terram, id est potentialiter: quod Augustinus adscribit tertiæ diei, alii vero primæ rerum institutioni. Dicitur quod legitur in Eccli: Qui vivit in æternum creavit omnia simul. Sed hoc non esset, si dies horum operum essent plures, quia plures dies non sunt simul. Ergo non sunt plures dies sed unus tantum. At dicendum quod Deus creavit omnia simul, quantum ad rerum substantiam, quodammodo informem, sed quantum ad formationem quæ facta est per distinctionem et ornatum, non simul; unde signanter utitur verbo creationis. [Whether all these days are one day. It seems that all these days are one day. For it is said: (Gen., XI, 24.) These are the generations of heaven and earth, on the day when he made heaven and earth and every shrub of the field. There is therefore one day on which he made heaven and earth and every shrub of the field. But he made heaven and earth on the first day, and the shrub of the field on the third day. Therefore the first day and the third are one, and by equal reason all the others. But to the contrary is what is said in Genesis: There was evening and morning, the second day, and the third day; and so concerning the others. But second and third cannot be said where there is only one. Therefore there was not only one day. On this question Augustine dissents from the other expositors. For he wills that all those called the seven days are one day presented sevenfold by things. But the other expositors think that there were seven different days and not only one. It must therefore be said that on the day on which God created heaven and earth, he also created every shrub of the field in actuality, but before it arose upon the earth, that is, potentially: Augustine ascribes this to the third day, but the others to the first institution of things. It is said, as is read in Ecclesiasticus: He who lives eternally created all things together. But this would not be so if the days of these works were several, because several days are not together. Therefore there are not several days, but only one. But it must be said that God created all things together with respect to the substance of things, in some fashion formless, but not together with respect to the formation that was made through distinction and adornment; hence he pointedly uses the verb of creation.] (Question LXXIV, art. 2.)*

that natural days end, not with evening, but with morning.²²⁰ "

SAINT BONAVENTURE

In one of his most remarkable works, in his

[French p. 254] *Breviloquium*, which Gerson said had been composed with divine art, the Seraphic Doctor devotes several chapters to the creation of the world. In treating the nature of bodies, he first considers them from the point of view of their formation.

"It must be admitted," he says, "that this formation was accomplished in six days, in such a manner that God created heaven and earth in the beginning, before every other day. Light was formed on the first day; the firmament was established in the midst of the waters on the second day; the earth was separated from the waters, and these were gathered into their basin on the third day; heaven was adorned with the luminous bodies on the fourth day; air and water were peopled with birds and fishes on the fifth day; the animals and men were created on the sixth day; and on the seventh God rested.

"To understand the reason for this order, it must be recalled that the distinction of the bodies of the world must be considered in three ways; this is why it was established in three days. There is the distinction of luminous nature from that which is not luminous; and this was made on the first day, when God separated light from darkness. There is the distinction of liquid nature from that which is similar to it; and this distinction was made on the second day, when the waters were separated from the waters. Finally, there is the distinction of liquid nature from solid nature; and this was made on the third day, when the

[French p. 255] earth was separated from the waters. This distinction therefore had to be made during three days.

"And since adornment corresponds to distinction, it likewise had to be made in three days. Indeed, there is the adornment of luminous nature, and this was made on the fourth day, when God formed the sun, the moon, and the stars; there is the adornment of fluid nature, and this was made on the fifth day, when God created the birds and the fishes, to adorn the air and the waters; there is the adornment of solid nature, that is, the earth, and this was given to it on the sixth day, when God created man and the animals.

"Although God could have created all these things in an instant, nevertheless he preferred to create them in a succession of times, whether to manifest his power and his goodness, or to establish a fitting correspondence between the days and the works. To these six days of labor is added a seventh, that of rest. If we do not read that this day

²²⁰ *Utrum Scriptura utatur convenientibus verbis ad exprimendum opera sex dierum. Videtur quod Scriptura non utatur convenientibus verbis ad exprimendum opera sex dierum. Nam vespere et mane non sufficienter dividunt diem, cum sint plures partes diei. Ergo inconvenienter dicitur quod factum est vespere et mane dies secundus vel tertius. Præterea secundo et tertio non convenienter correspondet unum, sed primum. Debit ergo dici: factum est vespere et mane dies primus, ubi dicitur dies unus. Sed dicendum est ad primum, cum Basilio in Hexameron, totum tempus convenit denominari a principaliori parte, scilicet a die. Vespere autem et mane ponuntur ut termini diei cujus mane est principium, sed vespere finis. Vel quia per vespere designatur principium noctis, per mane principium diei. Congruum autem fuit ut ubi commemoratur prima distinctio rerum, sola principia temporum designarentur. Præmittitur autem vespere: quia cum a luce dies inceperit, prius occurrit terminus lucis, quod est vespere, quam terminus tenebrarum, et noctis, quod est mane. Vel secundum Chrysostomum ut designetur quod dies naturalis non terminatur in vespere sed in mane. [Whether Scripture uses suitable words to express the works of the six days. It seems that Scripture does not use suitable words to express the works of the six days. For evening and morning do not sufficiently divide the day, since there are more parts of the day. Therefore it is unfittingly said that there was evening and morning, a second or a third day. Furthermore, one does not fittingly correspond to second and third, but first does. Therefore it ought to have been said: There was evening and morning, the first day, where one day is said. But it must be said in reply to the first, with Basil in the Hexameron, that it is fitting for the whole time to be named from its more principal part, namely, from the day. Evening and morning, however, are posited as the termini of the day, of which morning is the beginning, but evening the end. Or because by evening the beginning of night is designated, and by morning the beginning of day. It was fitting, however, that where the first distinction of things is commemorated, only the beginnings of the times should be designated. Evening, however, is put first because, since the day began from light, the terminus of light, which is evening, occurs before the terminus of darkness and of night, which is morning. Or, according to Chrysostom, so that it may be designated that the natural day is terminated not in evening but in morning.] (Question LXXIV, art. 2.)*

had an evening, like the others, it is not that this day was not followed by night; but it was to represent to us the rest of souls, which will never have an end.²²¹

[French p. 256]

SAINT JUSTIN

In his *Conferences to the Orthodox*, this holy

[French p. 257] martyr presents the following objection relating to creation, which he immediately resolves:

“If the creation of the heavenly bodies,” he says, “took place on the fourth day, and if they were charged with marking the number of the days, how would the three days prior to the formation of these heavenly bodies not cast a certain doubt upon the number of the subsequent days?”

“No,” he replies, “for it is the production of light that served to distinguish light from darkness, and it is this latter distinction that made day and night. Before the creation of the heavenly bodies, and in conformity with the order of God, the increase of light brought day, and the increase of darkness night. But since the creation of the heavenly bodies, God has willed that they fulfill this office, the one presiding over light and day, the other over darkness and night. And what the light of day now does with a luminous body, it likewise did before the creation of the heavenly bodies, according to the end and the order of God, who limited its duration to that of twelve hours.²²²”

²²¹*De natura corporea hæc specialiter tenenda sunt, scilicet quod sex diebus sit in esse producta, ita quod in principio ante omnem diem creavit Deus cælum et terram. Primo vero die formata est lux; secunda, firmamentum factum est in medio aquarum; tertia die separatæ sunt aquæ a terra, et congregatæ in locum unum; quarto vero die cælum ornatum est luminaribus; quinto aer et aqua volatilibus et piscibus; sexto terra animalibus et hominibus; septimo vero die requievit Deus. Ratio ad intelligendum predictorum hæc est: quia distinctio corporum mundi, attenditur secundum triplicem modum, ideo facta fuit per triduum. Est enim distinctio nature luminose a perspicua et opaca, et hæc facta est in primo die, in divisione lucis ac tenebris; et est distinctio nature perspicue a perspicua, et hæc facta est secundo die, in divisione aquarum ab aquis; et est distinctio nature perspicue ab opaca, et hæc facta est tertio die, in divisione aquarum a terris. Sic igitur distinctio fieri debuit per triduum. Et quia ornatus correspondet distinctioni ideo similiter tribus diebus debuit consummari. Est enim ornatus nature luminose, et hic factus est quarto die, in formatione solis, lunæ et stellarum; et est ornatus nature perspicue et hic factus est quinto die, in quo ex aquis facti sunt pisces et aves ad ornatum aeris et aquæ; et est ornatus nature opacæ, scilicet terre, et hic factus sexto die, in quo factæ sunt bestię, et facta est natura humana. Hæc autem omnia, licet potuerit Deus facere in instanti, maluit tamen per successionem temporum, tum propter distinctam representationem potentie, sapientie, bonitatis; tum propter convenientem correspondentiam dierum et operationum. Et hinc est, quod sex diebus operum additur septimus quietis; qui dies non scribitur habere vesperam, non quia non habuit dies illa noctem succedentem, sed ad prefigurandum animarum quietem quæ nunquam habebit finem. [Concerning corporeal nature these things are especially to be held, namely, that it was brought into being in six days, in such a way that in the beginning, before every day, God created heaven and earth. On the first day, indeed, light was formed; on the second, the firmament was made in the midst of the waters; on the third day the waters were separated from the earth and gathered into one place; on the fourth day heaven was adorned with luminous bodies; on the fifth, air and water with flying creatures and fishes; on the sixth, earth with animals and men; but on the seventh day God rested. The reason for understanding the foregoing is this: because the distinction of the bodies of the world is considered according to a threefold mode, it was therefore made over three days. For there is the distinction of luminous nature from transparent and opaque nature, and this was made on the first day, in the division of light and darkness; and there is the distinction of transparent nature from transparent nature, and this was made on the second day, in the division of waters from waters; and there is the distinction of transparent nature from opaque nature, and this was made on the third day, in the division of waters from lands. Thus, therefore, the distinction had to be made over three days. And because adornment corresponds to distinction, it likewise had to be completed in three days. For there is the adornment of luminous nature, and this was made on the fourth day, in the formation of the sun, moon, and stars; and there is the adornment of transparent nature, and this was made on the fifth day, on which fishes were made from the waters, and birds for the adornment of air and water; and there is the adornment of opaque nature, namely, of earth, and this was made on the sixth day, on which the beasts were made and human nature was made. But all these things, although God could have made them in an instant, he nevertheless preferred to make through a succession of times, both because of the distinct representation of power, wisdom, and goodness, and because of the fitting correspondence of days and operations. And hence it is that to the six days of works is added a seventh of rest; which day is not written to have an evening, not because that day did not have a succeeding night, but to prefigure the rest of souls, which will never have an end.] (Chap. II, *On Corporeal Nature*.)*

²²²*Si quarto die luminarium facta est creatio, et ipsis autem dierum constituitur numerus, quomodo tres ante luminarium productionem dies non indubium dierum post illorum productionem numerum vocant? Responsio. Ex productione lucis distinctio facta est lucis et tenebrarum; et ex distinctione lucis et tenebrarum, dies extitit et nox. Ante luminaria condita, ex præscripto Dei, lux invalescens diem, et tenebræ invalescentes noctem constituere. A luminaribus vero conditis dispositum est ut potestatem illam obtinerent, alterum lucis et diem, alterum tenebrarum ac noctis. Et qualis nunc diem lux cum luminari efficit, tales quoque ante luminarium creationem efficiebat juxta finem et præscriptum Dei, qui ditionem ejus duodecim horis definivit. [If the creation of the luminous bodies was made on the fourth day, and by them, moreover, the number of the days is established, how do the three days before the production of the luminous bodies not call into doubt the number of the days after their production? Answer: From the production of light a distinction of light and darkness was made; and from the distinction of light and darkness there came to be day and night. Before the luminous bodies were founded, by the command of God, light increasing constituted day, and darkness increasing constituted night. But after the luminous bodies had been founded, it was arranged that they should obtain that power, the one of light and day, the other of darkness*

SAINT EPHREM

In commenting on this text: *On the fourth day, God made two great luminous bodies, that they might illuminate the earth*, this Father says:

“God gathered and enclosed in a luminous body the light which, during the three preceding days, circulated on every side, spread afar throughout the entire universe. Indeed, it was necessary that these first three days should everywhere be determined by light; nevertheless, its course was not marked by the distinct limits of the hours: it did not divide the day into certain parts, but, suspended after the manner of a shining cloud, without designating the number of the hours, without causing, by its own movement, either the dawn or the decline of day, without receiving any influence from the celestial sphere, it poured forth at the very instant when dawn was to appear, approximately like the heavenly body that is charged with producing day.²²³”

[French p. 259] Here, next, is how Saint Ephrem explains this text: *And the evening and the morning formed the third day*:

“Although the works accomplished before the fourth day must be made to begin in the evening, reason itself convinces us that the works of the fourth day were begun in the morning. Indeed, the third day must be regarded as having ended after these words: *And there was an evening and a morning that formed the third day*. Consequently, it was not in the evening that God created the two great luminous bodies.²²⁴”

SAINT JOHN DAMASCENE

In his treatise *On the Orthodox Faith*, the Saint Thomas of the East, as he is called, comments [French p. 260] on this text: *Let there be light, and there was light*, in the following manner:

“Thus, in the beginning, that is, on the first day, God created light, which constitutes the beauty and the adornment of all visible creatures. Now, God called the light day, and the darkness night. But it is not night that was created first; it is day; so that it is day that appeared in the first place, and night in the second place. Night therefore succeeded day, and it is from the beginning of one day until the following day that one day must be counted, including night in it. Indeed, Scripture says: *And the evening and the morning formed one day*. And as for the first three days, day and night were made first by the diffusion and then by the retraction of the light, which arrived or withdrew according to the sovereign order of God.

“Saint Basil teaches that, in the days that preceded the formation of the celestial luminous bodies, it was by the diffusion or by the withdrawal of the light that day and night were made. After the creation of the sun,” he says, “day appears when the air is illuminated by the sun, in the part of the terrestrial hemisphere above which it shines, and

and night. And such as the light of day now effects with a luminous body, such things it also effected before the creation of the luminous bodies, according to the end and command of God, who defined its dominion by twelve hours.] (Question LXII, *To the Orthodox*.)

²²³*In his porro luminaribus contraxit et circumscripsit Deus totam lucem quae tribus ante diebus per universum latissime diffusa, vagabatur. Illos namque dies priores luce ubique distinctos fuisse oportuit: at illa nec discretis horarum terminis definiebatur, neque diem in certo spatio dividebat; sed in modum luce nubis suspensa, nec horarum numerum designabat, nec ortum nec occasum proprio motu afferebat, neque ullam ab orbe caelesti impressionem patiebatur; sed repente sub diluculum fundebatur, eadem tamen illius luminaris proprium cuius est efficere diem.* [Now, in these luminous bodies God contracted and circumscribed all the light which, during the three preceding days, wandered, most widely diffused throughout the universe. For it was necessary that those earlier days should have been distinguished everywhere by light; but it was neither defined by distinct limits of the hours nor did it divide the day into a fixed space; but, suspended in the manner of a cloud of light, it neither designated the number of the hours nor brought sunrise or sunset by its own movement, nor did it undergo any influence from the celestial sphere; but it was suddenly poured forth toward dawn, yet the same as the property of that luminous body whose task it is to effect day.] (*Interpretation on Genesis*.)

²²⁴*Quamvis initium operum quae facta sunt ante quartum diem, a vespera desumendum sit, opus tamen quarti diei a mane inchoatum fuisse ratio ipsa convincit. Cum enim tertius dies completus esse intelligatur post illa verba: Factum est vespere et mane dies tertius, Deus duo illa luminaria horis vespertinis non condidit.* [Although the beginning of the works that were made before the fourth day must be taken from evening, reason itself nevertheless proves that the work of the fourth day was begun in the morning. For since the third day is understood to have been completed after those words, *There was evening and morning, the third day*, God did not create those two luminous bodies in the evening hours.] (*Ibid.*)

night comes through the shadow of the earth, when the sun is hidden. As for the first three days, day was produced, not by the solar movement, but by the gushing forth of that primitive light, which poured itself out according to the measure determined by God, and then

[French p. 261] withdrew to make place anew for night. Nevertheless, Latin authors think that this light created on the first day produced day and night by a circular movement, as the sun now produces them, which, on the fourth day, was formed from this light. Thus, by its movement above our hemisphere, it would have made day, and, by its translation beneath it, it would have made night.²²⁵ "

[French p. 262]

LACTANTIUS

In his *Book of the Divine Institutes*, Lactantius combats the error of Plato and of several other philosophers, who claimed that a great number of thousands of centuries had elapsed since the creation of the world: "Let the philosophers know," he says, "that the world was created in the space of six days, according to the teachings of Holy Scripture, and that God sanctified the seventh day, on which he rested from his works. Consequently, all the works of God having been accomplished in six days, it is necessary that the world remain in this state for six thousand years. And just as God labored for six days to make such great things, so religion and truth must combat, for six thousand years, against the evil that too often prevails over good."²²⁶

[French p. 263]

BEDE

This venerable religious, whose erudition was so vast, so universal, that one could call him the encyclopedia of the eighth century, poses for himself a multitude of questions relating to creation, which he answers himself. The numerous details into which he enters prove that this question of the days of Genesis already keenly occupied minds at that time. He comments first upon the text: *There was an evening, there was a morning, which formed one day.*

²²⁵*Et dixit Deus: Fiat lux et facta est lux. In principio igitur, hoc est die primo, Deus lucem quæ visibilium creaturarum omnium decus est atque ornamentum, procreavit. Vocavit autem Deus lucem diem et tenebras noctem. Nec vero nox prius creata est, sed dies, ac proinde dies prior extitit, nox posterior. Diem ergo nox sequitur, atque ab unius diei ortu usque ad alium diem unum est, hoc est dies unus cum nocte conjunctus. Ait enim Scriptura: Et factum est vespere et mane dies unus. Et quidem tribus primis diebus, luce Dei jussu atque imperio, tum esse diffundente, tum rursus contrahente, dies et nox fiebant. In his diebus, luminarium cælestium formationem antecedentibus, lucis diffusionem diem, hujusdem vero contractionem noctem fieri, ut ait Basilius dicens: Post solis creationem dies est, cum a sole illuminatus est aer, in eo quod super terram est hemispherio relucente, et nox umbra terræ, occultato sole. Tribus autem primis diebus, non secundum motum solarem, sed refuso principali lumine illo, et rursus contracto, secundum determinatam a Deo mensuram, dies generabatur, et nox rursus inducebatur. Veruntamen auctores latini censent lucem illam primo die creatam, diem fecisse et noctem motu circulari, quemadmodum et nunc sol qui ex ea luce quarto die formatus latrone sui sub nostro hemispherio, noctem. [And God said: Let there be light, and there was light. In the beginning, therefore, that is, on the first day, God brought forth light, which is the beauty and adornment of all visible creatures. God, however, called the light day and the darkness night. Nor indeed was night created first, but day, and accordingly day came forth earlier, night later. Night therefore follows day, and from the rising of one day until another day is one, that is, one day conjoined with night. For Scripture says: And there was evening and morning, one day. And indeed, on the first three days, as the light, by God's command and rule, now diffused its being, now contracted again, day and night were made. In these days, which preceded the formation of the celestial luminous bodies, day was made by the diffusion of light, but night by its contraction, as Basil says, speaking thus: After the creation of the sun it is day when the air is illuminated by the sun, the hemisphere that is over the earth shining, and night is the shadow of the earth, the sun being hidden. But on the first three days, not according to solar movement, but with that principal light poured forth and again contracted, according to the measure determined by God, day was generated and night was again brought on. Nevertheless, the Latin authors think that that light, created on the first day, made day and night by circular movement, just as also now the sun, which was formed from that light on the fourth day—[the printed Latin lacks the words required to complete this clause]—by its motion beneath our hemisphere, night.] (On the Orthodox Faith, bk. II, chap. VII.)*

