Fray Luis de Granada, O.P.

INTRODUCTION OF THE SYMBOL OF FAITH

Part One — Of the Creation of the World

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TABLE OF CONTENTS

The Index of Chapters · 3
Introduction · 4
Chapter I. Of the fruit that is drawn from the consideration of the works of nature. And of how the saints joined this consideration with that of the works of grace · 10
Chapter II. There follows a devout meditation, in which it is declared that, although God is incomprehensible, nevertheless something of him is known by consideration of the works of his hands, which are his creatures · 15
Chapter III. Of the foundations that the philosophers had for attaining by natural light that there is God · 18
Chapter IV. Of the consideration of the greater world and of its most principal parts · 29
Chapter V. Of the sun and of its effects and beauty · 31
Chapter VI. Of the four elements or elemental region · 36
Chapter VII. Of the element of air · 37
Chapter VIII. Of the element of water · 40
Chapter IX. Of the fourth element, which is the earth · 42
Chapter X. Of the fertility and plants and fruits of the earth · 44
Chapter XI. Preamble for beginning to treat of the animals, chiefly of those that they call perfect · 52
Chapter XII. Of the common properties of animals · 53
Chapter XIII. Of the particular abilities and faculties that all animals have for their conservation · 58
Chapter XIV. Of the abilities that animals have for maintaining themselves · 59
Chapter XV. Of the abilities that animals have for curing themselves in their illnesses · 68
Chapter XVI. Of the abilities and arms that animals have for defending themselves · 70
Chapter XVII. Of the abilities and faculties that divine providence gave to all animals for the rearing of their children · 76
Chapter XVIII. How the wisdom and providence of the Creator shines forth more in small things than in great · 80
Chapter XIX. Of the fruit of bees and of the worm that makes silk · 87
Chapter XX. Of the republic and order of the bees · 87
Chapter XXI. Of the worms that spin silk · 92
Chapter XXII. Of other very notable properties of diverse animals · 94
Chapter XXIII. Prologue on the fabric and principal parts of the lesser world, which is man · 101
Chapter XXIV. Of the fabric and frame of the human body upon the bones · 105
Chapter XXV. Of some general notices that it is fitting to presuppose in order to treat of the first faculty of our soul, which pertains to the nutrition and sustentation of the body · 107
Chapter XXVI. Of the members necessary for the digestion and purification of food · 109
Chapter XXVII. Introduction for treating of the sensitive soul and of the animal spirits · 117
Chapter XXVIII. Of the animal spirits that are engendered in the head · 119
Chapter XXIX. Of the interior senses that are in the head · 121
Chapter XXX. Of the five exterior senses, and first of the eyes · 122
Chapter XXXI. What tully says of the exterior senses of our body · 125
Chapter XXXII. Of the fittingness of the other exterior parts of our body · 126
Chapter XXXIII. Of the affective part of the sensitive soul, that is: of the passions and affections that are in our heart · 128
[Supplied Missing Source: Chapter XXXIV] · 131
Chapter XXXIV. Of the intellective soul and of its offices · 131
Chapter XXXV. For how many reasons man is said to be made to the Image and Likeness of God · 132
Chapter XXXVI. Of the special providence that our Lord has of human things · 135
Chapter XXXVII. Of the immensity and greatness of the divine perfections by the testimony of the Holy scriptures · 143
Chapter XXXVIII. Of the immensity and greatness of the perfections of our Lord God as it is gathered from the greatness of his works · 147

The Index of Chapters

Chapter I. Of the fruit that is drawn from the consideration of the works of nature. And of how the saints joined this consideration with that of the works of grace

Chapter II. There follows a devout meditation, in which it is declared that, although God is incomprehensible, nevertheless something of him is known by consideration of the works of his hands, which are his creatures

Chapter III. Of the foundations that the philosophers had for attaining by natural light that there is God

Chapter IV. Of the consideration of the greater world and of its most principal parts

Chapter V. Of the sun and of its effects and beauty

Chapter VI. Of the four elements or elemental region

Chapter VII. Of the element of air

Chapter VIII. Of the element of water

Chapter IX. Of the fourth element, which is the earth

Chapter X. Of the fertility and plants and fruits of the earth

Chapter XI. Preamble for beginning to treat of the animals, chiefly of those that they call perfect

Chapter XII. Of the common properties of animals

Chapter XIII. Of the particular abilities and faculties that all animals have for their conservation

Chapter XIV. Of the abilities that animals have for maintaining themselves

Chapter XV. Of the abilities that animals have for curing themselves in their illnesses

Chapter XVI. Of the abilities and arms that animals have for defending themselves

Chapter XVII. Of the abilities and faculties that divine providence gave to all animals for the rearing of their children

Chapter XVIII. How the wisdom and providence of the Creator shines forth more in small things than in great

Chapter XIX. Of the fruit of bees and of the worm that makes silk

Chapter XX. Of the republic and order of the bees

Chapter XXI. Of the worms that spin silk

Chapter XXII. Of other very notable properties of diverse animals

Chapter XXIII. Prologue on the fabric and principal parts of the lesser world, which is man

Chapter XXIV. Of the fabric and frame of the human body upon the bones

Chapter XXV. Of some general notices that it is fitting to presuppose in order to treat of the first faculty of our soul, which pertains to the nutrition and sustentation of the body

Chapter XXVI. Of the members necessary for the digestion and purification of food

Chapter XXVII. Introduction for treating of the sensitive soul and of the animal spirits

Chapter XXVIII. Of the animal spirits that are engendered in the head

Chapter XXIX. Of the interior senses that are in the head

Chapter XXX. Of the five exterior senses, and first of the eyes

Chapter XXXI. What tully says of the exterior senses of our body

Chapter XXXII. Of the fittingness of the other exterior parts of our body

Chapter XXXIII. Of the affective part of the sensitive soul, that is: of the passions and affections that are in our heart

Chapter XXXIV. Of the intellective soul and of its offices

Chapter XXXV. For how many reasons man is said to be made to the Image and Likeness of God

Chapter XXXVI. Of the special providence that our Lord has of human things

Chapter XXXVII. Of the immensity and greatness of the divine perfections by the testimony of the Holy scriptures

Chapter XXXVIII. Of the immensity and greatness of the perfections of our Lord God as it is gathered from the greatness of his works

Introduction

To the most illustrious and most reverend lord Don Gaspar de Quiroga: Archbishop of Toledo, Primate of the Spains, Chancellor Major, Inquisitor General, and of the Council of State of His Majesty, etc.

To the Christian Reader

Some virtuous persons have asked me, at times, Most Illustrious and Most Reverend Lord, to write a catechism in which I should declare the articles of our holy catholic faith, with all the rest that Christian doctrine contains, which every faithful Christian is obliged to know. But considering that other better minds have taken this in hand, it did not seem to me that I ought to spend time in writing what was already so well written by others. It seemed to me only to add to the catechisms already made a somewhat ample introduction, so that the principal mysteries of our faith might be better understood and affectionately felt, which are the work of the Creation of the world and the Redemption of the human race, which are the principal part of the catechism and the foundation of all Christian doctrine. For just as the heaven moves upon the two points, or poles as they call them, of the world, so this heavenly doctrine is founded upon these two such principal works of God, since from here the rest proceeds and, together with this, other principal mysteries that belong to this doctrine are also declared. And because the knowledge of these mysteries must be by faith (which the first word of the Symbol denotes, which is I believe), it seemed to me it would be just to treat of the excellences of our most holy faith and religion, so that by this means its professors may see the great treasures and riches that are enclosed in it, and may give thanks to the Lord who made them participants in this so great good. Of these excellences the Second Part of this book treats, and of the work of the Creation of the world in this First, and of the Redemption of the human race, which is a more divine work, in the Third and Fourth, which are the last. And although this doctrine is necessary at all times (since the apostle Saint Peter commands us to be prepared to give a reason for the faith that we profess), yet in this time this seems to be more necessary, where the catholic faith and the little ship of Saint Peter has suffered so many storms, as all the world knows and laments. And given the case that these kingdoms of Spain, by the mercy of God, and the protection of the Catholic and Royal Majesty, and by the providence of the Holy Office, of which Your Most Illustrious Lordship has singular care, are pure and clean of this pestilence (and thus we hope they will always be), nevertheless, because the sound of the heresies that run abroad cannot fail to reach our ears, it will not be beside the purpose to enlighten and confirm the souls of the faithful in this holy faith, declaring to them the excellence, the beauty, and the most sweet agreements and consonances that are in it, so that by this means they may be more firm and constant in the confession of the faith, and may

enjoy that marvelous fruit of which the Apostle wishes us to be participants, when he says that God give to our souls a peace and a spiritual joy, believing the mysteries of the faith, so that thus there may grow in us (as he says) the hope of glory and the power of the Holy Spirit.

But given the case that this writing (a declarer of the truth) is a condemnation of the falsehoods and errors of the heretics, we shall not make mention of them here, because it is not fitting to give the common people breakfast on these deceits, for he will be farther from falling into them who does not even have notice of them. Nor is it my intent, either, to prove the mysteries of the faith by human reasons, since their firmness is not founded on these reasons, but on the light of faith, by means of which the Holy Spirit inclines and moves our understanding to hold the articles of the faith as certain and infallible, as things revealed by the first Truth, which neither can deceive nor be deceived.