²²⁶*Sciant igitur Philosophi, qui ab exordio mundi seculorum millia enumerant, mundum Deus, sicut arcanis sacræ Scripturæ continetur, sex dierum spatio consummavit; diemque septimum, quo ab operibus suis requieverat, sanxit. Ergo, quoniam sex diebus cuncta Dei opera perfecta sunt, per secula sex, id est annorum sex millia manere hoc statu mundum necesse est. Et sicut Deus sex illos dies in tantis rebus fabricandis laboravit: ita et religio et veritas in his sex millibus annorum laboret necesse est, malitia prævalente ac dominante. [Let the philosophers, therefore, who number thousands of centuries from the beginning of the world, know that God completed the world, as is contained in the mysteries of Holy Scripture, in the space of six days; and he sanctified the seventh day, on which he had rested from his works. Therefore, since all God's works were completed in six days, it is necessary that the world remain in this state for six ages, that is, six thousand years. And just as God labored during those six days in fashioning such great things, so it is necessary that religion and truth labor during these six thousand years, wickedness prevailing and ruling.] (On the First and Last Times of the World, chap. XIV.)*

“There was an evening, because the light diminished little by little, when the time of its diurnal duration had been accomplished, and because it descended into the lower parts of the world; which now takes place through the ordinary course of the sun. There was a morning, because the same light returned little by little over the earth to give birth to another day, and it is at this moment that a day of twenty-four hours ended. The sacred historian takes care to express himself thus so that we may know that, after its decline, the light visited the lower parts of the globe. It is again for this reason that he preferred to say: *There was an evening and a morning*, rather than: There was a night and there was a day; in order to make it understood that the circulation of the primitive light then produced what the sun is now known to produce by its diurnal

[French p. 264] and nocturnal course; with this difference, however, that after the creation of the heavenly bodies, night was illuminated by its own light, although to a lesser degree than day.²²⁷ ”

Here now are the questions of which we have spoken:

Question. Must the three days that preceded the one on which God placed the heavenly bodies in heaven be considered as days, or must they not?

Answer. They must be regarded as days, seeing that the authority of Scripture surpasses all possible reasonings of the human mind.²²⁸ ”

[French p. 265] *Question.* You have said that day is air illuminated by the sun; nevertheless, we read that at the beginning of things there were three days before the creation of the sun.

Answer. It is true that at the origin of things darkness covered the face of the abyss; and God said: *Let there be light, and there was light, and God called the light day.* Thus the light, rising in the east, dispelled the darkness and spread its brilliant splendors equally over the whole earth. It is this light which, appearing and disappearing like the sun, made the first three days.

Question. What were day and night originally?

Answer. A day like any other, since from the first day God created light, as Saint Isidore says and Saint Augustine confirms.

Question. Why then does Scripture speak at once of day and night?

Answer. It is seen in divine Scripture, in the place where it is written: *And there was an evening, that is, a night, and a morning that formed one day.* It thereby proves that day and night together compose what is called a day.

²²⁷ *Factum est vespere occidente paulatim luce post expletum spatium diurnae longitudinis, atque inferiores mundi partes subeunte, quod nunc usitato solis circuitu noctibus agi solet. Factum est mane, redeunte eodem paulatim super terras, atque alium diem iniante, et huc usque dies expletus est unus, viginti scilicet et quatuor horarum: hujus commendatione verbis Scriptura vigilanter admonet, ut lucem quae facta est inferiora orbis occasu suo lustrasse discamus. Unde etiam vespera et mane quam noctem et diem factam dicere maluit, ut insinueret tunc primariae lucis actum esse circuitu, quod nunc circuitu solis die nocteque geri constat; praeter hoc solummodo quod post creata sidera nox quoque tum sua etsi minori quam dies luce perfunditur.* [There was evening, the light gradually setting after the span of diurnal duration had been completed and entering the lower parts of the world, which now is customarily done at night by the usual circuit of the sun. There was morning, the same gradually returning over the lands and beginning another day, and up to this point one day was completed, namely, of twenty-four hours: by the commendation of these words Scripture watchfully admonishes us, that we may learn that the light which was made traversed the lower parts of the globe by its setting. Hence also it preferred to say that evening and morning were made rather than night and day, in order to intimate that what was then done by the circuit of the primitive light is now known to be carried on day and night by the circuit of the sun; with this sole exception, that after the heavenly bodies were created night also was then bathed in its own light, although a lesser light than day.] (*On the Hexaemeron*, bk. I.)

²²⁸ *Interrogatio. Et tres dies qui praecesserunt, antequam sidera in caelo posuisset, pertinent ad dies an non? Responsio. Id intelligendum est quia pertinent ad dies, quia major est Scripturae auctoritas quam omnis humani ingenii capacitas.* [Question. And do the three days that preceded, before he had placed the heavenly bodies in heaven, belong to the days or not? Answer. It must be understood that they belong to the days, because the authority of Scripture is greater than every capacity of human ingenuity.] (*On the Creation of the Six Days.*)

Question. How was the beginning of the day fixed among the Hebrews, the Chaldeans, the Egyptians, the Romans, and the Persians?

Answer. Among the Hebrews, the day began at the sixth hour of the day, because they counted the hours according to the course of the moon; it began

[French p. 266] among the Chaldeans and the Persians at sunrise, and among the Egyptians at sunset.

Question. At what time of the year did the first day of the world appear?

Answer. On the fifteenth of the calends of April, since we believe that it was then that light was created; and thus the first three days had elapsed without any determination of an hour measured by the heavenly bodies, which did not yet exist. But on the fourth day, that is, on the twelfth of the calends of April, the sun and the heavenly bodies were created, so that they might serve as signs to mark the times, the days, and the years.

Question. Who, then, composed and named the first week and the days of the week?

Answer. God, without doubt, who made all creatures in six days and rested on the seventh day. This is why he himself says in the law: *You shall labor six days, and you shall do all that you have to do; but the seventh day, which is the Sabbath of the Lord your God, you shall do no work; for the Lord made in six days heaven and earth, and the sea, and all that they contain, and he rested on the seventh day.*²²⁹ "

[French p. 267]

RABAN-MAUR

This celebrated abbot of Fulda, who later became Archbishop of Mainz, treated at length the question

[French p. 268] that occupies us, both in his commentaries on Genesis and in his book of *Computus*. We shall extract from them the following passages:

²²⁹*Interrogatio. Dixisti diem esse aerem a sole illustratum; cum principio creaturarum legimus tres esse dies ante solem conditum. Responsio. Verum est; in primordio creaturarum tenebrae erant super faciem abyssi dixitque Deus: Fiat lux et facta est lux; et vocavit Deus lucem diem. Igitur lux ab Oriente emersa, fugatis tenebris, latitudinem sui fulgoris per totam terram aequaliter perfulsit. Primos ternos dies oriendo et occidendo, velut sol terminavit. Interrogatio. Quid primitus fuit dies aut nox? Responsio. Dies utique, quia prima die condidit Deus lucem, ut Isidorus ait, et Augustinus confirmat. Interrogatio. Quid ergo demonstrat quod dies et nox simul dicitur? Responsio. In Scriptura divina ostenditur ubi legitur: et factum est vespere, hoc est nox, et mane dies unus. Tunc ostendit quod nox et dies simul dies nuncupantur. Interrogatio. Quomodo dies habet initium apud Hebraeos et Chaldaeos, et Egyptios, et Romanos et Persas? Responsio. Dies, secundum Hebraeos, a sexta hora diei incipit, quia Hebraei secundum lunam numerant; secundum Chaldaeos et Persas ab ortu solis; secundum Egyptios ab occasu solis. Interrogatio. Quo in loco primus dies mundi extitit? Responsio. Quinto decimo calendarum aprilium, quo videlicet die lucem formatam primitus credimus; et sic tres illos dies primos, absque ullis horarum dimensionibus, utpote nondum factis sideribus cucurrisse; quarto demum die, hoc est duodecimo calendarum aprilium, sol et sidera condita sunt, ut essent in signa et tempora et dies et annos. Interrogatio. Quis ergo primam septimanam et dies septimane composuit, et nuncupavit? Responsio. Deus sine dubio, qui in sex diebus omnes creaturas creavit, et in septimo die quievit. Hinc ipse in lege dixit: Sex diebus operaberis, et facies omnia opera tua; septimo autem die Sabbatum Domini Dei tui est: non facies in eo omne opus. In sex enim diebus fecit Dominus caelum et terram, mare et omnia quae in eis sunt, et requievit die septimo. [Question. You have said that day is air illuminated by the sun; whereas at the beginning of creatures we read that there were three days before the sun was founded. Answer. It is true; at the beginning of creatures darkness was upon the face of the abyss, and God said: *Let there be light, and there was light*; and God called the light day. Therefore the light, having risen from the East, the darkness having been put to flight, shone equally over the whole earth with the breadth of its brilliance. By rising and setting like the sun, it bounded the first three days. Question. What was originally, day or night? Answer. Day, certainly, because on the first day God founded light, as Isidore says and Augustine confirms. Question. What, therefore, does it show that day and night are spoken of together? Answer. It is shown in divine Scripture where it is read: *And there was evening, that is, night, and morning, one day*. It then shows that night and day together are called a day. Question. How does the day have its beginning among the Hebrews and Chaldeans, and Egyptians, and Romans and Persians? Answer. The day, according to the Hebrews, begins at the sixth hour of the day, because the Hebrews number according to the moon; according to the Chaldeans and Persians, from sunrise; according to the Egyptians, from sunset. Question. In what place did the first day of the world come forth? Answer. On the fifteenth of the calends of April, on which day, namely, we believe that light was first formed; and that thus those first three days ran without any measurements of hours, since the heavenly bodies had not yet been made; finally, on the fourth day, that is, on the twelfth of the calends of April, the sun and the heavenly bodies were founded, that they might be for signs and times and days and years. Question. Who, therefore, composed and named the first week and the days of the week? Answer. God, without doubt, who created all creatures in six days and rested on the seventh day. Hence he himself said in the law: *For six days you shall work, and you shall do all your works; but on the seventh day is the Sabbath of the Lord your God: you shall do no work in it. For in six days the Lord made heaven and earth, the sea and all things that are in them, and he rested on the seventh day.*] (*On the Method of Computation*, chap. III, *On the Day*.)*

“Inspired by the divine spirit, blessed Moses, in order to refute in advance the various errors of the philosophers concerning the world, begins his account with these words: *In the beginning God created heaven and earth*. He thus spoke at once of the origin of things, of the author of the world, and of the creation of matter, in order to show that God himself was the origin of the universality of things: *In the beginning*. This latter expression relates to the beginning of time, that is, to that in which God made heaven and earth. It is therefore at the beginning of time that God made heaven and earth.

“And there was an evening and a morning that formed one day.

“There was an evening, that is, the light diminished little by little after the completion of the duration of a day, and descended into the lower parts of the world; which the ordinary course of the sun now produces during the night. And there was a morning, when this same light returned little by little over the earth and began another day; and it is at this moment that an entire day, a day of twenty-four

[French p. 269] hours, ended. By these words Scripture makes us understand clearly that we must say that, after its decline, the light, such as it was made, visited the lower regions of the globe. For, if it were otherwise—if, at the arrival of evening, the light, diminishing little by little, ended by going out, in order to be rekindled little by little in the morning by appearing anew in creation—it is not at the morning of the following day, but rather at the evening of the first day, that the sacred historian would say that an entire day had elapsed. This is why he preferred to say: *There was an evening and a morning*, rather than: *There was a day and a night*, in order to mark that the revolution of the primitive light had then produced what is known to be produced at present by the revolution of the sun, during the day and during the night.²³⁰”

[French p. 270] *“Let there be luminous bodies in heaven that serve as signs to mark time and the days and the years.*

“There are therefore luminous bodies to serve as signs; not that the beginning of time depended upon their appearance, since they took their course from the moment when God made heaven and earth, or that the beginning of the days and the years depended upon it, since, as is known, their origin goes back to the moment when God said: *Let there be light, and there was light*; but because it is the rising and the setting of these heavenly bodies that determined the order of time, of the days, and of the years.

²³⁰ *Divino spiritu prævidens sanctus Moyses philosophorum errores diversos circa mundum repellens, in exordio sermonis sic ait: In principio, etc.... Initium rerum, auctorem mundi, creationem materie comprehendens, ut Deum cognosceret ipsum esse initium universorum: In principio. Principium refertur ad tempus, id est, in quo tempore fecit Deus cælum et terram. In principio itaque temporis Deus fecit cælum et terram. Factumque vespere et mane dies unus, factum est vespere, id est occidente paulatim luce post expletum spatium diurnæ longitudinis, atque inferiores partes mundi subeunte, quod nunc usitato solis circuitu noctibus agi solet. Factum est mane redeunte eadem paulatim supra terras, atque alium diem initiantem; et huc usque dies expletus est unus, viginti scilicet et quatuor horarum. Cujus commendatione verbi, Scriptura vigilanter admonet ut lucem quæ facta est inferiora orbis occasu suo lustrasse dicamus. Nam si hoc non faceret, sed magis facto vespere paulatim tota periret, ac rursum mane paulatim in re creata resurgeret, non jam in mane diei sequentis, sed potius in vespere primi unum diceret esse diem in perfectum. Unde magis vesperam et mane quam noctem ac diem factum dicere maluit, ut insinualet tunc primariæ lucis actum esse circuitum, quod nunc circuitu solis die noctuque fieri constat.* [Holy Moses, foreseeing by the divine spirit and repelling the various errors of the philosophers concerning the world, says thus at the beginning of his discourse: *In the beginning*, etc.... Comprehending the beginning of things, the author of the world, and the creation of matter, so that he might know God himself to be the beginning of all things: *In the beginning*. *Beginning* refers to time, that is, to the time in which God made heaven and earth. Therefore, at the beginning of time God made heaven and earth. *And there was evening and morning, one day*: there was evening, that is, the light gradually setting after the span of diurnal duration had been completed and entering the lower parts of the world, which now is customarily done at night by the usual circuit of the sun. There was morning, the same light gradually returning above the lands and beginning another day; and up to this point one day was completed, namely, of twenty-four hours. By the commendation of this word, Scripture watchfully admonishes us to say that the light which was made traversed the lower parts of the globe by its setting. For if it did not do this, but rather, when evening was made, wholly perished little by little and again in the morning gradually arose anew among created things, he would say that one full day existed not now in the morning of the following day, but rather in the evening of the first. Hence he preferred to say that evening and morning were made rather than night and day, in order to intimate that what was then done was the circuit of the primitive light, which is now known to be done by the circuit of the sun by day and by night.] (*Commentary on Genesis*, chaps. I and II.)

“As for the words that follow: *Such was the origin of heaven and earth, when they were created, on the day when the Lord made heaven and earth*, they must in no way appear contrary to the opinion stated above; for they make it clearly understood that Scripture designates in this place, by the word *day*, all the time during which the primary

[French p. 271] creation was accomplished. Indeed, it is not on any one of the six days that heaven was made or illuminated by the heavenly bodies, and that the earth was separated from the waters and covered with herbs and plants, etc.; but Scripture gave the name *day* to all that time.²³¹”

BRUNO OF ASTI

This learned abbot of Monte Cassino comments thus upon this text: *And the evening and the morning formed one day*.

“God therefore made in the beginning heaven, earth, and light, and it was after all this was made that evening arrived, the preceding morning having been continued until evening. One day was thus formed, and then God separated light from darkness, and

[French p. 272] when the day ended, evening succeeded it. For it was not during the day that God made night; but he willed that, according to order, night should come after day. As for what is said: *The evening and the morning formed one day*, and not the first day, this is because these words *first* and *second* are relative, and one cannot be conceived without the other. Now, since there had not yet been a second day, there had, by that very fact, been only one day; which consequently could not be called the first day.“

And upon this text: *Such was the origin of heaven*, etc., *on the day when the Lord made earth and heaven*, he exclaims:

“What, then! Did God create all things in one day and not in six? He created everything in one day, because he created at once the matter of all things, that is, heaven and earth; but he made them in six days, because he spent all that time forming from this same matter all things according to their different genera.²³²”

²³¹ *Fiant luminaria ut sint in signa et tempora et dies et annos. Sunt ergo luminaria in signa, tempora, etc.... non quod a conditione earum tempora caperunt, quæ constat cepisse a principio quo Deus fecit cælum et terram, vel dies et anni, qui originem sumpsisse noscuntur ex quo dixit Deus: Fiat lux et facta est lux; sed quia per ortus eorum sive transitus, temporum ordo dierumque annorumque signatur. Quod vero sequitur: Istæ sunt generationes, etc.... in die quo fecit Dominus cælum et terram, nequaquam memoratæ Dei sententiæ videri debet ad verum, sed aperte intelligi, quia diem hoc loco Scripturæ pro omni tempore illo posuit, quo primordiali creatura formata est. Neque enim in unoquoque sex dierum cælum factum, vel sideribus illustratum, et terra est separata ab aquis, atque arboribus et herbis consita, sed more sibi solito Scriptura diem pro tempore posuit.* [Let there be luminous bodies, that they may be for signs and times and days and years. There are therefore luminous bodies for signs, times, etc.... not because the times began from their creation—which are established to have begun from the beginning when God made heaven and earth—or the days and years, which are known to have taken their origin from when God said: *Let there be light, and there was light*; but because through their risings or passages the order of the times, days, and years is marked. But what follows: *These are the generations*, etc.... *on the day when the Lord made heaven and earth*, ought in no way to appear contrary to the stated judgment of God, but to be understood plainly, because Scripture in this place employed *day* for all that time in which the primordial creation was formed. For heaven was not made on any one of the six days, or illuminated by the heavenly bodies, and the earth separated from the waters and planted with trees and herbs; but, according to its customary manner, Scripture employed *day* for time.] (*Commentary on Genesis*, chaps. X and XI.)