This doctrine will serve (among other things) to extirpate one of the greatest deceits that now run in the world. Which is so much the greater the more it covers itself with the color and cloak of truth. For it is a common thing for those who wish to give poison to drink to compound it with some savory liquor, so that it may be drunk with less suspicion. And in this way wicked Mahomet, praising and raising above the heavens the person of our Savior, and confessing that he had a great advantage over him, and magnifying the dignity and holiness of the most sacred Virgin his mother, deceived a great part of Christendom, and with this opened doors for it to all sensual delights, which he not only conceded in this life, but also promised as reward in the other. In this manner the heretics of our times (as people guided by this same spirit of falsehood) have given the poison of their errors to drink with the bait of one of the highest truths and mysteries that the Christian religion professes. For we all know that among all the works that the divine Goodness and Wisdom has wrought in this world, the highest, the most divine, the most health-giving, the most sweet and admirable, and the one that gives us the clearest news of the ineffable goodness and mercy of our Lord God, and most consoles souls, and provokes them to love him and to place all their confidence in him, is the work of the Incarnation and Passion of his only-begotten Son. Therefore, since this matter is so pleasing to the human heart, they spread the sails in enlarging and amplifying it, accusing the catholics that they do not know how to esteem this divine benefit, and with the bait of this so sweet morsel they enchant the hearts of their hearers, making them believe that the satisfaction and penance that Christ made for the sins of the world is sufficient, without there being need of ours. So that, the foundation of that so great truth being set down, they came to philosophize so badly that, from where they ought to draw motives of greater love toward their Redeemer, more enkindled desires to imitate that most profound humility and most perfect obedience and never-vanquished patience of the Savior, with all the other virtues that shine forth in his sacred Passion, they took an argument for living at their pleasure and excusing all the labor of good works and of penance. And this deceit is not now new, but very ancient and very used, because with this false consolation soulless men make themselves secure in their vices, trusting in the merits of the Passion of Christ and in the goodness and mercy of God, making poison out of the medicine, and drawing darkness out of the light, and taking motives, in order to sin, from what ought to have been a means for more abhorring sin.

Therefore, against this poison, both of heretics and of bad Christians, a piece of this writing will serve as a kind of theriac, in which we shall declare how highly the catholics feel concerning this sovereign mystery of our Redemption, and how much they magnify and enlarge this supreme benefit. But we shall not philosophize so badly as they do, making an argument from the divine Goodness for our wickedness, and taking a motive for sinning from what God did

in order to destroy sin, making use of the torments and of the pains of Christ in order to deliver themselves to the delights and pleasures of the flesh, he having crucified his, not only for our remedy, but also for our example, as the apostle Saint Peter says. And because this doctrine serves for the declaration and confirmation of the principal articles and mysteries of our holy faith, by right it was owed to the person of Your Most Illustrious Lordship (even if there were no other particular reason), since by divine dispensation

the protection and defense of the faith is in your charge, with which we hope that our Lord will preserve it in the sincerity and purity in which it has persevered until now. For the merits and virtues that raised Your Lordship to the highest title and dignity of these kingdoms of Spain, those same will bring it about that, by means of the zeal of your religious providence, the column of the faith may always persevere in its firmness. Gentile writers put great Alexander before Darius, king of the Persians, because Darius was born with the Empire, but Alexander attained it by his valor and effort, because it is a more glorious thing to be great by virtues and merits than by fortune. And this greatness Your Most Illustrious Lordship owes to our Lord, who in this life gave you the merits and together with them the reward for them, while there was being delayed the one that he has kept for you in the other life, which will be greater beyond comparison; may he prosper the Most Illustrious and Most Reverend person and estate of Your Lordship for long times with favors from heaven.

Most Illustrious and Most Reverend Lord,

Servant of Your Most Illustrious Lordship,

Fray Luis de Granada

To the Christian Reader

That the knowledge of God is the principle and foundation of all our happiness and blessedness is very well known to all. This knowledge is the proper and true theology of Christians, which is the queen and mistress of all the sciences. For if (as Aristotle says) that science is higher which treats of a more excellent matter, what thing is more excellent and higher than God? This is that science which God himself praises and magnifies through Jeremiah, saying: "Let not the wise man glory in his wisdom, nor the rich man in his riches, nor the strong man in his strength, but in this let him glory who would wish to glory, which is to have notice and knowledge of me." Therefore this knowledge is (as we say) the highest, most divine, most profitable, most sweet, and most necessary science of all that the human understanding can comprehend. This knowledge the blessed have in heaven by clear vision of the divine essence. But since this has no place in this life, we resort to the consideration of the works of God, which, as works and effects of his goodness and wisdom, give us some notice of the source and cause from which they proceed. Of these works some are of nature, others of grace. Those of nature are the works of Creation, which serve for the sustaining of our bodies, but those of grace belong to the sanctification of our souls, which are many. But the principal one, and the fountain from which all flow, is the work of our Redemption. In which it appears that these two such principal works of our Lord are for us two great books in

which we can read and study all our life, in order to come through them to the knowledge of him and of the greatness and beauty of his perfections, which in these works of his, as in a most pure mirror, shine forth, and together with this give us matter for most sweet contemplation, which is the true pasture and sustenance of souls.

These two so notable works are the principal foundations of the articles of our faith. For by the first of them is declared the first part of the Creed, which belongs to the person of the Father, which is: I believe in God the Father almighty, Creator of heaven and of earth. But by the second is declared the second part of it, which belongs to the person of the Son, and they comprise the articles that belong to his sacred humanity. And thus, these two so principal works having been declared, the greater part of the articles of our faith remains declared. In which it appears that, just as the celestial bodies revolve upon the two poles of the world (which they call Arctic and Antarctic), so all the mysteries and articles of our faith are founded upon these two so principal ones that we mention. And therefore, these being known, the Christian remains sufficiently introduced into the understanding of the mysteries of our holy faith, which is the intent and end of this our Introduction.

And because the first foundation of our faith is that which Saint Paul sets down when he says that "he who comes to God must first believe that there is a God, and that he is a remunerator of those who seek him," for this cause in the First Part of this book we treat of God our Lord, and of his divine providence, and of his greatnesses and perfections, insofar as they are known through created things. In this Part are set down principally the reasons by which the philosophers knew that there was a God, whom they called first mover, first principle, first truth, highest good, and first cause, on which all the other causes depend, and it depends on no one, because it has no superior.

Among these reasons, one of the most accommodated to the capacity of the people is to see the order of this whole world, that is, to see the movements of the heavens (from which proceeds the variety and course of the seasons of the year), so accommodated to the procreation and conservation of things, since each year (which is one revolution of the sun) we have a new birth and creation of animals, and fishes and birds, and new provision and sustenance for us and for them. And the same is declared to us by the skills that the Creator gave to these animals in order to seek their sustenance, and in order to defend themselves from their adversaries, and in order to cure themselves in their illnesses, and in order to raise and maintain offspring. In which divine providence singularly shines forth, which so perfectly and by so many and so diverse ways provided all creatures, however small they may be, with everything necessary for their conservation. In this manner the sheep, and all the other animals, by natural instinct know the herbs that are healthful for them, and the poisonous ones, and they graze on the former and leave the latter. In this manner the cranes, when they are on the road and rest at night, have their sentinel who watches over them with a stone in its hand, in order to awaken if it should fall asleep, and, when it is wakeful, it awakens another companion, so that it may succeed to the same charge. Therefore what shall I say of the skills of the ants, and of the subtlety of the nets and webs that spiders weave, and of the commonwealth of the bees with their king, so well ordered, and of the skill of the worms that breed silk, which is all the ornament of the world?

I

Considering, then, the philosophers these and other similar skills that are seen in creatures, they form this reason, with which they prove that there is in this world a most wise governor who rules it. For we see (they say) that all brute animals do everything that is fitting for their conservation as much to their purpose as if they had reason, and we know that they lack it; therefore we must confess that there is a universal reason and a supreme wisdom, which formed all these animals with such inclinations that, without having reason, they do everything that is fitting for them, as rightly as if they had it. For, putting an example in one thing, in what other way would swallows make their nest, if they had reason, than as they do? And in what other way would they raise their offspring except as they raise them? And in what other way would they divide so equally the labor of breeding except as they divide it? And in what other way would they change airs and regions in their seasons except as they change them?

We have in this matter for light and guide two great saints, who with great study and eloquence wrote upon it, who are Saint Basil and Saint Ambrose, treating in particular of the works of the six days in which our Lord created all things. Which matter they treat, not as philosophers (who intend no more than to give us knowledge of things), but as theologians, showing in them the infinite wisdom of the Maker, who knew how to trace out such things, and that of his omnipotence, which could with only his word make all that he traced out, and that of his goodness and providence, which so perfectly provided all of them with what was necessary for them, from the highest to the lowest, without leaving anything unprovided. And this knowledge serves for admiration and reverence of so great a majesty, and for love of so great a goodness, and for fear and obedience of so great a power and wisdom, and for confidence in so perfect and merciful a providence, because the providence that fails no creature, however small it may be, will not fail that one for whose service it created all the others. This is the fruit, this the doctrine that we draw from reading by the book of creatures by which the saints read, as is declared below.

But the principal intent to which the doctrine of this First Part is ordered is that, having seen these greatnesses of the Creator, we may recognize the great obligation that we have to love, serve, and honor so great a Lord, both because of what he is in himself, and because of the providence and care that he has for us. For as the greatnesses of God and his benefits exceed infinitely the greatnesses and benefits of men, so this obligation, which we have to his love and service, exceeds those that we have to all men.

But since there have been in the world many manners by which men intended to honor God, and many of them superstitious and full of errors and deceits, we say that, after the law of nature and of scripture (which ran their times), there is no other true and perfect religion with which God may be duly honored, except only the Christian faith and religion. And for testimony of this truth serves all the doctrine of the Second Part, which after this follows. So that the preceding Part especially proves that there must be in the world some true religion, with which that sovereign majesty and greatness may be honored. But the Second is employed in declaring how the true and perfect religion is ours, and that there is no other outside it. And this is

proved, not by philosophical reasons and subtlety of arguments, but by declaring the singular excellences that this religion has, and proving that all the things that a perfect religion must have, it has, and all in the highest degree of perfection. So that we do not seek for it false adornments and ornaments outside itself, but it alone with its own honesty and beauty captivates hearts, invites all to be esteemed and loved and held for certain and true.