²³² The printed label lacks its closing parenthesis. *Factumque est vespere et mane dies unus. Fecitque Deus in principio cælum et terram et lucem, quibus patris factum est vespere, usque hoc præcedente mane continuato. Factus est dies unus, et tum quidem a tenebris lucem divisit, quo finito die, factum est vespere. Neque enim in die noctem fecit, sed suo ordine post diem fieri præcepit. Quod autem dictum est: factus est dies unus, et non dicitur factus est dies primus, ad hoc valet quod primus et secundus relativa sunt, neque sine altero alter esse potuit. Cum igitur nondum esset secundus, erat utique dies unus; ipse tamen unus primus dici non poterat. Istæ sunt generationes, etc. — In die quo fecit Dominus cælum et terram. Quid igitur? Numquid uno et sex diebus creavit omnia? uno quidem creavit, quia simul materiam omnium creavit, nempe cælum et terram, et sex diebus fecit quia ex ipsa materia in diversas species cuncta formavit.* [And there was evening and morning, one day. And God made in the beginning heaven and earth and light; when these had been accomplished, evening was made, the preceding morning having been continued up to this point. One day was made, and then indeed he divided light from darkness; when this day was ended, evening was made. For he did not make night during the day, but commanded it to be made after day according to its order. But what was said, *One day was made*, and it is not said, *The first day was made*, serves to show that first and second are relative, and neither could exist without the other. Since, therefore, there was not yet a second, there was certainly one day; yet that one itself could not be called first. *These are the generations*, etc.—*On the day when the Lord made heaven and earth*. What, therefore? Did he create all things in one and in six days? He indeed created them in one, because he created the matter of all things together, namely heaven and earth; and he made them in six days because from that very matter he formed all things into different species.] (*Exposition on Genesis*, chap. I.)

MARIUS VICTORINUS

This writer, of whom Saint Jerome and Saint Augustine

[French p. 273] speak with the greatest praise, asks himself, concerning these words of Scripture: *And the evening and the morning formed one day*, whether it was in the evening or in the morning that the day began:

“Let us beware,” he replies, “of refusing to believe that by these words the sacred historian designated one day; for what follows proves that he wished to indicate a span of twelve hours. Indeed, the day of the Lord cannot be conceived without the number of hours that compose it. Thus, when you speak of a day, you thereby suppose all the hours elapsed until evening. Thus Moses, our master, says that light was called day, in order to make us understand that it was not without intention that such a name was given to the customary duration of twelve hours. If then, my friend, day is now composed in this manner, why should we not give credence to the prophet who tells us that at the beginning of things there occurred what

[French p. 274] occurs today? Evening continues until morning, being completed by the hours of the night, and thus makes an entire day, until the moment when a morning begins that belongs no longer to the first, but to the second day.²³³”

We shall close this long series of testimonies of the Fathers in favor of the literal interpretation of the days of Genesis with those of Hugh of Saint-Victor and Honorius of Autun. Trithème represents the former to us as a man very versed in the Holy Scriptures, unequaled among the ancients in philosophy, and as the most celebrated doctor of his time. The great *Library of the Fathers* places the latter in the first rank of the learned men of his century.

HUGH OF SAINT-VICTOR

“It must first be remarked,” he says, “that, in the

[French p. 275] first book of Genesis, Moses is a historian setting forth the facts from the beginning of the world until the death of Jacob.²³⁴

“On the first day God separated fire from the other elements, and this is what he himself announces by this word: *Let there be light*. Now, the fire, once separated, furnished the lower world with a certain light endowed with a circular movement; which, similar to a luminous cloud, described an orbit, as the sun does now. The appearance and disappearance of this light constituted the first three days and the first three nights; this is what Scripture sufficiently gives us to understand by designating the natural day by two extreme terms, saying: *And there was an evening*, to mark the end of the artificial day; then, *and there was a morning*, to mark the end of the night.

“It will perhaps be said that it was not fitting for God to make, after the manner of man, something imperfect or badly ordered or irregular. To this it may be answered that if God, who could make everything in a single moment,

²³³*Absit a nobis nolle requirere manente predicto nomine diem appellari: quod subsecutus est utique duodecim horarum spatio conclusit significare. Nec enim dies, si dominica appellatur, sine horis competentibus definitur. Cum ergo diem dicis, horam quamcumque definitam usque ad vesperam statuis. Ita Dominus meus Moyses lucem vocatam dicit esse diem, ut nos non sine officio duodecim horarum usum quotidianum dignum fuisse dignosceremus. Igitur, amice, si hodie dies ita definitur, quare non credamus prophetae dicenti ipsum in initio factum esse quod hodie fiat? Manet vespera usque in matutinum, noctisque horas adimplens, et sic una dies definita appellatur, in quo matutinum non primi diei dicitur sed secundi. [Far be it from us to be unwilling to require that, while the aforesaid name remains, it be called day: what followed certainly concluded that it signified by a span of twelve hours. For day, if it is called the Lord's, is not defined without its appropriate hours. When, therefore, you say day, you posit any given hour defined as far as evening. Thus my lord Moses says that the light was called day, so that we might recognize that everyday usage was deemed fitting not without the office of twelve hours. Therefore, friend, if day is thus defined today, why should we not believe the prophet saying that what is done today was itself made in the beginning? Evening remains until morning and, filling out the hours of the night, is thus called one defined day, in which morning is said to belong not to the first day but to the second.]*

²³⁴*Primo tenendum est quod Moyses in hoc primo libro Genesis est historiographus texens historiam a principio mundi usque ad mortem Jacob. [It must first be held that Moses, in this first book of Genesis, is a historiographer weaving the history from the beginning of the world until the death of Jacob.] (Illuminating Annotations on the Pentateuch, chap. III.)*

distributed his works over six days, it was not through powerlessness, but for the instruction and example of his rational creatures. For, just as he first gave things

[French p. 276] to be, and afterward to be beautiful, likewise he willed to distribute his work over six days, so that the mind of man might find a lesson in this conduct.²³⁵ "

HONORIUS OF AUTUN

"And he separated the light from the darkness, and he called the light day and the darkness night; in such a way that the light might shine twelve hours over the earth and twelve hours beneath it; and that likewise the darkness, dispersed by the light, might take refuge for twelve hours beneath the earth and remain for as many hours above it.

"And there was an evening and a morning that formed one day. Evening is the end of day, just as morning is the end of

[French p. 277] night. The one and the other joined together last twenty-four hours and form an entire day. The first three days that elapsed before the appearance of the sun were subject to the equinox, that is, they presented an equal duration of day and night.²³⁶ "

Theologians

SUAREZ

Following the example of the Doctors and the Fathers, our great theologians attached to the interpretation of the first chapter of Genesis an importance whose magnitude is revealed to us by the long studies they devoted to it.

To this question: Were the natural days of the creation of the world really six in number, as they are counted in Genesis? Suarez replies:

"It must be said that, since Moses spoke of the natural and visible day, he also spoke of the true number

[French p. 278] of the six days that actually elapsed in succession, and that, on each of these days, God made a part of his work, as Moses related it in a true sense. This proposition must be proved.

"The first and principal foundation upon which it rests is the clear and simple letter of Scripture. Indeed, the reason for which one must adhere to the true signification of the natural day is a general reason that does not permit the words of Scripture to be given a metaphorical sense, especially in a historical account belonging to the instruction

²³⁵ *Prima die distinxit Deus ignem a cæteris elementis, et hoc est quod ipse dixit: Fiat lux. Ignis vero distinctus lumen præbuit mundo inferiori qualecumque et motum habens circularem; quasi quedam lucida nubes circumferebatur, sicut modo sol. Ortu et occasu illius fecit tres primos dies et noctes: quod caute innuens Scriptura distinguit naturalem diem per duos extremos articulos, ita: et factum est, inquit, vespere, quod est finis artificialis diei; et factum est mane, quod est finis noctis. Si dicitur quod Deo non convenit ad modum hominis aliquid imperfectum facere, aut inordinatum, aut deformē. Respondetur quod Deus qui in momento poterat omnia facere, sex diebus distinxit opera sua, non propter impotentiam, sed propter rationabilium creaturarum instructionem et exemplum, sicut enim prius rebus dedit esse, et postea pulchrum esse, ita sex diebus voluit distinguere opus suum, ut in hoc haberet homo animum occupatum.* [On the first day God separated fire from the other elements, and this is what he himself said: *Let there be light*. But the separated fire furnished the lower world with a light of some kind and having a circular movement; it was carried around like a certain luminous cloud, as the sun is now. By its rising and setting it made the first three days and nights: cautiously intimating this, Scripture distinguishes the natural day by two extreme points, thus: *And there was*, it says, *evening*, which is the end of the artificial day; and *there was morning*, which is the end of night. If it is said that it is not fitting for God, after the manner of man, to make something imperfect, or disordered, or misshapen, it is answered that God, who could make all things in a moment, distinguished his works over six days, not because of powerlessness, but for the instruction and example of rational creatures; for just as he first gave things being and afterward beautiful being, so he willed to distinguish his work over six days, so that man might have his mind occupied in this.] (*On the Works Distinguished over Six Days*, chap. VI.)

²³⁶ *Et divisit lucem ac tenebras, appellavitque lucem diem et tenebras noctem, scilicet ut lux duodecim horas super terram, duodecim sub terra splenderet; tenebræ quoque a luce fugatæ duodecim horas sub terra totidemque super terram delitescerent. Factumque est vespere, dies unus. Vespere est finis diei; mane autem finis noctis: quæ duo juncta viginti quatuor horæ fiunt, et unum diem conficiunt. . . . Primi autem tres dies, qui ante solis exortum transierunt æquinoxiali lege, id est æquali diei ac noctis spatio, præterierunt.* [And he divided light and darkness, and called the light day and the darkness night, namely, so that the light might shine twelve hours over the earth and twelve beneath the earth; and that the darkness, put to flight by the light, might lie hidden twelve hours beneath the earth and as many above the earth. And there was evening, one day. Evening is the end of day; but morning is the end of night: these two joined together make twenty-four hours and complete one day. . . . But the first three days, which passed before the rising of the sun, passed under an equinoctial law, that is, with an equal span of day and night.] (*Hexameron*, chap. II.)

of faith, unless one is forced to do so or the necessity for it results from Scripture itself. Now, this reason obliges one to understand in the proper sense the number no less than the kind of the day; for otherwise, in one manner no less than in the other, injury would be done not only to the sincerity but even to the truth of the history.

“This is fully confirmed by other passages of Scripture in which mention is made of these six days as true and distinct. Thus one reads in chapter XX of Exodus: *You shall labor six days and you shall do all that you have to do; but the seventh day is the Sabbath of the Lord your God.* And farther on: *For the Lord made in six days heaven and earth, and the sea and all that they contain.* The same thing is repeated in chapter XXXI.

“In these passages, the proper sense of the expressions

[French p. 279] results from comparison with the context; for when it is said: *You shall labor six days*, these words can be taken only in the most proper sense. Moreover, it is not likely that the people could have understood these words in another sense, and it is, on the contrary, incredible that, in promulgating his precepts, God would have used expressions that would have deceived the people by insinuating a false sense to them, if God had not accomplished his works in six true days.

“A third reason is drawn from the common interpretation of the Fathers, such as Basil, Ambrose, Chrysostom, Bede, Strabo, Gregory of Nazianzus, Athanasius, Damascene, etc., who all interpreted in this literal sense the days and the number of the days of Genesis.

“The Church also professes this doctrine when she says in the hymn of Sunday vespers: *God of goodness, author of light, who renew for us each day its benefit, and who began with it the creation of the world.* And at matins: *On the first day on which the blessed Trinity created the world.*

“It remains to explain this passage from the second chapter of Genesis: *Such was the origin of heaven and earth when they were created, on the day when the Lord made earth and heaven and all the plants of the fields.* These words admit of two interpretations, one of which would apply to the first day alone. It is to this one, although from a different point of view, that Cajetan and Canus adhered. Thus Cajetan thinks

[French p. 280] that in this place there is question only of the first moment of the day on which God created heaven and earth, whereas Canus applies it to the whole duration of that day. Both, moreover, understood that these last words: *And all the plants of the fields*, designated all the works of the six days. But this interpretation is not literal. Indeed, in this passage of the second chapter, Moses recapitulates everything that he has already related in the first, as results from these words: *Such was the origin of the heavens and earth*; for this pronoun *such* recalls all the works previously described; and, to explain more clearly that in speaking of heaven and earth he intends to include all the rest in them, he adds: *And all the plants of the fields*, designating all the works of creation under one particular species.

“Thus, according to the second and common interpretation, it is not any determinate day that is designated in this recapitulation of the second chapter by this clause: *the day on which God created*; but these words apply to each day on which one of the works of creation was made, whether that day was or was not the same, whether there was only one or several. For it often occurs in Holy Scripture that the singular is employed for the plural; and, according to a fairly customary manner of speaking, things done at different intervals are frequently designated under a single time, or a single word, solely for brevity; as, for example,

[French p. 281] when one says: *On the day of the Nativity of Jesus Christ, of the Virgin, or of Saint John the Baptist*, such or such a thing takes place, one does not mean that this thing takes place on one and the same day; but the logical repetition of the word is understood: on Christmas day, on the day of the Nativity of the Virgin, etc.

“Thus, then, although the word *day* is employed in the singular in the first and second chapters of Genesis, it must be understood indefinitely for each day and for several days; so that, when it is said in the first chapter: *God called the light day; let there be luminous bodies that divide day from night; God placed the greater luminous body that it might preside over the day*, this word *day* is always taken indifferently for any day whatsoever. Likewise, in the second chapter, day is first spoken of in the singular, with the addition that the seventh day is in question; when afterward there is question of the works of all these days in general, it is said indefinitely: *On the day when the Lord made*, in order to show that each of those days on which the Lord worked before the seventh day is in question. It is entirely natural that Moses, briefly recapitulating the works of creation, should also include within the indication of a single day the various days on which God accomplished them.²³⁷”

[French p. 282]

²³⁷ *Utrum dies naturales creationis mundi reipsa sex fuerunt, sicut enumerantur in Genesi? Dicendum est, sicut Moyses de die naturali et sensibili locutus est, ita etiam de vero numero sex dierum in re existentium, et sibi succedentium fuisse locutum, et in singulis illorum diebus aliquod opus esse factum, prout a Moysse in aliquo vero sensu narratum est. Hæc assertio probanda est. Primum et præcipuum ejus fundamentum est plana et sincera littera Scripturæ. Ratio enim retinendi veram significationem diei naturalis est illa communis quod verba Scripturæ non sunt ad metaphoras transferenda, nisi vel necessitas cogat, vel ex ipsa Scriptura constat, et maxime in historica narratione, et ad instructionem fidei pertinente. Sed hæc ratio non minus cogit ad intelligendum proprie dierum numerum quam diei qualitatem, quia non minus uno modo quam alio destruitur sinceritas et veritas historie. 2° Hoc valde confirmant alia Scripturæ loca, in quibus hi sex dies tanquam veri et inter se distincti commemorantur, ut Exod. XX, dicitur: Sex diebus operaberis et facies omnia opera tua; septimo autem die Sabbatum Domini Dei tui est. Et infra: Sex enim diebus fecit Dominus cælum et terram, et mare et omnia quæ in eis sunt, et idem repetitur in capite XXXI. In quibus locis sermonis proprietas colligi potest tum ex æquiparatione; nam cum dicitur: Sex diebus operaberis, propriissime intelligitur; tum quia non est verisimile potuisse populum intelligere illa verba in alio sensu, et contra incredibile est Deum in suis præceptis tradendis, illis verbis ad populum fuisse locutum quibus deciperetur, falsum sensum concipiendo, si Deus non per sex veros dies opera sua fecisset. 3° Accedit communis intelligentia Patrum. Ita docent Basilius, Chrysostomus, Ambrosius, Beda, Gregorius Naz., Athanasius, Damascenus et alii. Sententiam hanc amplectitur Ecclesia in hymno dominico ad vespertas dicens: Lucis Creator optime, etc.; et ad matut.: Primo die quo Trinitas, etc. Supersunt explicanda verba illa, cap. II, Gen.: Istæ sunt generationes cæli et terræ, quando creata sunt, in die quo fecit Deus cælum et terram, etc. Quæ verba duas habent expositiones: una est ut intelligantur de primo die tantum, ut intellexerunt Cajetanus et Canus, licet diverso modo. Nam Cajetanus intelligit illud solum ratione primi instantis illius diei quo creavit Deus cælum et terram. Canus vero de toto tempore illius diei illum exponit, et uterque intellexit per illa ultima verba: et omne virgultum agri, indicata esse omnia opera sex dierum. Sed hæc expositio non est literalis; nam revera in illis verbis, cap. II, recapitulat Moyses omnia quæ narraverat in primo capite, ut patet ex illis verbis: Istæ sunt generationes cæli et terræ; nam pronomen istæ omnes productiones prius narratas designat; et, ut clarius explicaret sub cælo et terra comprehendere cætera, addidit: et omne virgultum agri, sub uno specifico opera alia insinuans. Quapropter secunda et communis expositio est in illa recapitulatione, cap. II, particula in die qua creavit Deus, non designari unum certum diem, sed sumi pro quocumque die in quo aliquid ex istis operibus factum sit; sive illa dies fuerit idem, sive diversus, sive unus, sive plures. Frequens est enim in Scriptura sacra, ut singulare pro plurali ponatur, et in modo loquendi satis usitato, res diversis temporibus factæ, brevitatis causa sub uno singulari voce temporali comprehendit; ut si quis dicat: die Nativitatis Christi, Virginis aut Joannis-Baptistæ fit hoc vel illud, non significat in uno et idem die id fieri sed sub intelligitur virtualis repetitio in die Natalis Christi, etc., in die nativitatis Virginis, etc. Sic ergo in cap. I et II, Gen. ubi sumitur pro singulari die, ponitur indefinite quancumque diem et plures significat, ut cum dicitur in cap. I: Appellavitque lucem diem; fiant luminaria et dividant diem et noctem; posuit Deus luminare majus ut præesset diei, etc. In quibus omnibus locis pro quocumque die indifferenter vox illa sumitur: sic in cap. II prius est sermo de singulari die cum additione septimi diei. Postea vero cum generatim fit sermo de operibus illorum dierum, indefinite dicitur: In die quo fecit Dominus. Ut indicetur sermonem esse de quocumque illorum dierum in quibus Deus operatus est ante septimum diem. Nec mirum est quod Moyses, cum summatim opera recapitulat, dies etiam in quibus facta sunt, uno etiam diei nomine comprehendat. [Were the natural days of the creation of the world really six, as they are enumerated in Genesis? It must be said that, just as Moses spoke of the natural and sensible day, so also he spoke of the true number of six days existing in reality and succeeding one another, and that on each of those days some work was made, as was related by Moses in some true sense. This assertion must be proved. Its first and principal foundation is the plain and sincere letter of Scripture. For the reason for retaining the true signification of the natural day is that common principle that the words of Scripture are not to be transferred to metaphors unless either necessity compels it or it is established from Scripture itself, and especially in a historical account pertaining to the instruction of faith. But this reason compels us no less to understand properly the number of the days than the quality of the day, because the sincerity and truth of the history is destroyed no less in one manner than in the other. 2° This is strongly confirmed by other places of Scripture in which these six days are commemorated as true and distinct from one another, as it is said in Exodus XX: *For six days you shall work and do all your works; but on the seventh day is the Sabbath of the Lord your God*. And below: *For in six days the Lord made heaven and earth, and the sea and all things that are in them*; and the same is repeated in chapter XXXI. In these places the proper sense of the discourse can be gathered both from the comparison—for when it is said, *For six days you shall work*, it is understood in the most proper sense—and because it is not likely that the people could have understood those words in another sense; and, on the contrary, it is incredible that God, in handing down his precepts, would have spoken to the people in words by which they would be deceived, conceiving a false sense, if God had not made his works over six true days. 3° To this is added the common understanding of the Fathers. Thus teach Basil, Chrysostom, Ambrose, Bede, Gregory of Nazianzus, Athanasius, Damascene, and others. The Church embraces this opinion in the Sunday hymn at vespers, saying: *Best Creator of light*, etc.; and at matins: *On the first day on which the Trinity*, etc. There remain to be explained those words, Genesis, chap. II: *These are the generations of heaven and earth, when they were created, on the day when God made heaven and earth*, etc. These words have two expositions: one is that they are understood only of the first day, as Cajetan and Canus understood them, although in different ways. For Cajetan understands it solely by reason of the first instant of that day on which God created heaven and earth. Canus, however, expounds it of the whole time of that day, and each understood that by those last words, *and every shrub of the field*, all the works of the six days were indicated. But this exposition is not literal; for in truth, in those words of chapter II, Moses recapitulates all the things that he had related in the first chapter, as is clear from those words: *These are the generations of heaven and earth*; for the pronoun *these* designates all*