II

But because the work of Redemption is without comparison greater than that of Creation (and that which by excellence is called the work of God, because it is so worthy of his goodness, in which there is found a sea of greatnesses and marvels), of this we treat in the Third and Fourth Part of this writing, although in a different manner. For in the Third Part (faith being presupposed), proceeding by light of reason, this mystery is treated, declaring that, although our Lord could have redeemed the world by many other means, yet there was none more proportioned nor more fitting, both for the glory of his mercy and justice and for the remedy and cure of our miseries. For which are recounted and declared twenty singular profits and benefits that the world received by power of the most holy Incarnation and Passion of Christ our Savior, which we here call fruits of the tree of the holy cross. After which are set down five dialogues between a disciple and a master, in which are proposed the principal questions that, concerning this divine mystery, human prudence can make, and answer is given to them. This the Third Part contains.

But in the Fourth, proceeding by light of faith and authority of the Holy Scriptures, it is clearly proved that Christ our Savior is the true Messiah promised in the law, and answer is given in eleven dialogues (in which a master and a catechumen speak) to all the points at which those stumble who have not wished to receive him. This Part I wished to treat more copiously, for the instruction of those who each day pass from the ancient law to the grace of the Gospel. For (as Saint Jerome writes in the Epitaph of Nepotian) our Savior dedicated for his service with the triumphal title of the cross (which was written with Greek and Latin and Hebrew letters) the three nations whose these languages were. Therefore, for the instruction of those whom each day he calls from this nation to his holy faith, this Part serves, which is like a catechism for them. For we know that in Rome and in Venice there are colleges deputed for such persons, and to this city of Lisbon there often come others from Barbary, who with much devotion receive it, and who have given very good account of their faith with virtuous life. And I hope in our Lord that this labor will profit both these and others who will be docile and tractable. For the hard and obstinate, other books by grave authors are written, which treat very much to the purpose of this matter. But those who are already rooted in the faith, I do not doubt, will receive very great consolation when, reading this writing, they see how solid and firm are the foundations of our truth, and with this they will give many thanks to the Father of lights, who enlightened their understandings with knowledge of it.

To these four principal Parts I wished to add a brief summary of the principal things that are contained in the four aforesaid Parts. For, since the writing is long, it had need of this brief recapitulation, so that what is treated more diffusely in the aforesaid Parts might be better held in memory.

III

This writing will seem long to someone. The cause of this was because I do not content myself only with informing the understanding, declaring the articles and mysteries of our faith (which is that in which the catechisms are principally occupied), but much more with moving the will to the love and fear of God, and obedience to his holy commandments, which is the end of all our knowledge, without which it would be worth little, and could even redound to our harm, since the Savior says that "the servant who knows the will of his lord, and does not fulfill it, will be more gravely punished."

The principal fruit of all this writing is that the Christian should know the principal articles and mysteries of the faith and religion that he professes, and should know them in such manner that he knows their dignity and excellence and beauty, and with this his soul may have a most sweet pasture and sustenance with the consideration of these truths, which are the highest, noblest, and most divine of all that through all human sciences can be attained. With which his soul will be so confirmed in the faith of this truth (if with the study of it he joins that of humble prayer, as we advise below) that he will come by a new manner, as it were, to palpate and touch the truth of the mysteries that he believes. And since in these sad times, by just judgment of God and by the sins of the world, so great a part of Christendom has departed from the sincerity of the catholic faith, no matter comes more to the purpose for them than that which serves to enlighten the mysteries of our faith, and to confirm the faithful in it, so that the example of so many lost who have apostatized from it may not be scandal for the weak, but a motive for the true Christian to have compassion, and to give thanks to our Lord for not being one of them. For as in time of wars arms are more necessary, and in time of great illnesses medicines, so in time where the enemy has sown so much cockle of heresies among the good sowing of the catholic Faith, it is fitting to be more prepared and armed with the truth of the doctrine of the faith.

Therefore the peace and consolation that follows from this faith so enlightened and formed (as the apostle Saint Paul says), others will experience if with humility and devotion they occupy themselves in this doctrine, which, although generally profitable to all, will particularly be so to some, who are troubled with temptations of the faith, which give great pain to the one who suffers them.

I endeavored to accompany this doctrine with some histories and lives of Saints brought to their purposes, and these the sweetest that I found, and most authentic. For since history is a very agreeable thing, I wished to recreate and bait the Christian reader with these so sweet morsels, so that he might occupy himself more willingly in the reading of this writing, and might leave the other fabulous and harmful ones.

I also ask the reader not to become weary if he sees that in diverse parts of this book I treat many times, for their purposes, the same matters that are treated in other parts of it. For there are four matters most noble, and so profitable and rich, that however much is said of them, there always remains more to say, which are: the mystery of our Redemption, the conversion of the world, the never-vanquished constancy of the martyrs, and the holiness of the glorious monks and confessors. And if what there is to write and magnify in each of these things were all put together, perhaps it would weary minds that are friends of variety, and they would draw loathing from where they ought to draw fruit. For this reason it seemed to be a more fitting thing to treat these same matters in diverse places for their purposes, adding in some what was left silent in others, or explaining more in one part what in another was said with more brevity.