PETAU

The *Civiltà* cites two passages from this theologian which, by the manner in which they are reported, can

[French p. 283] only lead the reader into error concerning his true opinion with regard to Mosaic cosmogony. Taken in the middle of a paragraph whose subject is not indicated, it is difficult to give them the author's meaning.

The first, couched in these terms: "It is impossible, by any calculation, to specify what this interval must

[French p. 284] have been,²³⁸ is invoked in support of the existence of a pre-Genesis world; and the second, which reads: "Here the word *day* is taken for the duration of the six days during which God created—that is, elaborated—heaven and earth,²³⁹" is cited to prove that the word *day* is also employed to designate an indeterminate epoch. It would consequently follow that this theologian was a partisan of these

[French p. 285] two ideas. And yet the contrary is true! Is proof of it desired? Let the paragraphs from which these two phrases are taken be read from one end to the other. Here is the first:

"There is no doubt that, from the account of Moses, one must naturally conclude that before the second day nothing existed but earth and the waters. For one has every reason to believe, with Severianus, that on the first day God drew all things out of nothing, and that on the other days he made use of things already existing; this is why Moses does not limit the first day to the creation of light, but also assigns to it what was made before the light, that is, heaven and earth. It is impossible, by any calculation, to specify what this interval must have been; but I do not believe that those bodies of the world which I have said existed before all the others—that is, the waters and earth—were fashioned on the same day on which the production of light took place, as certain authors have thought, relying too lightly upon what Moses says at the end of the seven days: *Such is the origin of heaven and earth, when they were created on the day when God made heaven and earth*, as though it were necessary that heaven and earth should have been produced on a certain day and that this day should have been the first. But here the word *day* is taken for the span of the six days in which God created—that is, elaborated—this whole universality of things, and gave them their particular form. For it is thus that these

[French p. 286] words must be interpreted: *In the beginning God created heaven and earth.*²⁴⁰"

the productions previously related; and, in order to explain more clearly that he comprehended the other things under heaven and earth, he added: *and every shrub of the field*, intimating the other works under one specific thing. Therefore, the second and common exposition is that, in that recapitulation of chapter II, the clause *on the day on which God created* does not designate one certain day, but is taken for any day on which something of those works was made; whether that day was the same, whether different, whether one, or whether several. For it is frequent in Holy Scripture for the singular to be put for the plural, and, in a sufficiently customary manner of speaking, for things done at different times to be comprehended, for the sake of brevity, under one singular temporal word; as if someone were to say: On the day of the Nativity of Christ, of the Virgin, or of John the Baptist, this or that occurs, he does not signify that it occurs on one and the same day, but a virtual repetition is understood: on the day of the Nativity of Christ, etc.; on the day of the Nativity of the Virgin, etc. Thus, therefore, in chapters I and II of Genesis, where it is taken for a singular day, it is posited indefinitely and signifies any day and several days, as when it is said in chapter I: *And he called the light day; let there be luminous bodies and let them divide day and night; God placed the greater luminous body that it might preside over the day*, etc. In all these places that word is taken indifferently for any day whatsoever; thus in chapter II the discourse is first about a singular day with the addition of the seventh day. But afterward, when the discourse is made generally about the works of those days, it is said indefinitely: *On the day when the Lord made*. So that it may be indicated that the discourse is about any of those days on which God worked before the seventh day. Nor is it surprising that Moses, when he briefly recapitulates the works, should also comprehend the days on which they were made under the name of one day.] (*On the Work of the Six Days*, chap. XII.)

²³⁸*Quod intervallum quantum fuerit, nulla divinatio potest assequi.* [How great that interval was, no conjecture can attain.] (*De Opificia sex dierum*, book I, chap. X.)

²³⁹*Dies hoc loco pro tempore sumitur dierum sex quibus cælum et terram creavit.* [Day in this place is taken for the time of the six days during which he created heaven and earth.] (*Ibid.*)

²⁴⁰*Nec dubium est, quia Mosis historia in eam sit partem propensior, quæ nihil præter aquas et terram, ante diem secundum fuisse memorat. Nam illud Severiani valde probatur: primo die ex nihilo Deum omnia creasse; reliquis autem diebus, ex jam extantibus. Ubi primum diem non lucis tantum creatione circumscribit; sed quod ante illum factum est, id eidem tribuit. Quod intervallum quando fuerit nulla divinatio potest assequi. Neque vero mundi corpora illa, quæ prima omnium extitisse docui, aquam et terram, arbitror eadem, in quam ortus incidit, fabricata esse die, ut quibusdam placet, haud satis firma ratione, quod Moyses scribat in fine septem dierum: Istæ sunt generationes cæli et terræ quando creata sunt in die quo fecit Deus cælum et terram. Quasi necesse sit in aliquo die cælum et terram esse condita; adeoque primo. Sed dies hoc loco pro tempore sumitur dierum sex, quibus cælum et terram creavit, id est elaboravit, ac digessit Deus totam hanc rerum*

Here now is the second passage:

“After having devoted the whole first chapter of Genesis to the description of the works of the six days, Moses, in the following chapter, recapitulating it in its entirety, though briefly, says: *Such is the origin of heaven and earth, when they were created on the day when the Lord God made heaven and earth.* These words do not apply to one day, despite the opinion of those who think that they designate the first day, on which those works would have been made, in addition to the

[French p. 287] light, according to what Moses explains in the first lines of his book, saying: *In the beginning God created heaven and earth.* But we in no way adopt this opinion, and we have already recalled that in this place the word *day* is employed for the word *time*, according to a usage common to the Greeks, the Romans, and the Hebrews. When, therefore, Moses said: *On the day when heaven and earth were made*, it is as though he had said: in the time—that is, in the duration of the six consecutive days—during which they were elaborated and perfected.²⁴¹”

BELLARMINE

This illustrious cardinal speaks in several places in his *Treatise on the Day of Sunday* of the days of creation, but always in the natural sense. On this text:

[French p. 288] *There was an evening and a morning which formed one day*, he observes that “it is a very common Hebraism to employ the word *one* for the word *first*, as in the first chapter of Genesis, where one reads: *There was an evening and a morning which formed one day*, that is, the first day, since it is followed by the second, the third, the fourth, etc.”²⁴²”

He says elsewhere: “The Sabbath was the feast par excellence, because, although all feasts are celebrated either in memory of past benefits or with reference to the future, the Sabbath surpassed them in both respects. Indeed, as regards the past, it was observed in memory of the first benefit, the most general benefit, that is, the creation of the world. For, as Philo writes in his book *On the Construction of the World*, just as kings order the birthday of their children to be celebrated, so God willed that the birthday of his work—that is, of the world—should be celebrated.

universitatem. Sic enim interpretanda hæc esse: In principio creavit Deus cælum et terram. [There is no doubt that the history of Moses inclines more toward that view which relates that nothing except the waters and earth existed before the second day. For this statement of Severianus is greatly approved: that on the first day God created all things out of nothing; but on the remaining days, from things already existing. Here he does not circumscribe the first day by the creation of light alone, but attributes to the same day what was made before it. When that interval was, no conjecture can attain. Nor indeed do I think that those bodies of the world which I have taught existed first of all—water and earth—were fashioned on the same day upon which the rising [of light] fell, as it pleases certain persons to hold, on the insufficiently firm ground that Moses writes at the end of the seven days: *These are the generations of heaven and earth when they were created, on the day when God made heaven and earth.* As though it were necessary that heaven and earth should have been founded on some day, and therefore on the first. But *day* in this place is taken for the time of the six days during which he created heaven and earth; that is, God elaborated and ordered this whole universality of things. For these things are thus to be interpreted: *In the beginning God created heaven and earth.*] (*Ibid.*)

²⁴¹ *Postquam Moyses sex dierum opificium toto primo capite descripsit, mox in sequenti summatim univarseque colligens: Istæ sunt, inquit, generationes cæli et terræ, quando creata sunt, in die quo fecit Deus cælum et terram. Quæ verba non in unius diei faciunt, ut quibusdam videtur, qui primum diem designari putant. In quo factum illud est, præter lucem, quod initio libri Moyses explicat: In principio creavit Deus cælum et terram. Sed eam nos opinionem minime probamus, ac supra docuimus diæi nomen istic usurpari pro tempore, quod apud Græcos Latinosque, non minus quam Hebræos usitatum est. Igitur cum dixisset in die, id est tempore illo factum esse cælum et terram, hoc est perpolitum et elaboratum esse sex continuis diebus.* [After Moses described the work of the six days throughout the whole first chapter, immediately in the next, summarily and comprehensively collecting it, he says: *These are the generations of heaven and earth, when they were created, on the day when God made heaven and earth.* Those words do not make [the work] that of one day, as it seems to some, who think that the first day is designated. On that day, besides light, there was made that which Moses explains at the beginning of the book: *In the beginning God created heaven and earth.* But we in no way approve that opinion, and above we taught that the name *day* is there employed for *time*, which is customary among the Greeks and Latins no less than among the Hebrews. Therefore, when he said *on the day*, [he meant] that heaven and earth were made in that time—that is, were polished and elaborated over six consecutive days.] (*Ibid.*, book I, chap. XIV.)

²⁴² *Est hebraismus frequentissimus dicere unum pro primo, ut in Genesi: Factum est vespere et mane dies unus, id est primus; nam postea sequitur dies secundus, dies tertius, dies quartus, etc.* [It is a very frequent Hebraism to say *one* for *first*, as in Genesis: *There was evening and morning, one day*, that is, the first; for afterward follows the second day, the third day, the fourth day, etc.] (*De cultu sanctorum*, book III, chap. II.)

“The day of Sunday,” he continues, “recalls, as does the day of the Sabbath, the memory of the creation of the world. For it is on the day of Sunday that the creation of the world began, and it is even on that day that the principal parts of the

[French p. 289] world, such as heaven, earth, the angels, and light.²⁴³”

MARTINET

We have already reported the question that this theologian poses concerning the systems that we combat, and the answer that he gave to it. Here are the reasons upon which he bases himself:

“Is it fitting that theologians should stop at these hypotheses, or at other similar ones, in order to make biblical cosmogony more credible?

“I answer negatively; for theologians must fear exposing themselves to the danger with which Isaiah threatens, saying: *Behold, you rely upon a reed, upon a broken reed. . . . It will enter into the hand of the man who leans upon it, and will pierce it* (XXXVI, 6). Indeed, these geological hypotheses are reeds agitated by the wind. If new discoveries come to make them fall into ridicule, as very often happens, one must fear that the questions whose proofs rest upon them may themselves be given over to derision. Moreover, there are two things that turn us away from opinions of this kind: on the one hand, the difficulty of reconciling them with a sound interpretation of the biblical account, and on the other, the weakness of the geological reasons alleged in order to defend them. Let us examine these two points rapidly:

[French p. 290] “1° The Mosaic account, if it is understood in the proper and literal sense, scarcely admits either the existence of a pre-Adamic world or the conversion of the days into indefinite periods. For: 1° although the word *day* (in Hebrew *yom*), taken in an absolute sense, often signifies an indeterminate time, nevertheless, whenever its limits are fixed by the designation of evening and morning, as in the first chapter of Genesis, it denotes a natural day. 2° The law that divides time into a week of seven days, of which the first six must be consecrated to work and the last to rest and religion, is founded upon this motive: *The Lord made in six days heaven and earth, and the sea, and all that they contain, and he rested on the seventh day; this is why the Lord blessed the day of the Sabbath and sanctified it* (Exod., XX, 2 and elsewhere). Now, this reason for the precept of the sanctification of the Sabbath, repeated several times by Moses, would have been very weak if the Hebrews had not thought that the days of creation were natural days. 3° If one admits,

[French p. 291] as in the aforementioned hypotheses, that light, the sun, the moon, and the stars preexisted the Adamic world, how is one to understand these words: *Let there be light, and light was. . . . let there be luminous bodies in the firmament of heaven. . . . and God made two great luminous bodies and the stars, and he placed them in the firmament of heaven?* The defenders of these hypotheses apply these words neither to creation properly so called nor to the arrangement of preexistent matter, but only to the dissipation of the vapors and clouds that surrounded the earth and rendered it inaccessible to the sun’s rays. Now, everyone sees how little this interpretation accords with the force of the expressions of the text. Such, among others, are the considerations that prove that all these hypotheses depart from the proper and literal sense of the divine word, to which, nevertheless, one must adhere whenever the obvious sense indicated by

²⁴³*Erat autem sabbatum festum excellentissimum, quia cum omnia festa celebrentur, vel in memoria beneficii præteriti, vel ad significandum aliquid futurum, Sabbatum in utroque excellebat. Nam quantum ad præteritum, celebratur in memoria primi et communissimi beneficii, id est creationis mundi. Nam, ut ait Philo in libro de Opificio mundi, quemadmodum reges coli jubent diem natalem suorum filiorum, ita Deus coli voluit diem natalem operis sui, id est mundi. Dies dominica representat etiam memoriam creationis mundi, non minus quam Sabbatum. Nam die dominico cæpit mundus fieri; imo eo die sunt factæ omnes principales mundi partes, cælum, terra, angeli et lux.* [The Sabbath, moreover, was the most excellent feast, because, although all feasts are celebrated either in memory of a past benefit or to signify something future, the Sabbath excelled in both respects. For, as regards the past, it is celebrated in memory of the first and most universal benefit, that is, the creation of the world. For, as Philo says in the book *On the Fabrication of the World*, just as kings order the birthdays of their sons to be honored, so God willed the birthday of his work, that is, of the world, to be honored. Sunday also represents the memory of the creation of the world, no less than the Sabbath. For on Sunday the world began to be made; indeed, on that day all the principal parts of the world were made: heaven, earth, the angels, and light.] (*Ibid.*)

the letter is contrary neither to Catholic doctrine nor to other passages of Scripture.²⁴⁴ "

[French p. 292]

ALBERT KNOL

This learned religious, whom his *Theological Institutions*

[French p. 293] have just placed in the first rank of Italian theologians, after having combated, with all the power of his dialectic, the reasons alleged for refusing the Mosaic days their natural sense, concludes thus:

"What we have said proves how little solidity there is in the arguments by which one seeks to demonstrate that the age of the world is much greater than that which Moses assigns to it. But once these arguments are set aside, there remains absolutely no reason either to convert the six days into incalculable periods or to place an immense span of time between the first and second creation, making only the latter date from the restoration of the overturned earth. Moreover, it is evident that these theories introduce new difficulties; for it is difficult to understand how the nebulous vortices would merely have rarefied the clouds and driven them into the other regions of the air, without nevertheless rendering the sun visible for three days. If they are admitted, one could no longer say in any sense that God made the luminous bodies on the fourth day; for, in the ordinary language of men, one does not say that the sun comes into being when the disappearance of the clouds permits it to be seen. It is known, moreover, that the holy Fathers, as well as the theologians and the most ancient interpreters, were of one unanimous opinion in understanding the Mosaic account not of a restoration, but of a creation

[French p. 294] and formation of the earth, as not existing previously.

²⁴⁴*Decetne theologos illis aut similibus hypothesibus insistere, ut cosmogoniam biblicam credibiliorem faciant? Responsio. Negative, ne incurrant theologi in periculum de quo Isaías: Ecce confidis super baculum arundineum confractum illum... Cui si innixus fuerit homo, intrabit in manu ejus, et perforabit eam. Sunt enim hypotheses geologicae arundines vento agitatae, quae, si novis inventis in derisum vertantur, ut saepissime fit, verendum est ne demonstrationes illis innixae videantur, nec non res demonstrata. Ceterum duo nos deterrent hujusmodi opinionibus: difficultas conciliandi eas, cum recta interpretatione biblicae narrationis, levitas rationum geologicarum quae alligantur. Quae duo summam perstringamus: 1° Mosaica narratio ad sensum proprium et naturalem si exigatur, nec mundum praeadamicum, nec conversionem dierum in periodos indefinitas facile admittit: 1° Licet vox dies (hebraice yom) absolute sumpta, tempus indeterminatum saepe significet, quoties tamen limites ejus definiuntur, vespere et mane, ut fit in citato cap. I, Gen. diem naturalem designat. 2° Lex de tempore dividendo in hebdomadas septem dierum, quorum sex priores impendantur operae, septima vero requiei et religioni, hac de causa firmatur: Sex enim diebus fecit Dominus caelum et terram, et mare, et omnia quae in eis sunt, et requievit in die septimo; idcirco benedixit Deus diei sabbati et sanctificavit eum. Quae ratio praeccepti de sabbato sanctificando, pluries a Moyse recitata, levis admodum fuisset, nisi existimassent Hebraei dies creationis fuisse naturales. 3° Posito, ut fit in praefatis hypothesibus, lucem, solem, lunam et stellas praexistisse mundo adamico, intellectu difficillima sunt verba illa: Fiat lux et facta est lux... Fiant luminaria in firmamento caeli... Fecitque Deus duo luminaria magna et stellas. Hoc non de creatione proprie dicta, nec de efformatione ex materia praexistente, interpretantur hypothesim defensores, sed tantum de dissipatione vaporum et nubium quibus circumfusa tellus solaribus radiis inaccessa erat. Quae interpretatio quam parum concordet vi verborum neminem fugit. Haec aliaque suadent predictas hypotheses recedere a sensu proprio et litterali verbi divini, cui tamen standum est, quoties sensus obviis et litteralis doctrinae catholicae non repugnat, aliisve Scripturae locis. [Is it fitting that theologians should insist upon those or similar hypotheses, in order to make biblical cosmogony more credible? Answer. Negatively, lest theologians incur the danger concerning which Isaiah says: Behold, you trust upon that broken reed staff... If a man leans upon it, it will enter into his hand and pierce it. For geological hypotheses are reeds agitated by the wind; if they are turned into ridicule by new discoveries, as very often happens, it must be feared lest the demonstrations resting upon them, and likewise the thing demonstrated, should appear [ridiculous]. Moreover, two things deter us from opinions of this kind: the difficulty of reconciling them with a right interpretation of the biblical account, and the lightness of the geological reasons which are attached [to them]. Let us touch briefly upon these two things: 1° If the Mosaic account is required according to the proper and natural sense, it scarcely admits either a pre-Adamic world or the conversion of the days into indefinite periods: 1° Although the word day (in Hebrew yom), taken absolutely, often signifies an indeterminate time, nevertheless, whenever its limits are defined by evening and morning, as is done in the cited chapter I of Genesis, it designates a natural day. 2° The law concerning dividing time into weeks of seven days, of which the first six are devoted to labor and the seventh to rest and religion, is established for this reason: For in six days the Lord made heaven and earth, and the sea, and all things that are in them, and he rested on the seventh day; therefore God blessed the day of the Sabbath and sanctified it. This reason for the precept concerning sanctifying the Sabbath, recited several times by Moses, would have been very slight if the Hebrews had not thought that the days of creation were natural. 3° Supposing, as is done in the aforementioned hypotheses, that light, the sun, the moon, and the stars preexisted the Adamic world, those words are most difficult to understand: Let there be light and light was... Let there be luminous bodies in the firmament of heaven... And God made two great luminous bodies and the stars. The defenders of the hypothesis interpret this neither of creation properly so called nor of formation out of preexistent matter, but only of the dissipation of the vapors and clouds by which the earth was surrounded and was inaccessible to the sun's rays. No one fails to see how little this interpretation agrees with the force of the words. These and other things show that the aforementioned hypotheses depart from the proper and literal sense of the divine word, to which nevertheless one must adhere whenever the obvious and literal sense is repugnant neither to Catholic doctrine nor to other places of Scripture.] (*Theologie praeambula*, book II, art. 2.)*

“This explanation is confirmed even by the passage of Holy Scripture in which the creation of heaven and earth is connected immediately with the production of trees and plants; for one reads: *Such was the origin of the heavens and earth when they were created, on the day—that is, at the time—when God made earth and the heavens, and all the plants of the fields, when there were none upon the earth, and all the herbs of the countryside, when the earth produced none.*²⁴⁵”
[French p. 295]

Modern Commentators on Holy Scripture

Among the commentators on Holy Scripture, we have had to place in the first rank the Doctors and Fathers of the Church. The modern interpreters who have compiled the works of those who preceded them in this field give the days of Genesis the same interpretation as the ancients. We shall confine ourselves to citing the most esteemed and best known.

CORNEILLE DE LA PIERRE

On this text: *Let there be light, and light was*, he says:

“It is certain that this luminous body was, during the first three days of the world and before the sun was created on the fourth day, moved by an angel from east to west; and that, after the manner of the sun and in the same time as it, it traversed and illuminated the two hemispheres of heaven, as that heavenly body now does,

[French p. 296] that is, in twenty-four hours. For it is this light that, by its movement, determined and distinguished the first three days of the world, just as the sun afterward determined the others by its course and distinguished them from one another.”

He comments in the same sense upon the following text: *And there was an evening and a morning which formed the second day.*

“One must not think,” he says, “that God was occupied throughout the whole day, after the manner of a workman, with the construction of the firmament and then with his other works; one must think, on the contrary, that he made them without interruption, in an instant, and that during all the remainder of the day he confined himself to preserving them.

²⁴⁵*Ex dictis patet omni soliditate carere argumenta, quibus probare quidam tentant, mundi ætatem longe majorem esse illa, quæ a Moyse ipsi tribuitur. Sublati autem his argumentis, nulla prorsus ratio suppetit, vel sex dies in longissimas periodos commutandi, vel maximum temporis spatium inter primam et secundam creationem, hancque solum decollapsæ terræ restauratione exponendi. Hæc sane expositio novas difficultates involvit. Vix enim intelligi potest quomodo vehementissimus ventus nubes solum extenuaverit, et in altum sustulerit, quin tamen per tres dies sol aspectabilis redderetur. Et quarta die in nullo sensu luminaria a Deo facta diei possit; nam neque, juxta communem hominum loquendi modum, sol factus dicitur, si remotis nubibus conspicuus fit. Constat quoque, tum SS. PP., tum theologos, et interpretes antiquiores unanimi consensu narrationem mosaïcâ, non de restauratione, sed de creatione et de formatione terræ quæ prius non extiterat, explicasse. Hæc explicatio etiam per locum sacræ Scripturæ Gen. confirmatur, in quo creatio cæli et terræ immediate conjungitur cum productione herbarum, dicitur enim: Istæ sunt generationes cæli et terræ, quando creata sunt in die (id est tempore) quod fecit Dominus Deus cælum et terram, et omne virgultum agri, ante quam oriretur in terra, omnemque herbam regionis, antequam germinaret; non enim pluerat Deus super terram, etc. [From what has been said, it is clear that the arguments by which some attempt to prove that the age of the world is far greater than that which is attributed to it by Moses are devoid of all solidity. But when these arguments have been removed, no reason whatever remains either for changing the six days into exceedingly long periods or for placing a very great span of time between the first and second creation and explaining the latter solely by the restoration of the collapsed earth. This explanation assuredly involves new difficulties. For it can scarcely be understood how a most violent wind merely thinned the clouds and raised them on high, without nevertheless rendering the sun visible for three days. And on the fourth day the luminous bodies can in no sense be [said to have been] made by God; for neither, according to the common manner of speaking among men, is the sun said to be made if it becomes visible when the clouds have been removed. It is also established that both the holy Fathers and the theologians and more ancient interpreters, by unanimous consent, explained the Mosaic account not of the restoration, but of the creation and formation of an earth that had not previously existed. This explanation is also confirmed through a place of Holy Scripture in Genesis, in which the creation of heaven and earth is immediately joined with the production of plants; for it is said: *These are the generations of heaven and earth, when they were created, on the day (that is, the time) when the Lord God made heaven and earth, and every shrub of the field before it arose upon the earth, and every herb of the region before it germinated; for God had not caused it to rain upon the earth, etc.*] (*Institutiones theologiæ theoreticæ, seu dogmatico-polemicæ a P. Alberto Knol, ordinis Minorum Capucinatorum [Institutions of Theoretical Theology, or Dogmatic-Polemical Theology, by Father Albert Knol, of the Order of Friars Minor Capuchin]*, 2nd ed., 7 octavo volumes of about 550 pages, published by Poussielgue-Rusand, 27 rue Cassette, Paris.)*

“It is still more true that the world was created at the spring equinox: 1° because such is the teaching of all the Fathers, as may be seen in Molina and Pereira, and even the opinion of the poets, among others Virgil, who says, speaking of the first origin of the nascent world (book II of the *Georgics*): ‘It was spring; the immense universe enjoyed spring, and the winds of winter held back their breath....’ 2° because this point was defined by the Council of Palestine, held in the time of Pope Victor, under the presidency of Theophilus, in the year of grace 198. It was a particular and not a general council, so that its definitions are not matters of faith; but they have no less a great authority. This council bases its decision: 1° upon the word *germinet* (*let [the earth] bring forth plants*, etc.); now, germination begins in the spring;

[French p. 297] 2° upon the fact that God separated light from darkness, giving them equal parts, and that this division takes place at the equinox; 3° the same council adds that the first day of the world was the eighth day before the Kalends of April, that is, March 25.

“It is, moreover, certain that this day was Sunday.”²⁴⁶

[French p. 298]

DOM CALMET

This celebrated Benedictine professes the same opinion in his commentaries upon the following texts:

“*From evening and morning was made the first day.*”

“The artificial day is composed of a night and a day. Thus, from the night and the natural day was made the first artificial day. On this day, as on all the others, the night preceded the day. The Hebrews counted their days from one evening to another. Evening denotes night, and morning signifies day. This night of the first days denotes the darkness that preceded the creation of light. The text reads: *one day*, instead of: *the first day*; it is a Hebraism.

“*And God finished on the seventh day the work that he had made, and he rested on the seventh day, after having finished all his works.* It is asked here whether one must recognize in the account of Moses a successive creation or a simultaneous creation, that is,

[French p. 299] whether all creatures were formed in the state of perfection in which we see them, all at once and in one moment, or whether they were produced and put into the form in which they are only over the span of seven days.

²⁴⁶*Fiat lux et facta est lux. Hoc lucidum corpus primo mundi triduo, scilicet antequam quarto die crearetur sol, ab angelo motum fuisse ex oriente in occidente; atque eodem modo et tempore quo sol, viginti quatuor horis utrumque cæli hemispherium circumgyrasse et illuminasse uti jam facit sol. Lux enim hos primos tres mundi dies suo motu descripsit et distinxit, sicuti cæteros deinde sol suo motu descripsit, et in dies describit et distinguit: Et factum est vespere et mane dies secundus. Nec cogites Deum instar artificis, toto die in hac firmamenti fabrica, aliisque deinceps occupatum fuisse; sed fecisse eam subito, in instanti, ac per totum reliquum tempus eandem conservasse. Verius est mundum creatum esse in æquinotio verno: 1° quia id docent passim omnes Patres quos vide apud Molinam et Pereirum; quin et poete, ut Virgilius (lib. II, Georg.) loquens de prima nascentis origine mundi: Ver (ait) illud erat; ver magnus agebat. Orbis, et Hiberni parcebant flatibus Euri. 2° Quia id definivit concilium Palestinum habitum sub Victore Pontifice, præside Theophilo, anno Christi 198. Hoc concilium fuit particulare, non generale, ac proinde definitiones ejus non sint de fide; sunt tamen magnæ auctoritatis. Hanc sententiam concilium probat: 1° ex verbo germinet; in vere enim terra germinare incipit; 2° Ex eo quod Deus divisit lucem a tenebris, scilicet in æquales partes, que divisio fit in æquinotio. 3° Addidit idem concilium primum diem mundi fuisse viii calendas aprilis, id est 25 martii. Rursum certum est hunc diem fuisse dominicum. [Let there be light and light was. This luminous body, during the first three days of the world—that is, before the sun was created on the fourth day—was moved by an angel from east to west; and, in the same manner and time as the sun, circled and illuminated both hemispheres of heaven in twenty-four hours, as the sun now does. For light by its movement traced and distinguished these first three days of the world, just as the sun afterward traced the others by its movement, and day by day traces and distinguishes them: And there was evening and morning, the second day. Do not think that God, after the manner of an artisan, was occupied for the whole day in this construction of the firmament and thereafter in the other things; but that he made it suddenly, in an instant, and preserved the same thing through all the remaining time. It is truer that the world was created at the spring equinox: 1° because all the Fathers everywhere teach it—see them in Molina and Pereira—and even the poets, such as Virgil (book II, *Georgics*), speaking of the first origin of the nascent world: *It was spring, he says; the great world was passing through spring, and the East Winds refrained from wintry blasts.* 2° Because the Council of Palestine, held under Pope Victor, with Theophilus presiding, in the year of Christ 198, defined it. This council was particular, not general, and accordingly its definitions are not matters of faith; nevertheless, they are of great authority. The council proves this opinion: 1° from the word *let it germinate*; for in spring the earth begins to germinate; 2° from the fact that God divided light from darkness, namely, into equal parts, which division occurs at the equinox; 3° the same council added that the first day of the world was the eighth day before the Kalends of April, that is, March 25. Moreover, it is certain that this day was Sunday.] (*Commentary on Genesis*, chap. I.)*

The interpreters agree that God drew all the matter of the universe out of nothing in one moment, by a single *fiat*, by a very simple act of his almighty will. But they are divided upon the question just proposed. Some maintain that sensible beings were brought to their perfection only over the span of seven consecutive days, and they have on their side the account of Moses, which appears decisive. It is readily understood that the chaos could be disentangled only through a succession of diverse movements, which separated the parts of a foreign and incompatible nature and form and united those that were of the same form and the same nature. In order to compose the heavens, the stars, the waters, and the earth, all these diverse parts could separate themselves from one another and arrange themselves suitably only over a more or less long span of time.

“We do not deny, however, that God, by his omnipotence, could have supplied for all those successive movements that produced the various arrangements and separations of the homogeneous and heterogeneous parts of nature; but one must not multiply miracles without necessity,²⁴⁷ especially

[French p. 300] when one has a text of Scripture that fixes our opinion, which has nothing contrary either to the laws of nature or to the idea of God. We also confess that God alone is the author of the movement imparted to matter, and that it is by the order of his sovereign wisdom that all the parts of the universe were formed, arranged, and disposed in the order in which we see them, lest we be charged with attributing all these opinions to a certain purely natural movement.

“Finally, we recognize that, besides those beings which appear to have been formed by a regulated movement and according to the natural laws established by God, there are an infinity of others that can only be the work of a particular will of the Creator, who produced man, animals, and plants, and who disposed their parts, organs, and springs with so much art and wisdom that they might reproduce, multiply, and preserve themselves through laws that are beyond the penetration of the human mind.

“Philo, Origen, Saint Augustine, and some others, fearing that consequences contrary to the immutability and omnipotence of the Creator might be drawn from the opinion that maintains successive creation—as though, not having been able to make his work all at

[French p. 301] once, he had been obliged to make it at various times and finally to rest on the seventh day, as though wearied by so great a labor—believed that one should recognize in the whole account of Moses only a succession of order and reason, and that he spoke of a successive creation only in order to proportion himself to the capacity of the people and to give them a more distinct idea of creation. For this purpose, it was necessary to explain to them how the development of the parts of the chaos and the arrangement of those that compose the universe took place. It is this that Moses had in view in his account; but it is far from being the case that the thing happened in the same manner. God created all things at once, as the Wise Man says: *He who lives eternally created all things at once*. Matter, always compliant with the orders of the Almighty, had no need of preparation in order to obey his will. It is contrary to the idea that we ought to have of his omnipotence to say that he returned to work every morning for six days in succession, and that finally he rested on the seventh day. These sorts of expressions, which are contrary to piety, must always be explained in a favorable manner.

“But this latter opinion has been abandoned by almost all commentators. The passage of Ecclesiasticus denotes nothing else except that God is the creator of all creatures without exception. There are, in truth, in the account of Moses some terms that require a favorable explanation:

²⁴⁷Here again, may we be permitted an observation. Whatever God did in creating the world, there was, in reality, no miracle—that is, no deed contrary to the present laws of nature—since those laws were not yet established then; and we do not even know precisely when they were established in their entirety.

[French p. 302] it is agreed that it is not true that God created the world on six separate occasions, nor that he needed to rest on the seventh day. But one is not obliged on that account to depart from the order of Moses' account, which so clearly denotes a successive creation. It is enough to say that God, by an entirely free determination of his will, judged it fitting to place this number of six days in the work of creation, without our being able to penetrate its true cause.²⁴⁸ "

TIRIN

On this text: *God separated light from darkness*, this commentator says:

"The Doctors take this text literally; they say that the source of this light was found not in the sun, which was created only on the fourth day of the world, but in another subcelestial body which, during the first three days of the world, traversed and illuminated the two hemispheres in twenty-four hours, as the sun now does, and which thus constituted day and night in turn.²⁴⁹"

[French p. 303] Elsewhere, in his *Sacred Chronology*, Tirin recalls "that he demonstrated above that the world was created in the month of March, at the spring equinox.²⁵⁰"

DE VENCE

"Nothing is simpler," this illustrious Doctor of the Sorbonne says in his commentaries, "than the account that Moses gives of the creation of the universe: *In the beginning God created heaven and earth.... Then God said: Let there be light, and light was; and he separated light from darkness, and he gave to the light the name of day and to the darkness the name of night.* This is the work of the first day. After this, the Lord made the firmament, and he separated the lower waters from the upper waters by means of this firmament, to which he gave the name heaven; this is what was done on the second day. On the third day, God ordered all the waters to withdraw into one place; that the earth should appear and that it should produce all sorts of herbs and trees, and it was done so. On the fourth day, he made the heavenly bodies to illuminate the earth by day and by night; he therefore created a

[French p. 304] great luminous body to preside over the day: this is the sun; and another great body of light to preside over the night with the stars: this second luminous body is the moon. On the fifth day the fish and the waters were created; on the sixth, terrestrial animals and man. This is what Moses teaches us.

"It is not surprising that so concise an account was susceptible of so many different senses, and that each philosopher believed that he found his hypothesis in Moses. This legislator represents the Lord to us as an almighty workman who, having first prepared all the matter upon which he wishes to work, disposes and arranges it over the course of a certain number of days, after which he rests. He tells us that God created light and distinguished night and day before the production of the sun and the other luminous bodies; this was not easy to conceive before physicists had considered light as a fluid spread through space and whose existence does not necessarily depend upon that of the sun and the other luminous bodies.²⁵¹"

The learned abbé comments in the same sense upon the following text:

"And evening and morning formed one day.