I also advise the reader that, in some of the authorities of holy Scripture that are alleged here, at times I insert some word for greater declaration of the sentence, when without it the sentence would remain obscure and maimed. But I do not use this liberty in the authorities of the prophets that treat of the coming and of the

works of Christ. Let this suffice so that the Christian reader may understand the argument of all this writing.

FIRST PART

First part of the Introduction of the Symbol of Faith, in which the creation of the world is treated, in order to come through the creatures to the knowledge of the Creator and of his divine perfections

Argument of this first part

Since there are many means for coming into knowledge of the universal Creator and Lord, here we shall principally use that which the Apostle teaches us when he says that "the things that we do not see of God are known through those that we see wrought by him in this world," by which his eternal power and the loftiness of his divinity is known. For as effects declare to us something of the causes from which they proceed, and all creatures are effects and works of God, they (each one in its degree) give us some notice of their Maker. For which reason we shall here follow this manner of philosophizing, discoursing first through the principal parts of this world, which are heavens, stars, and elements, and then we shall descend to treat in particular of the other creatures, tracking through them the infinite wisdom and omnipotence of him who created them, and the goodness and providence with which he governs them.

This discourse will serve (besides the knowledge of God, which is proper to the doctrine of the catechism) to give him thanks for his benefits, when we consider that this whole so great house and fabric of the world this sovereign Lord created, not only for the provision of our necessities, but much more so that by the knowledge of the creatures we might lift our spirits to the knowledge and love of our Creator, considering that all this so great house with so great an apparatus of things he fabricated, not for himself (since from eternity he was without it) nor for the angels, who are pure spirits and have no need

of a bodily place in which to be, and much less for the brutes (since this was a thing unworthy of such an artificer), but for man alone. In which he will see how much this Lord loved him, and esteemed him, and honored him, since such palaces with so much provision of innumerable things he deputed for him, which we shall declare in this whole process, showing clearly that all things go directed to the use and profit of man.

This doctrine will also serve to strengthen our confidence. For considering how perfectly that infinite Goodness provides all brute animals with what is necessary, however small they may be (as is the ant, the mosquito, the spider, and other similar ones), man will see clearly how much reason he has to trust in God, that he will not fail the noblest of his creatures (for whose service he created this whole inferior world) in what may be necessary for the provision of his body and sanctification of his soul.

Thirdly, this doctrine serves to give spiritual persons copious matter for consideration, looking in the creatures at the beauty, the wisdom, the goodness, and providence of their Creator and governor. In which consideration the great philosophers placed the sum of human happiness, as we shall presently declare.

Chapter I. Of the fruit that is drawn from the consideration of the works of nature. And of how the saints joined this consideration with that of the works of grace

All men of high and excellent minds who, having despised the cares of temporal goods, employed their understandings and their life in the study and knowledge of divine and human things, in nothing kept themselves more awake than in inquiring what might be the end of man, and his last and highest good. For without this knowledge life cannot be ruled or directed by fitting steps and ways, since it is evident to us that the rule of the means must be taken from the end. And given the case that in this there were many and diverse opinions, yet in the end the gravest philosophers came to determine that the last and highest good of man consisted in the exercise and use of the most excellent work of man, which is the knowledge and contemplation of God. And I say in the exercise, because (according to Aristotle) as "one swallow does not

make summer," but many do, so one consideration of these does not make man blessed, but the exercise and use of them.

This was the study and occupation of some distinguished philosophers, and thus it is written of Seneca that, in order to employ in this a part of life, he went out from Rome, so that with greater quiet and repose he might be free for the contemplation of divine things. And because in this exercise the philosophers agree with the Christians, it seemed to me to insert here the manner in which this great philosopher exercised himself in this office. Which will serve for the confusion of many Christians, who neither have eyes to know how to look at the marvels that God has wrought in this world, nor does there pass through their thought what this gentile philosopher was always doing. Therefore, in conformity with this, he writes to a friend of his that a wise man does nothing better than when he lifts his heart to the consideration of divine things. And in another epistle

he writes to the same man that, if man were not to occupy himself in this office, there was no reason why he should have been born. For of what did it serve me to rejoice that I am placed in the number of the living? Perhaps in order to eat and drink, and to sustain this slippery and perishable body, if at every hour we do not fill it with foods, and in order to live subject to illnesses, and to fear death, for which we all are born? This inestimable good being taken aside, I do not esteem this life so much that for it I must sweat and labor. Oh, how low a thing man is, if he does not lift himself above human things! When we fight with our passions, what great thing do we do? Although we may be victors in this struggle, we do no more than conquer monsters. You escaped from vices; you are not a two-faced man; you do not speak according to the taste of the palate of others; you are free from avarice, which denies to itself what it takes away from others; nor does ambition fatigue you, which seeks dignities by doing unworthy things: with all this, what you have attained is not much: you have been freed from many evils, but not yet from yourself, because the virtue that we seek is great and magnificent. The blessedness of man is not in lacking vices, but this serves to enlarge the heart, and to dispose it for the knowledge of celestial things, and to make it worthy of the company of God. Then our good is finished and perfect when, all vices having been placed beneath the feet, we climb to the height, and come to penetrate the secrets of nature. Then man takes pleasure, walking among the stars, in laughing at the buildings and beautiful houses of the rich, and at all the earth, with all the gold that has been unearthed, and at that which is kept for the avarice of those to come. Nor can the spirit despise the rich portals, and the ivory ceilings, and the tables of myrtle, cut with shears, and the water-pipes brought to the houses of the rich, if it has not encircled the whole world, and looked within from the height at the roundness of the earth, so narrow, and in great part covered with water, so that then it may say to itself: "Is this the point that with fire and blood is divided among the nations?" Oh, how worthy of laughter are the boundaries of mortals! This is a point in which you navigate, and battle, and order kingdoms and provinces. On high there are great spaces, into which the spirit is admitted, but not that of all, but of those who carry little of the body with themselves, and have sent away from themselves all uncleanness, who, unencumbered and lightened of these burdens, and content with little, rise to the height. And when such a spirit touches sovereign things, then it is recreated and grows and, free from the prisons of the flesh, returns to its origin and principle. And it takes this as an argument of its divinity: to see that divine things delight it, and that it occupies itself in them, not as in things alien, but as in its own proper things. Then it securely considers the birth of the stars, and their falling, and the concord that they keep in such diverse movements and paths, and with curiosity examines each one of these things, and seeks the reason for it. Why will it not seek, since it understands that all this belongs to it? Then it despises the narrowness of this world, because all the space that there is from the furthest borders of Spain to the Indies, a ship runs, if the weather is fair for it, in a few days; but that celestial region a very swift star scarcely traverses in the space of thirty years. Then man learns what he long before desired, which is to know God. What is God? Mind and reason of the universe. What is God? All that we see, because in all things we see his wisdom and assistance, and in this manner we confess his greatness, which is so great that no other greater can be thought. And if he alone is all things, he is the one who within and without sustains

this great work that he made. Therefore what difference is there between the divine nature and ours? The difference, among others, is that the best part of ours is the spirit, but he is all spirit, all

reason and all understanding. In which is seen how great is the error of those madmen who, though this world is such a work that no other can be found either more beautiful, or better ordered, or more constant and regulated, came to say that it had been made by chance, not considering that they confess that they have a soul, which orders and directs their affairs and those of others, and this they deny to this universe, in which all things are done with highest harmony. The aforesaid in substance is from Seneca, who, in the book that he wrote, On the Blessed Life, says that nature herself created us not only to act, but to contemplate. And for this reason he says that she impressed in our spirits a natural desire to know secret things, for which many sail and go wandering through very remote regions, for only this interest of knowing hidden things. Nature gave us, he says, a curious understanding, and as she knew the artifice and beauty of her works, she wished us to be contemplators of them, it seeming to her that she would lose the fruit of her labors if she created things so great, so clear, so subtly ordered, and so resplendent, and beautiful in so many ways, for solitude. And so that you may know that she wished not only to be looked at, but also contemplated, consider the place in which she placed us, which was in the midst of the world, where she gave us sight toward all parts, so that from there we might see the stars when they rise and when they set, and beyond this she placed our head in the highest part of the body upon a flexible neck, so that it might turn the face to the part that it wished. And of the twelve signs of the heaven, through which the sun travels, she uncovered for us six by day, and the other six by night, so that with the taste of these things that are seen, she might kindle in us the desire to know those that are not seen, so that by this way we might proceed from clear things to obscure ones, and thus might come to find a thing more ancient than the world, from which those stars came forth. In such manner that our thought must break the walls of heaven, and pass onward, and not content itself with knowing only what it sees, but also what is not seen. Therefore, since the wise man understands that he was born for this, he does not think that he has too much of the time of life for this study; rather he knows that, however avaricious he may be of it, and no part of it may be lost to him through negligence, it is very brief for attaining such great things, and that the life of man is very mortal for the knowledge of immortal things.

And the same philosopher, in an epistle written to a friend of his, shows how much reason he has to occupy himself in the consideration of natural things, in order to come to the knowledge of their Maker. And thus he says: "Shall I not endeavor to know what are the principles from which all things were made, who the Maker of them, who the artificer of this world, by what way so great a thing was put into order and law, who gathered things so scattered, and separated things confused, and gave new figure to those that were disfigured and hidden, whence proceeds this so great light, whether it is fire or some other thing more resplendent than it? Therefore shall I not labor to know these things, and to understand whence I came to this world, and where I must go when life is ended, and what is the place that is deputed for souls after they are free from the laws of this servitude? Do you wish me not to rise to the things of heaven, but to live with head bowed down, like a dumb beast? Greater am I, and for greater things was I born, than to be a slave of my body."

By all that this great philosopher has taught us in all these words, we see how through the knowledge of the creatures our understanding rises to the knowledge of the

Creator, just as through the knowledge of effects we come into knowledge of the causes from which they proceed. Therefore, since this visible world is effect and work of the hands of God, it gives us knowledge of its Maker, that is, of the greatness of him who made things so great, and of the beauty of him who formed things so beautiful, and of the omnipotence of him who created them from nothing, and of the wisdom with which he so perfectly ordered them, and of the goodness with which he so magnificently provided them with all that was necessary, and of the providence with which he rules and governs all. This was the book in which the great philosophers studied, and in the study and contemplation of these things so high and divine they

placed the happiness of man.