²⁴⁸ *Commentary on Genesis*, chap. II.

²⁴⁹ *Divisit Deus lucem a tenebris. Quam lucem doctores ad litteram explicant fuisse non in sole qui, in quarto die mundi creatus est, sed in alio corpore sub, caelesti, quod primo mundi triduo viginti quatuor horis, eodem modo quo nunc sol, utrumque hemispherium circumgyrat, et sic diem vicissim et noctem constituabat.* [God divided light from darkness. The Doctors explain literally that this light was not in the sun, which was created on the fourth day of the world, but in another subcelestial body, which during the first three days of the world revolved around both hemispheres in twenty-four hours, in the same manner as the sun now does, and thus constituted day and night in turn.] (*Commentary on Genesis*, chap. I.)

²⁵⁰ *Ostendimus supra mundum creatum fuisse mense martio in æquinotio verno.* [We showed above that the world was created in the month of March, at the spring equinox.] (*Chronichum sacrum*, chap. IX.)

²⁵¹ *Commentary*, chap. XXIII, p. 445.

“These two words, which are going to be repeated here several times, are taken substantively; this is why they must not have an accent. Evening denotes

[French p. 305] night, and morning signifies day. Moses says: *one day* and not: *the first day*, because this day, still unique, could not be first.²⁵²”

And finally, speaking of the division of the day among the Hebrews, de Vence says:

“The day was reckoned from one evening to the next. Moses denotes the day by these two terms, *evening* and *morning*. The day was composed only of an evening and a morning; evening or night went before the day that is called morning.²⁵³”

DE CARRIÈRES AND MENOCHIUS

The Bible of Carrières, with the commentaries of Menochius, leaves no doubt concerning the adoption, by one and the other, of the literal sense of the word *day*. We read there:

“*In the beginning God created heaven and earth.* In the beginning, that is, at the primordial origin or at the beginning, not of eternity and the ages, but of time.

“*He called the light day.* For this light moved, as the sun now does, in order to distinguish the days from the nights.

“*And there was an evening and a morning which formed one day.*

[French p. 306] This light was created toward noon; this is why, by its revolution, it brings on evening and then the following morning. *One day* is equivalent in Scripture to *a first day*; thus, in Saint John, chap. XX, *day one of the Sabbath* signifies the first day of the week.

“*He rested on the seventh day.* The work of creation had therefore been begun on Sunday.

“*Such was the origin of heaven and earth, on the day when the Lord,* etc.

“The origin (or, word for word, the generations, that is, the creations), *on the day when*, that is, during the whole span of the six days.²⁵⁴”

ABBÉ GLAIRE

In his *Holy Books Vindicated*, this learned Hebraist

[French p. 307] defends the literal interpretation by the following arguments:

“The word *day*, in Hebrew *yom*, is found repeated twice in the fifth verse and is evidently taken in two different senses. First, it is considered as a synonym of light, since it is said: *And God called the light day*. It is the part of time during which it is light, and which the Latins expressed by *dies*. It is again in this sense that it is taken in Zechariah, chap. XIV,

²⁵² *Commentary II*, chap. II, p. 70.

²⁵³ *Chronology of the Hebrews*, vol. I, p. 245.

²⁵⁴ *In principio creavit Deus...* In principio; id est, in primordio seu initio, non eternitatis nec ævi, sed temporis. Vocavit lucem diem.... Nam lux illa ferebatur sicut nunc sol, distinguens dies ac noctes. Factumque est vespere et mane dies unus.... Circa meridiem hæc uxor creata est: exinde suo motu vespere facit et mane sequens. Dies unus, dies primus: phrasis Scripture; sic una sabbati apud Joan. (cap. XX). Primam hebdomadæ diem significat. Requievit die septimo.... Itaque dominico die opus creationis inchoatum fuit. Iste sunt generationes, etc.... Generationes, id est creationes. In die quo, etc.... Id est toto sex dierum spatio. [In the beginning God created.... In the beginning; that is, at the primordial origin or beginning, not of eternity or the age, but of time. He called the light day.... For that light moved as the sun now does, distinguishing days and nights. And there was evening and morning, one day.... This light was created about noon: thence by its movement it makes evening and the following morning. One day, the first day: a phrase of Scripture; thus one of the Sabbath in John (chap. XX) signifies the first day of the week. He rested on the seventh day.... Therefore the work of creation was begun on Sunday. These are the generations, etc.... Generations, that is, creations. On the day when, etc.... That is, during the whole span of the six days.] (*Holy Bible*, chap. I.)

verse 7, and perhaps also in Job, chap. III, verse 5. In the second place, it is employed as a certain duration of time, the span embraced by evening joined to morning, or the span of twenty-four hours, which among us is comprised between noon and midnight, and midnight and noon; it is the *nuchthéméron* of the Greeks.

“It has been desired to understand this word, taken in the latter sense, as a long span of indeterminate time, an epoch. But it has not been considered that in this case the Hebrew word would necessarily have to be in the plural. Thus it is with reason that Rosenmüller concludes from the account of Moses that it would be difficult to express, in a more precise and clearer manner, that a natural day is in question here, and by no means a span that would embrace a great number of days or years. It is true that the word *day* is taken fairly often in Scripture for a moment or an indeterminate time, which also takes place in other languages; but then there is always in the

[French p. 308] context some indication of this acceptation. Thus one frequently says: *one day it happened that; a day will come; on the day when; for a certain time, it happened; a time, a moment will come; when*. We shall not insist further upon this point; in our opinion, it cannot present a serious difficulty to a Hebraist.²⁵⁵”

We could add still many links to this long chain of imposing testimonies that attest the truth of the thesis we maintain. Those whom we have just cited suffice to permit us to establish that the whole Christian tradition, that so sure interpreter of the word of God,²⁵⁶ condemns the systems of our adversaries; and that, among so many Doctors, Fathers, theologians, and commentators, there is not a single one whom they can invoke in their favor. At the end of the work, we shall draw the consequence that results from this general teaching of the Church given by her most worthy organs, and which we regard as decisive. Beforehand, it remains for us to indicate how, without the aid of those limitless centuries, the formation of the globe as we know it today could have taken place.

²⁵⁵ *The Holy Books Vindicated*, vol. I, p. 18.

²⁵⁶ Tradition, says an author who is not suspect, the Protestant Beausobre, when it is well verified, is a solid proof of the certainty of facts and the certainty of doctrine. (Bergier, *Theological Dictionary*.)

PART FOUR

CAUSES OF THE STRUCTURE OF THE GLOBE

CHAPTER I

The whole creation is an act of divine power.

It would be useless to observe that, in seeking to account to ourselves for the events that gave the earth its present physiognomy, we do not have the foolish pretension of resolving all difficulties, of unveiling secrets that the Creator of all things has reserved to himself, and of fully feeding the insatiable curiosity of man's pride. Nature, like religion, contains mysteries that will remain forever inaccessible to every created intelligence. Does one comprehend, and will one ever comprehend, the essence and characteristics of that triple invisible force known by the name of molecular attraction [French p. 310], terrestrial attraction, celestial attraction? One sees its phenomena and establishes its effects, but the nature of the cause escapes all investigations; or rather, this word *attraction* is the statement of a general fact, and not the very formula of a law.

Ask the most skillful chemist what that latent property of bodies is by which their molecules attract one another, draw together as though instinctively, attach themselves, cement themselves, coagulate, and penetrate one another so profoundly, so intimately, that they resist, with a powerful energy, the blind force that would wish to disunite them. He will be obliged to confess his ignorance and to say: I do not know.

But now science itself undertakes, at this moment, to give the human mind a lesson in modesty, to teach it to distrust its lights, its discoveries, even its dogmas, and to circumscribe the circle of its pretensions. It is a whole revolution that is taking place in the creed of the academies.

Our forefathers of the eighteenth century knew only four elements: water, earth, air, and fire. The progress of chemistry has permitted us to recognize the error of our predecessors, to analyze these substances, to divide them, to subdivide them, to atomize them, so to speak, and to torment them in such a way as to discover that they were compound bodies and not elements. The discovery of a new element

[French p. 311] was signaled as progress for science and, for its author, as a title to public admiration and gratitude. Today, if we are not mistaken, sixty-seven are counted.

Modern science had also admitted until now the existence of various forces, such as light, caloric, electricity, magnetism, affinity, gravity, etc. It maintained that these forces were properties inherent in matter itself. This was the axis around which all the phenomena of the physical world unfolded, the mechanism that imparted all its movements to it.

Well then! these two scientific dogmas, concerning which it was not permitted to raise the slightest doubt, have just been attacked, and solidly, if not victoriously, combated. Two scholars of the first order, Mr. Grove, one of the most honored members of the Royal Society of London, and the elder Mr. Seguin, one of our most distinguished physicists, have established, in a work entitled *Correlation of Physical Forces*, that all these elements are not elements; that all these forces are not forces. They maintain that there is only one element, *matter*: one force, one mover, a *spiritual mover*. "Heat, light, and electricity," says the first, "do not exist as fluid causes; all these effects are the pure and simple result of an affection of matter, caused by forces which, without being necessarily intelligent,

[French p. 312] have absolutely nothing physical about them, and which, all correlative among themselves, are connected

with movement, itself caused by an *absolutely spiritual mover*.²⁵⁷ "

The second summarizes, in these terms, the doctrine of Mr. Grove in notes placed at the end of his work: "What is simpler than to relate everything to a single element, *matter?* to a single agent that modifies it, *movement?*... To see, as we do, Mr. Grove and I, in all bodies diverse assemblages of one and the same matter, in all phenomena movements imparted to this unique matter—is this not to render a still more striking homage to unity and creative power, according to the motto that characterizes all the works of God: simplicity and economy in the means, richness and variety in the results?²⁵⁸"

Let us not be surprised at this humiliating necessity in which the genius of man finds itself, of burning today what it had worshiped yesterday. It is the consequence of the decree that divine wisdom pronounced against man, condemning him, in punishment for his pride, to labor without end, without respite, and without ever attaining, despite the most prodigious efforts, an adequate knowledge of all things: "He delivered the world to the disputes of men," Ecclesiastes teaches us,

[French p. 313] "so that they may not know the work that the Lord made from beginning to end."²⁵⁹

"Where were you," God says to Job, "when I was laying the foundations of the earth? Tell me, if you have intelligence. Do you know who regulated all its measures, or who stretched the measuring line over it? Do you know upon what its bases are established, or who laid its cornerstone? Who will speak worthily of the disposition of the heavens, etc..²⁶⁰"

We are therefore naturally led to rely, with regard to the works of creation, where everything depended upon the good pleasure of God, upon what he deigned to reveal to us. For here the supernatural bursts forth on every side; and how much are those who do not see it there to be pitied! Now, two great miraculous facts, and only two, are reported to us in the sacred history of primitive times: creation and the universal flood.

In the description of the marvels of creation, Moses confines himself to establishing the effects in such a way as to awaken in man no idea of their cause other than that of the divine will. Everything there is stamped

[French p. 314] with the seal of an infinite wisdom and power; not only in the whole but also in the details. It is God who conceived, executed, and ordered all things. Nature did not act by itself; it obeyed the voice of its Creator. The acts of each day, from the creation of heaven and earth to that of man, were all accomplished outside the laws that govern the physical world today. Thus, all the beings of the vegetable kingdom and the animal kingdom were created in a state of perfect development; vegetables, plants, and trees were not created in the state of seed, germ, or shoot, but in their complete development, fit to produce seeds and bear fruits. The animals of each species—quadrupeds, reptiles, fish, birds—all were created in a state of formation and growth advanced enough that they could reproduce immediately. Man himself, God created in the fullness of age, in the complete exercise of his physical, intellectual, and moral faculties. But if it is thus with vegetables, animals, and finally man, that prototype of the created world, why should it be otherwise with the earth, heaven, the stars, the sea, the mountains, etc.? Why would God have needed a longer time, indefinite centuries, to form them? Assuredly, since everything here is miraculous, the prodigy will not be greater on one side than on the other.

²⁵⁷ *Correlation of Physical Forces*, p. 150.

²⁵⁸ *Ibid.*, notes, p. 329.

²⁵⁹ *Mundum tradidit disputationi eorum, ut non cognoscat homo quod operatus est Deus ab initio ad finem*. [He delivered the world to their dispute, so that man may not know what God wrought from beginning to end.] (*Ecclesiastes*, chap. II, verse 11.)

²⁶⁰ *Ubi eras quando ponebam fundamenta terræ? Indica mihi, si habes intelligentiam. Quis posuit mensuras ejus, si nosti? aut quis dimisit lapidem angularem ejus? Quis enna rabit cælorum rationem? etc....* [Where were you when I was laying the foundations of the earth? Tell me, if you have intelligence. Who set its measures, if you know? Or who laid its cornerstone? Who will recount the ordering of the heavens? etc....] (*Job*, chap. XXXVIII, verse 5).

[French p. 315] It is the forgetting of this fundamental principle that is the source of so many errors and of most of the objections of our adversaries. One persists in seeking the productive cause of the various phenomena of creation not in the action of God, creator of everything that exists, but in a multitude of secondary causes discovered or imagined by the human mind, and even often in more or less hazardous hypotheses that rest neither upon observation nor upon any solid foundation supplied by induction. One takes good care not to refuse God the title of creator; it is his role that one wishes to diminish. But, frankly, after having acknowledged this title to him, does logic permit one to cavil with him over the time that he thought he ought to employ in accomplishing his work?

It is claimed that it is the laws of nature that organized everything, and that geological facts would be contrary to those laws if one admitted that the structure of the globe was the work of six ordinary days. But what, then, is this nature of which one always speaks? And what, in fact, are the laws of nature, if not an order that it pleased God to establish, to which all creatures—but creatures alone—must conform? Now, this order apparently did not exist when God created the world. If he judged it fitting to establish it afterward, in order to open a wider field to the action of creatures, he nonetheless remains free and independent, able to depart from it for reasons and by means

[French p. 316] known to him. One is therefore in no way warranted in relying upon the observation of present phenomena, causes, and effects in order to explain the facts of creation. These are not questions of science, questions of agreement and disagreement with present laws; they are simple questions of testimony and faith. It is not revelation that must accommodate itself to the demands of reason; it is for reason to submit itself to revelation, so as not to strike and shatter itself against the mysteries that beset it.

[French p. 317]

CHAPTER II

The Universal Flood.

The second grave event of which the Bible informs us is the flood. Sacred history presents this cataclysm to us as a miraculous fact produced by a supernatural action, as a terrible punishment inflicted upon the guilty earth.²⁶¹ This is the general sentiment of the Fathers, and this point of departure forestalls many objections. Nevertheless, this fact, admitted more or less completely by all the pagan theogonies, and confirmed by the monuments and traditions of peoples, as well as by the data of science, is still contested today [French p. 318] by Christian scholars, not in its reality, but in its universality.

Now, this question, which some writers claim to be of secondary interest, seems to us, on the contrary, to present all the characteristics proper to giving it the highest gravity. If the most elevated points were sheltered from this frightful inundation, if there were places on the globe that it did not cover with its waters, what are those places, what are the mountains that escaped its ravages? What are the countries that the scourge overturned? What are those that it spared? If these privileged regions were able, as is said, to offer refuge to a multitude of animals, why would men not have profited from them? Is it not known that man reaches heights to which the most agile of quadrupeds and reptiles could not attain? Thus all men, with the exception of Noah's family, would not have perished in the flood, contrary to the formal text of Scripture, which relates the universality of the disaster, and above all the destruction of the human race, in clear, forceful terms, repeated several times, without the least restrictive circumstance, and in such a way that, to express absolute universality, Moses could not have spoken in a more precise and more intelligible manner. May we be permitted in this connection to recall his account:

“In the six-hundredth year of Noah's life, on the seventeenth day of the second month, all the springs of the great

²⁶¹ *Videns Deus quod multa malitia hominum esset in terra, penituit eum quod hominem fecisset in terra. Et tactus dolore, cordis intrinsecus: Delebo, inquit, hominem quem creavi.* [God, seeing that the wickedness of men was great upon the earth, repented that he had made man upon the earth. And, being inwardly touched with sorrow of heart, he said: I will blot out the man whom I created.] (*Genesis*, chap. VI.)

[French p. 319] abyss were broken open; and the cataracts of heaven were opened; and rain fell upon the earth for forty days and forty nights.

“The waters, having increased, raised the ark above the earth; they inundated and covered *all* the surface of the earth. The waters increased and swelled prodigiously above the earth, and *all* the highest mountains that are beneath *all* the extent of heaven were covered. The water, having reached the summit of the mountains, rose yet fifteen cubits higher. *All* flesh that moves upon the earth was destroyed; *all* the birds, *all* the animals, *all* the beasts, and *all* that creeps upon the earth. *All* men died, and generally *all* that has life and breathes upon the earth. *All* the creatures that were upon the earth, from man to the beasts, both those that creep and those that fly in the air, *all* perished from upon the earth; there remained only Noah and those who were with him in the ark. And the waters covered *all* the earth for one hundred and fifty days.²⁶²

[French p. 320] The apostle Saint Peter anticipated the objection made against the absolute sense of these expressions, *all flesh*, by giving it only a restricted sense when he designates the number of persons whom the flood did not engulf, saying: “Jesus Christ went to preach to the spirits who were held in prison, who, formerly unbelieving, had, in the time of Noah, counted upon the patience of God while he was building the ark, in which few persons—that is, only eight—were saved amid the waters.²⁶³”

Geological science came, in its time, to confirm the divine teachings. Buckland ends his book *Reliquiae diluvianae* [*Relics of the Flood*] with these conclusions: “Thus have we demonstrated,” he says, “by facts, that an all-powerful flood burst unexpectedly upon the earth, inundated it in its entirety, covered the highest

[French p. 321] mountains, and engulfed in its waves *all that lived*, with the exception of those whom God willed to save in the ark. We do not know how it pleased the Lord to bring this immeasurable mass of water and to raise its waves over the surface of the globe; but its formidable traces are before our eyes, and all the elements seem to have taken part in it.”

But it is by relying upon the language, so clear and so plain, of the holy book that the great majority of the Fathers and theologians has always affirmed that the flood was universal—that is, that the waters had invaded the whole earth without any exception. And as for tradition, Bossuet summarized it by saying: “The tradition of the universal flood is found throughout the whole earth.²⁶⁴”

²⁶²Anno 600 vite Noë, mense secundo, septimo decimo die mensis, rupti sunt omnes fontes abyssi magnæ, et cataractæ cæli apertæ sunt. Et facta est pluvia super terram quadraginta diebus et quadraginta noctibus... et multiplicatae sunt aquæ, et elevarunt arcam in sublimi a terra. Vehementer enim inundaverunt: et omnia repleverunt, in superficie terræ. Et aquæ prevaluerunt nimis super terram; apertique sunt omnes montes excelsi sub universo cælo. Quindecim cubitis altior fuit aqua super montes quos operuerat. Consumptaque est omnis caro quæ movebatur super terram, volucrum, animantium, bestiarum, omniumque reptilium quæ reptant super terram. Universi homines, et cuncta in quibus spiraculum vite est in terra, mortua sunt. Et delevit omnem substantiam quæ erat super terram, ab homine usque ad pecus, tam reptile quam volucres cæli; et deleta sunt de terra: remansit autem solus Noë, et qui cum eo erant in arca. Obtinueruntque aquæ terram centum quinquaginta diebus. [In the six-hundredth year of Noah's life, in the second month, on the seventeenth day of the month, all the springs of the great abyss were broken open, and the cataracts of heaven were opened. And rain fell upon the earth for forty days and forty nights... and the waters were multiplied, and they raised the ark on high from the earth. For they inundated mightily; and they filled everything upon the surface of the earth. And the waters prevailed exceedingly over the earth; and all the lofty mountains beneath the whole heaven were covered. The water stood fifteen cubits higher above the mountains that it had covered. And all flesh that moved upon the earth was consumed: birds, animals, beasts, and all creeping things that creep upon the earth. All men, and all things in which there is the breath of life upon the earth, died. And he blotted out every substance that was upon the earth, from man even to cattle, both creeping things and the birds of heaven; and they were blotted out from the earth: but Noah alone remained, and those who were with him in the ark. And the waters held the earth for one hundred and fifty days.] (*Genesis*, chap. VII.)

²⁶³His qui in carcere erant spiritibus veniens predicavit, qui increduli fuerunt aliquando quando expectabant Dei patientiam in diebus Noë, cum fabricaretur arca, in qua pauci, id est octo animæ salvæ factæ sunt per aquam. [Coming, he preached to the spirits who were in prison, who had once been unbelieving when they awaited God's patience in the days of Noah, while the ark was being built, in which a few—that is, eight souls—were saved through water.] (*First Epistle of Saint Peter*, chap. III, v. 20.)

²⁶⁴Discourse on Universal History.

Against these testimonies, the defense of Vossius by Mabillon and the silence of the Congregation of the Index are cited. “Theologians teach that the flood was not of an absolute universality (*one ought to cite these theologians!*). It is known that Father Mabillon maintained this thesis before the Congregation of the Index at Rome, and that the assembly, composed of nine cardinals, sided with the opinion of the able defender of Vossius.²⁶⁵”

Father Tournemine says, on the contrary, that Mabillon’s counsel

[French p. 322] was not followed, and that Rome condemned the opinion of Vossius.²⁶⁶

In order better to elucidate this question, concerning which the various accounts we have read lack exactitude, we are going to give one that presents every guarantee of truth: the one that Monsieur the Chevalier Drach copied at Rome while he was fulfilling there the functions of librarian of the Propaganda.

Note on the *Votum Joannis Mabillonii* [*Opinion of John Mabillon*] concerning the question of the Universality of the flood.

Mabillon was in Rome at the time when the various writings of Vossius against the universality of the flood were attracting the attention of the learned world in 1685. The consultors of the Sacred Congregation of the Index asked Mabillon to draw up for them a memorandum on the opinion of Vossius.

The learned Benedictine set forth to them the reasons that could be alleged against Vossius, and at the same time those that could be adduced to excuse him. He observed that his opinion contains no capital error, either against the faith or against good morals; that Vossius proposed this system only in order to answer more easily the objections of unbelievers who make use of what is said about the universality of the flood to destroy the authority of the Holy Scriptures;

[French p. 323] that Vossius says nothing insulting against the Catholic Church or against the opinion he combats, but that he simply proposes his own as more probable; that it is useful to receive in the Church, or at least to tolerate, diverse senses in the explanation of Scripture, provided that they are not contrary to the manifest authority of the holy books and of the Church; that these expressions—*the whole earth, all the mountains, all flesh*—may be taken restrictively, and are taken so often enough in Scripture; that certain Catholic Doctors, such as Cajetan, believed that the mountain upon which they suppose the terrestrial paradise to be situated was not covered by the waters of the flood; that this opinion of Vossius, having until now caused no disturbance among Catholics, and having been attacked only by Protestants, presents no danger in being tolerated, and that it is better to leave it uncensured than to involve oneself in the disputes in which the Protestants engage; that, in any event, if the Congregation wishes to stigmatize this opinion by a censure, it must also censure the refutation of it made by Georges Hornius, on account of the insulting discourses he holds against the Catholic Church and the sovereign pontiff.

Such is the summary of the celebrated religious’s *Votum*.

“It would be easy to show,” the learned Hebraist continues, “that all of Vossius’s objections against the universality of the flood can be opposed to his own system. The universality of the flood is

[French p. 324] a tradition of the ancient Church, as also of that established by our divine Savior. A logical man will always prefer the obvious sense of the texts to all the subtleties that make him shrug his shoulders.

“Father de Ligny laid down an excellent rule in replying to certain contentious minds: ‘Can one say more explicitly that the Word was God than by saying: *And the Word was God?* Likewise, can one say more clearly that the flood was universal both for the whole earth and for the destruction of men than in the following texts: *And the waters, having*

²⁶⁵ *View of the Work of Creation by a Friend of Truth.*

²⁶⁶ See in the *Bible de Venice* the dissertation on the *Universality of the Flood*.

increased, raised the ark on high above the earth. They covered the whole surface of the earth. All the highest mountains that are beneath the whole extent of heaven were covered. The water, having reached the summit of the mountains, rose yet fifteen cubits higher. All the creatures that were upon the earth, from man to the beasts, all perished from upon the earth; there remained only Noah and those who were with him in the ark.

“It is notorious that at the *beginning*, as the Psalmist says poetically (chap. IV, 6.—I follow the Hebrew text), the abyss enveloped the earth like a garment, and that the waters stood above the mountains. Half of these waters was raised above the firmament. To form the flood, the master of the earth therefore had only to restore the earth to the state of the first Genesial day. And, indeed, not only were the seas given permission to cross the limits that had been set for them, but

[French p. 325] the cataracts of heaven gave passage to the waters retained above the firmament. Be silent, then, gentlemen physicists; here your science is nothing, and all your dissertations fall into the water.”

But although the universality of the flood has been the object of several attacks, we do not believe that any of our adversaries has sought to give himself a proper account of the effects of this general inundation with respect to geological phenomena, particularly the formation of sedimentary mountains and that of fossils. One nevertheless remains convinced that it played a great role therein when one studies in all its details this event unique in history.

Let us first represent to ourselves these vast oceans issuing from their bed and spreading violently over the continents: *Vehementes enim inundaverunt aquæ* [For the waters inundated mightily]; this enormous mass of the upper and lower waters united, and holding in solution or suspension innumerable siliceous, calcareous, argillaceous, and carbonaceous elements; carrying, with its impetuous waves, stones of all kinds and all sizes, sands, marine and terrestrial shells, plants, and the drowned cadavers of all the inhabitants of the earth, men and animals; and this immense tide, eight to ten kilometers in height, rising and falling laden with this prodigious quantity of materials, of rocks of outpouring, of mountain debris, of diluted earths, of old deposits formed within it, invading the globe in every

[French p. 326] direction: *Euntes et redeuntes aquæ* [The waters going and returning], through a thousand crevasses, for nearly two hundred days; for they did not begin to diminish until after one hundred and fifty days: *Et aquæ cæperunt minui post centum et quinquaginta dies* [And the waters began to diminish after one hundred and fifty days].

These upheavals would attain an even greater development if one admitted what is not devoid of probability, and what serious authors maintain, namely that the physical cause of the flood was the stopping of the globe's rotation upon its axis.²⁶⁷

Indeed, God himself seems to indicate it to us,

[French p. 327] when, renewing his covenant with men, he reassures them concerning the future and says to them: “As long as the earth subsists, sowings and harvests, cold and heat, summer and winter, night and day, will succeed one another without interruption.²⁶⁸” This was to say openly that this succession had been suspended during the flood, and consequently also the movement and rotation of the earth, which is its sole cause. But if this stoppage had been

²⁶⁷Others indicate, as the physical cause of the flood, the displacement of the earth's axis, which ceased to be parallel with that of the sun: “The position of the terrestrial globe with respect to the sun,” says Frédéric Klée, “was *evidently* different in primitive times from what it is today; and this difference must have been caused by the displacement of the earth's axis of rotation” (*On the Flood*, p. 70). This scientific opinion is in conformity with the vision of the flood with which Noah was favored, according to the prophet Enoch in his book, translated for the first time by Monsieur the Chevalier Drach, where we read: “In those days Noah saw that the earth was inclined and that destruction was approaching; then he came to Enoch and cried out to him three times in a loud voice: Listen to me, listen to me, listen to me; teach me what is happening upon the earth, for the earth labors and finds itself mightily shaken.” We know well that this book is apocryphal, but the apostle Saint Jude gives it great authority by pointing it out as “having spoken the truth about the things of which I have just spoken.” (Epistle, v. 14.) But in both the one and the other hypothesis, the effects must have been nearly the same.

²⁶⁸*Cunctis diebus terre, sementis et missis, frigus et æstus, æstas et hiems, nox et dies, non requiescent.* [During all the days of the earth, sowing and harvest, cold and heat, summer and winter, night and day, shall not cease.] (*Genesis*, chap. VIII, v. 22.)

the cause of the flood, its effects must necessarily have been incalculable. It is known that, by virtue of this rotation, the earth is not exactly round; its diameter at the equator is thirteen or fourteen leagues greater than the diameter that goes from one pole to the other; that, consequently, in order to resume its spherical form, the globe must swell by six to seven leagues at each pole and sink by as much in the equatorial region; and that, on the contrary, in order to return to its state of flattened spheroid, it must swell in its equinoctial region and sink in the same proportion at the two poles. The stopping of the diurnal movement therefore caused the swelling of the globe at the equator to disappear, while at the same time it raised the poles; and hence a movement of lowering and rising by which the earth tended to resume its primitive spherical form. The solid crust

[French p. 328] sank seven leagues upon the equatorial line in going toward the poles; there, on the contrary, it swelled by as much. Between the equator and the poles there was therefore an immense series of crevasses, sinkings, upheavals, dislocations, materials cast from the interior to the surface or precipitated from the surface into the interior. And if one attends to the fact that these effects occurred at the same time as the oceans, driven from their bed, were spreading violently over the continents, one will be able to form an idea of the transformation that its physiognomy must have undergone.²⁶⁹

It is necessary to observe, in the second place, the nature of the diluvial waters, and not to assimilate them to the waters of the present seas: this would be a great error. The convulsions of the globe at that epoch must have produced a multitude of crevasses through which gases and acids of every kind escaped, along with solutions of sulfur, magnesia, silica, etc., which, in identifying themselves with the waters, also raised their

[French p. 329] temperature. The waters of the flood were therefore in the same condition as volcanic and mineral waters; and since hard rocks are formed daily in these waters, some must likewise have formed in the waters of the universal flood.

In studying this great fact under these aspects and under still others, one will naturally be led to recognize it as the cause—not the sole, but the principal cause—of the formation of our sedimentary rocks, through the deposits of minerals, plants, and animals that the waters left upon the continent during and after their sojourn. If the hardness of these rocks, which the diluvial deposits could not have attained, is objected, let it be recalled that all calcareous formations, even the most marly and the least compact, contain silica, whose lapidifying property was demonstrated by Berzelius in his fine study of this mineral, and by the architects who use it every day for constructions in water; cements and various mortars owe only to silica this facility of hardening even under water. In 1828, silicon was found in its native state in Carrara marble, which solidified instantaneously upon contact with the air.

[French p. 330]

CHAPTER III

The Flood of Ogyges or Deucalion.

Independently of the universal flood, if we believe the traditions of the Greeks, the Hebrews, and the Egyptians, there is another, partial one, whose waters would have overturned a part of the globe. This flood is called the flood of Deucalion by the Hellenes, that of Ogyges by the inhabitants of Attica, and *of one day and one night* by the Egyptians, because it lasted only twenty-four hours. The writers who attest it, with details whose developments do not seem to leave room for doubt, are too respectable for it to be permissible to see in it only a fable of Oriental mythology.

²⁶⁹This hypothesis would also explain the difficulty of finding human fossils in Europe.

By virtue of the laws of hydrostatics, the diluvial current, having proceeded from west to east, it is in the deposits of Asia, Tartary, and China that their bed must be found, if indeed any vestiges of them could have remained. Rolled and tossed against all the obstacles they encountered, struck without cease by the minerals and plants with which they traveled, human cadavers must have been destroyed or worn away to the point of becoming unrecognizable.

We shall first cite Plato, who says in his *Timaeus*: “It appears that after the flood and the earthquake [French p. 331], there was a cataclysm of one day and one night; an entire race of warlike men was swallowed up in the earth, and the Atlantic island, entirely submerged by the waves of the sea, disappeared altogether. This is why this strait is difficult to cross, because of the accumulation of materials arising from the destruction of that great island, which the sea carried there.²⁷⁰”

In the *Chronology of Axum*, the oldest collection of the antiquities of this part of Africa, according to Bruce, and whose authenticity is reputed respectable, it is said that Abyssinia was submerged by a flood whose effects were such that the country took from it the name *Ouré-Midre*, that is, devastated country.

Apollodorus relates that the flood of Deucalion was great; the tradition of Phrygia supposes that it extended over Asia Minor, and Diodorus of Sicily thinks that it might well have invaded as far as Upper Asia.²⁷¹

But here is a still weightier authority, that of Aristotle. It suffices to read the *Summa* of Saint Thomas [French p. 332] in order to understand the respect, the consideration, the prestige attached to this name. The Angelic Doctor, in citing him frequently, expresses himself in these terms: *Ait philosophus, magister dixit* [The Philosopher says; the master said]: so great was the confidence he had in his teachings. Well then! this prince of philosophers, in the first book of his *Meteorology*, speaks of the flood of Deucalion, of the effects it produced, of the countries it devastated. The details into which he enters, and the epoch in which he lived, do not permit one to doubt that he had in his hands, before his eyes, the irrefutable proofs of this cataclysm. We are going to report some of them:

“There are several countries,” he says, “which, formerly beneath the waters, now belong to dry land, just as the contrary also occurs. This upheaval does not always occur in the same countries; but it sometimes happens as at the time of the flood of Deucalion; for this flood invaded Greece as well as the part of that country which constituted ancient Greece, and in several regions changed the course of the rivers. It is known, indeed, that the Tanais and the Nile have not always had the same bed, and that the one in which they flow was formerly dry.²⁷²”
[French p. 334]

CHAPTER IV

Earthquakes.

It will suffice to report a few examples of these phenomena and of the effects that result from them in order to show that earthquakes have powerfully contributed to modifying the structure of the globe. We shall confine ourselves to the following citations, which we borrow from Monsieur Maupied:

“In 1819, a violent earthquake made itself felt at the mouths of the Indus. The shock propagated itself inland as far as Abénédabad; several cities were overthrown, and the surrounding countries sank over an extent of about twelve

²⁷⁰ *Post autem diluvium et terre motum intemperies extitisset unius noctis et diei spatio, omne illud bellicosorum hominum genus in terram absorptum fuit, illaque Atlantica insula maris fluctibus plane obvoluta omnino disparuit. Unde illud mare trajectu difficile est, cum lutum adhuc copiosum ex insula illius reliquias remanserit.* [But after the flood and the movement of the earth, a tempest had arisen for the space of one night and one day; that entire race of warlike men was swallowed up in the earth, and that Atlantic island, wholly enveloped by the waves of the sea, disappeared altogether. Hence that sea is difficult to traverse, since abundant mud still remained from the relics of that island.] (*Plato in Timæo*. [Plato in the *Timæus*.])

²⁷¹ Cuvier.—Notes on the flood in Lemaire’s classics.

²⁷² *Complura enim sunt quæ cum autem aquosa essent continentium terra gaudent; sed contra res etiam habet. Et illud quidem non in iisdem semper locis fit; sed quo modo diluvium quod Deucalionis tempora evenit; hoc enim per Græciam pervasit, atque ejusdem partem quæ priscam*

[French p. 333] *Græciam constituit; quod multis in locis cursum fluminum mutavit. Constat enim neque Tanaim, neque Nilum semper defluxisse; sed locum unde fluunt aliquando siccum fuisse, etc.* [For there are many things that, although they were watery, now enjoy the land of the continents; but the case also holds contrariwise. And that indeed does not always occur in the same places, but in the manner of the flood that occurred in the times of Deucalion; for this spread through Greece and through the part of it that constituted ancient Greece; it changed the course of the rivers in many places. For it is established that neither the Tanais nor the Nile always flowed, but that the place from which they flow was once dry, etc.] (*Meteorologicorum*, book I, chap. XIV.)

leagues in length by seven in width, and were engulfed by an irruption of the sea. Earthquakes analogous to the preceding are fairly frequent.

[French p. 335] Let us recall only the subsidence of the coast of Arica, in Peru, during the earthquake of 1833; the subversion of the city of Tomboro, in Java, in 1815; the formation of the lakes of the Mississippi valley, around New Madrid, in 1811; the destruction of Lima, of a part of the coast, and of the city of Callao, in 1746. The earthquake of Saint-Domingue, in 1751, caused a sinking on the coast more than twenty leagues in length; in 1755, the famous Lisbon earthquake engulfed beneath the waters the quay, the ships, and a great number of victims; in 1762, horrible inundations took place in Bengal as a result of the Chittagang earthquake; the Calabria earthquake, in 1783, was accompanied by the formation of some fifty new lakes, not including the narrower abysses filled with water. At the same epoch, Hekla also made strong shocks felt, and a new island was seen to emerge from amid the waters, on the coasts of Iceland; in 1751, in the month of July, a mountain collapsed in Savoy, on the side of Sallanche, and caused great ravages.

In 1782, there were violent submarine commotions on the coasts of Formosa. The waves were raised with so much violence that they crossed almost the whole island.

In 1714, the mountain of Diableret, in Valais, collapsed suddenly and all at once.

In 1680, the subsidence of a mountain over

[French p. 336] caverns filled with water caused a great inundation in Ireland.

In 1678, there was a similar one in Gascony, caused by the subsidence of certain parts of the Pyrenees mountains.

In 1618, the city of Pleurs, in Valtellina, was buried beneath the rocks at the foot of which it was situated.

In 1538, an earthquake raised a high hill of elongated form in the Phlegraean Fields, near Pozzuoli: it was called Monte-Nuovo, new mountain.

In 1692, there was a violent earthquake in Jamaica, in the part of Port Royal. The city was partly destroyed and inundated by the waters; two great mountains subsided, and a third split. It is believed in Jamaica that all the mountains are somewhat lowered.

In 1693, the island of Foren was engulfed after a violent earthquake.

In the time of Seneca, after a violent earthquake, the island Thérasine, today Santorini, was seen to emerge from the waves.—Pliny relates that, a short time afterward, another island emerged near Santorini, which was further enlarged by later eruptions; in 1707, this island was shaken by new earthquakes for the space of two months, and new lands appeared at some distance.

[French p. 337] Plato relates that, in the Aegean Sea, Rhodes, Delos, and eleven other islands emerged from the bosom of the seas.

In Ovid's *Metamorphoses* (book XV), Pythagoras relates that near Troezen a mountain had risen in the middle of a plain.

Seneca cites the earthquake of Mount Corycus, which made hitherto unknown springs of water gush forth; the mass of water that formed near Hydesse, in Caria; Tyre, he adds, was sadly celebrated for its collapses; Asia lost twelve cities at once. This mysterious scourge that traverses the world struck Achaia and Macedonia last year.

According to Capitolinus, under Gordian III, there was so violent an earthquake that several cities were engulfed.

Under the consulship of Gallienus and Fortunatus, Trabellius Palion describes an earthquake that made itself felt on all the shores of the Mediterranean and of its gulfs, in Asia Minor, at Rome, and in Libya; the earth opened in a great number of places, and salt water gushed from these openings. The sea covered several cities there.

Under Trajan, says Xiphilinus, the famous earthquake of Antioch took place, which lasted several days, lowered Mount Carasse and several other mountains, caused rivers to appear, and dried up others.

Under Tiberius-Nero, Laodicea, Thyatira, and Chios experienced an earthquake, according to Suetonius.

[French p. 338] Under the reign of Antoninus, there occurred in Bithynia and in the Hellespont a furious earthquake, says Xiphilinus, by which several cities, and Cyzicus among others, were ruined.

Homer depicts Mount Ida, near Troy, as a volcanic mountain whose fires were still active and whose shocks raised the waves of the sea.

The Greek and Latin authors speak of a far greater number of earthquakes, of islands raised up, and of shores invaded by the Mediterranean.“

Let us cite one more example of mountains formed by these phenomena. At six days' march from the city of Mexico there was, in 1759, a fertile and well-cultivated country, where rice, maize, and bananas grew in abundance. In the month of June, frightful earthquakes agitated the ground, and these earthquakes recurred without cease for two whole months. In the night of September 28 to 29, the earth underwent a violent convulsion; a tract of land several leagues in extent rose little by little and ended by attaining a height of fifty feet over a surface of ten square leagues. The ground undulated like the waves of the sea beneath the breath of the tempest; thousands of hillocks rose and sank in turn; finally, a chasm with an opening of nearly three square leagues opened: smoke, fire, burning stones, and ashes were hurled to a prodigious [French p. 339] height. Six mountains arose from this yawning chasm, among which the volcano to which the name *jorullo* was given now rises five hundred and fifty meters above the former plain. [French p. 340]

CHAPTER V

Volcanoes.

At all times volcanoes have modified the physiognomy of the earth. At one time they have covered vast countries with their devastating lavas; at another they have made them disappear through the subsidence of high mountains; elsewhere they have raised the ground over an extent considerable enough to form hills and cones of great elevation. From historical times onward, there are cited principally the eruption of Vesuvius that occurred in the year 79 of the Christian era, which destroyed the cities of Pompeii and Herculaneum and ravaged all Campania; that of Languaraco, which covered a space of twelve leagues with scoriae; that of Iceland, in 1783, which devastated a valley twenty leagues long; the sudden uplift of the country of Cutch in India in 1815, and that of the coasts of Chile in 1822, over an extent of two hundred leagues.

[French p. 341] The volcano of Popadajan, on the island of Java, buried itself in 1772, together with forty villages built upon its flanks, and was replaced by a lake several kilometers in diameter. One will doubtless form a very incomplete idea of the upheavals produced by volcanoes when one learns that approximately two hundred and five volcanoes currently active are counted upon the globe: one hundred and seven on islands and ninety-eight on continents, without counting the extinct and submarine volcanoes, which are believed to be very numerous.

Thus, it is well demonstrated that at every historical epoch the igneous cause has never ceased to modify the structure of the globe through earthquakes and volcanoes, which have produced subsidences and uplifts, dislocations and the drying up of lakes, rivers, and streams. All these phenomena have been able to form the high calcareous, argillaceous,

gypsiferous, bituminous mountains, etc.; and since there is scarcely a country that has not been ravaged by these causes, one may judge how greatly they must have influenced the configuration of the globe in its various parts.

[French p. 342]

CHAPTER VI

Alluvia and Accretions.

To all these causes of upheavals and formations produced by igneous action are joined the aqueous causes, that is, the waters of the seas, lakes, and rivers; the subterranean waters, which, arriving at the surface laden with different materials—with sulfur, limestone, silica, etc.—leave there more or less considerable deposits of travertines or tuffs, of millstone rocks, etc., whose beds sometimes have a considerable thickness.

Alluvia and accretions have also furnished their share, and a fairly large share, in the formation of sedimentary terrains. We have, among other remarkable examples of them, that of the accretions of the Mississippi, of which we have already spoken. A conscientious study made by Monsieur de

[French p. 343] Serres on the delta of this river and on the date of its formation, a study of which *Le Monde* has given us an account, permits us to calculate the power of fluvial alluvia. Here is the result of these learned researches:

“We have already made clear in our *Cosmogony* how inaccurate are the calculations upon which reliance has been placed in order to give a high antiquity to the formation of the Mississippi delta. It results from the most positive facts that the alluvia which contribute to the accumulation of the lands of this delta, instead of effecting their deposits with excessive slowness, proceed, on the contrary, with the greatest activity. It had even been supposed that the alluvia had not advanced into the sea, during the one hundred and twenty years preceding the present epoch, by more than one mile, which would give less than fifteen meters per year; whereas the real progress is at least four or five times more rapid....

“As a result, the frontal advance of the alluvia of the Mississippi appears to take place at the rate of one hundred meters per year, and of one mile every sixteen years, at least if one adheres to the average of one hundred and thirty years of hydrographic observations. Thus the river has been able, within the memory of man, to form a vast territory at the surface of the ground, and, through this work, to initiate us into the entire formation of its delta.... It is therefore evident to us that the formation of this delta, like so many other physical facts that have been referred, but

[French p. 344] without proofs, to a high antiquity, belongs nevertheless to recent times.²⁷³”

We shall not end this chapter without making an observation that appears important to us concerning the waters of the seas and the mineral and animal materials they contain. To calculate their depth, we have data that cannot depart greatly from the truth. The estimate made of it by Laplace in his *Theory of the Tides* fixes the average at four thousand meters: yet it has not been possible to touch the bottom, because the sounding lead always ends by floating, both because of the weight of the line, which finally prevails over that of the cylinder, and because of the increasing density of the liquid. What is this density of the seas at great depths? It would be impossible to say; but there is reason to think that it must be very considerable, if one judges by the density established at the surface and by the maximum depth of the Ocean, which is seven to eight thousand meters. According to all the data one possesses, it may be asserted without exaggeration that [the water] is found there in the state of mud, mixed with a great quantity of mineral, argillaceous, calcareous, siliceous substances, etc., with detritus of organized beings, and populated by those beings that are no longer found except among the fossils of sedimentary terrains.

And let the force of marine currents not be opposed to this accumulation of

²⁷³See the whole article in *Le Monde*, issue of February 8, 1861.

[French p. 345] materials; none of these currents, not even the great equatorial current, reaches the deep layers of the Ocean; their impulse is exerted at the surface or at shallow depths; the extremities of the abyss escape their action.

What is happening now in the Baltic Sea proves this assertion. It has been observed that, for centuries, the bottom of this sea has not ceased to rise, as a result of the constant deposit made there of a mass of tests and calcareous shells. This modern phenomenon, which we catch, so to speak, in the act, places before our eyes the positive explanation of the manner in which fossiliferous terrains were formed in the ancient world.

Let us now suppose that a violent earthquake or an immense volcano comes to raise the shoals of a sea—which has happened many times—and to displace its bed: is it not evident that these bottoms, thus emerged, formed of clay, limestone, and silica, and kneaded with organic debris, would constitute hills and fossiliferous mountains, whose terrains, pasty at first, would solidify and transform themselves into limestone, in a more or less long time, through the agglomeration of the enormous quantity of silica proceeding from the transudation of shell-bearing animals, which secrete much of it and whose number is prodigious? And what physicist will be able to maintain that, for operations of this kind, three or four thousand years would not suffice?

[French p. 346] We also find in these uplifts of the seas the explanation of the phenomena presented to us by the upper beds of the lower Cretaceous terrains, whose limestones and sandstones, and even trees, are perforated by shipworms and pholads. It is evident that the work was done by these mollusks in marine deposits that some cause subsequently raised.

To corroborate our assessments on this subject, we shall cite the conclusions that the learned de Lamétherie drew from the simultaneous action of the igneous causes and the aqueous causes—which he regarded as synchronous with the former—for the formation of terrains, mountains, and valleys.

“If several flat beds are superposed,” he says, “and an internal force raises them and forms a mountain from them, they break; they everywhere present fissures and ruins, and will not present themselves in a vertical position over a great extent.... It must therefore be acknowledged that most vertical or oblique beds were formed as they are.... It is the same with contorted beds that are whole, without tearing.

“Let one observe,” he adds, “the deposits made by muddy waters; for example, those of rivers such as the Saône, the Seine, etc., whose waters, in times of their floods, are turbid and carry much clay, marl, and limestone; one will see that this clay, this marl, and this limestone

[French p. 347] are deposited indiscriminately upon all sorts of terrains; and that these deposits are of the same thickness both in places whose surface is level and upon hillsides whose surface is inclined. Now, upon these latter hillsides, the deposits form conical beds. Let these facts be borne in mind, and one will easily conceive the formation of mountains.²⁷⁴”

We shall not enter into more ample developments; that is not our task. We do no more than indicate, in broad strokes, the causes that have contributed to the present structure of the globe. These causes have always acted; they still act, although with a much lesser intensity. Let them be studied without prejudices, without preconceived ideas, without prepossessions, with the conviction that therein lies the secret of the phenomena we observe, without having recourse to fantastic laws to explain what they do not explain. This is the candid admission that a partisan of the periods made to us recently, after a long discussion: “In the final analysis,” he said to us, “I believe that you are right. These periods, which were supposed to cast a vivid light upon the organization of the globe, in reality explain nothing!”

²⁷⁴*Theory of the Earth.*

CONCLUSION

We are approaching the end of these studies.

To demolish a fabulous antiquity of the world, from which ignorance and bad faith can deduce heterodox consequences, by giving to its origin its true date, which God himself revealed to us;²⁷⁵ to impart, in the feeble measure of our

[French p. 350] powers, a new impetus to the progress of geogeny, by discovering the fundamental error fatally accepted by science, and which has until now been its point of departure: such is the aim that we set ourselves in undertaking them.

Have we attained this twofold aim, religious and scientific? We are not without hope, notably as regards Christian scholars. On the one hand, from the human point of view, good sense and logic confer the right, and even impose the duty, to reject every fact that is not marked with the fourfold seal of history, traditions, testimonies, and monuments; and we have established that all these authorities reject this hypothetical world, these successive revolutions, these unlimited periods that science has created gratuitously in order to make up for its humiliating impotence. On the other hand, from the religious point of view, the proofs that we have accumulated against these systems have attained the proportions and the authority of a rigorous and unassailable demonstration.

Theologically speaking, the question is therefore judged, it is finished: *Causa finita est* [The case is finished]. But if these systems are condemned by theology, one may affirm with certainty that they are false, considered in themselves and as scientific facts. For there is a dogmatic axiom that concerns the sciences to a very high degree, and upon which one cannot meditate too much; it is this: *No system can be true in philosophy, in*

[French p. 351] *physics, in astronomy, in any science whatsoever, if it is false in theology.*

Without doubt, in admitting the cosmogony of Moses as we have presented it, we shall still encounter obscure aspects, inaccessible heights, unfathomable depths, insoluble difficulties; but, having arrived before these impenetrable mysteries, nothing remains for us but to humble our brow before creative omnipotence, following the example of the venerable historian of these primitive revelations.

END OF THE COSMOGONY OF MOSES.

²⁷⁵A letter communicated to us at this moment justifies this assessment. This letter, handed to one of our Fathers after his sermon, contains several objections against religion, among others this one: "It is said that the world is of a date so ancient that that of 5863 would be of only imperceptible importance. What would prove it are the fossils that are found at unheard-of depths, which the flood could not have made, and which must be only the effect of a cataclysm. And if that is so, how can one believe that Adam is the first man and Eve the first woman?"

APPENDIX

We were correcting the final proofs of this work when the learned review *Mondes*, edited by Abbé Moigno, brought us the news of the discovery that Monsieur de Perthes had just made of a fossil human jaw. We shall report the account that Monsieur de Quatrefages gave of it to the Academy of Sciences at its session of Monday, April 20, 1863, and which Monsieur Moigno summarizes in the following manner in the issue of April 23.

—Monsieur de Quatrefages takes the floor with keen animation to announce the event of the day, the discovery, at Abbeville, of the first human fossil. We shall first publish the official record of the findings in which Monsieur de Quatrefages took part with one of our celebrated friends, Monsieur Carpenter; we shall then analyze his reading.

“Abbé Bourgeois, professor of philosophy and natural history at the college of Pont-Levoy, who came to Abbeville on the 10th of the present April; Doctor Carpenter, vice-president

[French p. 354] of the Royal Society of London; Doctor Félix Garrigou, member of the Geological Society of France, and Doctor Falconer, member of the Royal Society of England and of the Geological Society of London, who arrived on the 14th; Monsieur de Quatrefages, member of the Institute, professor of anthropology at the Museum of Natural History in Paris, who arrived on the 15th, have unanimously confirmed the opinion of the members of the Society of Emulation and declared that this jaw was fossil, that it was a human jaw, and that it presented differences from the present race. These gentlemen, after having verified the bank and the place from which Monsieur Boucher de Perthes had removed the fossil jaw, recognized that this bank was virgin, or undisturbed, and that the fossil origin of this jaw presented no doubt. On the 14th, Doctor Falconer and Doctor Garrigou; on the 15th, Monsieur de Quatrefages; on the 16th, Monsieur Buteux of Abbeville and Monsieur Brady of London, in their turn removed flint axes from the diluvial layer of black sand resting upon the chalk.

“Monsieur de Perthes discovered on the same day, in the layer of yellow sand of the same bank, three and a half meters from the surface, two fragments of bone that Messieurs Falconer and de Quatrefages immediately recognized as pieces of a mammoth tooth (*Elephas primigenius*). Finally, Monsieur Boucher de Perthes, in a mass of bones that he collected at Menchicourt in the first days of April, at a depth of eight meters in Monsieur Dufour’s sandpit, noticed a fragment of a human jaw and six detached teeth, which, despite their appearance of freshness, Doctor Falconer declared, pending a fuller examination with which he was going to occupy himself, to be fossil teeth, and certainly human, but belonging to a race closer to ours than the jaw of Moulin-Quignon. Monsieur de Quatrefages was present.

“Monsieur Boucher de Perthes, in his book *Diluvial Antiquities*, said in 1847 that one day these antediluvian hatchets, then so rare and in which no one believed, would be found everywhere. This prediction has been verified. He added [French p. 355] that it would be the same with human fossils; we are tempted to believe that here again Monsieur Boucher de Perthes predicted correctly. But what struck us above all is that he had also announced that, when this fossil man was found, he would present, like all the other antediluvian mammals, some difference of conformation from present individuals. The form of the jaw of the fossil man of Moulin-Quignon appears once again to prove him right.”

Monsieur de Quatrefages affirms that the jaw has not been rolled, and that it has not come from far away. At first sight, one might believe in some characteristic signs of a distinct race: indeed, the horizontal branch and the ascending branch form an extremely open angle with one another; the fourth molar, which alone remains, is slightly inclined; finally, a groove or channel is observed upon the jaw. But, on looking closely, these three peculiarities are found in a certain number of jaws of present races, and the incisors are implanted perpendicularly, as in the most frankly orthognathous races, or which are in direct relation with the primitive race. The Negro race is essentially a prognathous race, which could not have numbered the white race among its ancestors; it is perhaps likewise with

the white race, in the sense that the primitive race is intermediate between the white race and the Negro race. Monsieur de Quatrefages, assisted by Monsieur Pruner-Bey, compared the jaws of Abbeville with the jaws found by Monsieur de Vibraye in the cave of Arcy and by Monsieur Lartet in the cave of Aurignac, and he concluded from this comparison that these three specimens presented numerous points of resemblance with one another, with slight differences. The Abbeville jaw, one of whose teeth had been destroyed by caries, belonged to an aged individual, of small stature or of a stature barely equal to the average; it is rather weak than strong, and presents nothing ferocious, nothing that justifies the opinion that man issued from the ape.

[French p. 356] Monsieur de Quatrefages often repeats that what is at issue here is still only a first glimpse; that he in no way claims to affirm that fossil man has really been found; that he recuses himself completely with regard to the geological question; that he knows perfectly well that geologists are divided over the antiquity of these deposits of sands, of these diluvium, etc.... It is easy to foresee that this first success will soon bring others; but, says the learned professor of anthropology in conclusion, whatever scientific riches may be brought to light, it would be a crying injustice to forget that it is to the ardent convictions, to the indefatigable perseverance of Monsieur Boucher de Perthes, that this double discovery of the axes and of fossil man will have been owed—one of the most important, assuredly, that the natural sciences can make.

TEXTUAL NOTES

- The blank preliminary leaves represented by primary PDF pp. 12 and 14 are omitted from this reading edition.
- [French p. 100], [French p. 348], and [French p. 352] are blank in the source and are omitted from the body.
- At French p. 135, the source prints a stray opening parenthesis after “POINT” in the Part Three heading.
- At French p. 137, the running header prints the incomplete page number “13.”
- French p. 151 contains only the continuation and conclusion of note 15; the full note is given at its first reference.
- At French p. 228, the body heading prints “CHAPTER IV.” The chapter sequence and the source table of chapters identify it as Chapter V; the heading is therefore corrected to “CHAPTER V” in this edition.