I.

But we Christians, besides these works of nature, have those of grace, which are higher, and give us greater knowledge of what is more glorious in God, which is of his goodness and mercy. And although those of grace are more excellent, because they have a higher end, which is the sanctification and deification of man, yet since the works of nature are daughters of the same father, and effects of the same cause, they also give us knowledge of the principle from which they proceed. This the last four chapters of the Book of Job declare to us, in which, God speaking with this saint, he gives him knowledge of his omnipotence and wisdom and providence, representing to him the marvels of the works that he has made in this visible world. For which, beginning with the greater parts of the universe, and declaring their greatness, which are heavens, earth, and sea, he then discourses through all the other lesser ones, that is, through the rains, snows, frosts, winds, thunders, and lightnings, which are engendered in the middle region of the air. After which he descends to treat of the animals of the earth, and of the birds of the air, of the greatness and strength of the great fishes of the sea. And by these things in which divine wisdom and omnipotence shines forth, he makes himself known to that holy man, teaching him to philosophize in this great book of the creatures, which, each one in its manner, preach the glory of the artificer who created them.

In this book the great Anthony said that he studied, because when a philosopher asked him in what book he read, the saint answered: "The book, O philosopher, in which I read, is all this world." In this same book that divine Singer also studied, who in many of his Psalms recreates and feeds his spirit with the consideration both of the works of nature and of grace. And thus in that Psalm that begins "The heavens preach the glory of God," he spends half the Psalm in contemplating these works of nature, and the other in one of the principal works of grace, which is in the purity and the beauty of the law of God. And in Psalm 135 he asks us to praise God because with his understanding he created the heavens, and seated the earth upon the waters, and created two great luminaries, the sun to give light to the day, and the moon for the night. And in Psalm 146 he commands that we praise him, because he covers the heaven with clouds, and with them sends rain water upon the earth, and produces in the mountains hay and grass for the service of men, and because he provides sustenance for all the beasts, and for the little offspring of the ravens, when they call upon him. And in the Psalm that follows he asks us to praise him because he gives us bread in abundance, and for the snows that he sends us from on high, and the mists, and for the colds, and for the winds, and for the rains. In such manner that in all these Psalms he joins the works of nature with those of

grace, and by the one and by the other he sings the divine praises. But in Psalm 103, which begins "Benedic, anima mea," the second discourses through the beauty and fabric and order of all things created in heaven, and on earth, and in the sea, and by all of them he praises God. And at the beginning of it he says that God is clothed with praise and beauty, signifying by these words how all creatures declare how great his beauty is, and how worthy of being praised for it. But at the end of the Psalm, as if amazed at so many marvels, he exclaims, saying: "How magnified are your works, Lord! All are made with highest wisdom, and the earth is full of your riches." This admiration of the works of God always goes accompanied with a great joy and sweetness, which the same Prophet declared in another Psalm, saying: "You have gladdened, Lord, my soul with the things that you have made, and with the consideration of the works of your hands I shall rejoice." This spiritual joy is received when man, looking at the beauty of the creatures, does not stop at them, but climbs by them to the knowledge of the beauty, of the goodness, and of the charity of God, who created such and so many things not only for the use, but also for the recreation of man. For just as a rich garment appears more beautiful dressed on a lovely body than looking at it apart from him, so creatures appear more beautiful by applying them to the end for which they were created, which is to see God in them, because just as the garment was made for ornament of the body, so the creature for knowing the Creator by it. And for this reason, not only with greater fruit, but also with greater taste, spiritual persons look at these created things, as

are heaven, sun, moon, stars, fields, rivers, fountains, flowers and groves, and other similar things.

II.

And although Aristotle was not a spiritual person, he did not fail to understand the great taste and sweetness that there was in this manner of philosophizing, climbing by the ladder of the creatures to the contemplation of the wisdom and beauty of the Maker. And thus he says in the book of his Ethics that the delights that are enjoyed in the work of Wisdom are very great, which is in the exercise of this contemplation. For which I marvel much both at Pliny and at so many men who give themselves to his reading, who draw no other fruit from so many marvels as this author writes, except only to bait the natural appetite of curiosity that men have to know extraordinary and admirable things, which it would be better to mortify than to bait, when they could at one single cast arrive by this means at the knowledge of that infinite goodness and wisdom of the worker of so many marvels, in which they would find not only very great fruit, but also very great delight, which is what men commonly seek. Of this lineage of philosophers the Apostle says that, having known God by the works of nature, they did not honor him as God, because, content with understanding the artifice of the things that they saw, they did not pass onward to see and honor the author who had made them.

Therefore, let the Christian make use of the creatures as of mirrors in order to see in them the glory of their Maker, since, as we already said, for this they were created. And for this reason, when here, or outside here, he reads so many kinds of skills as the Creator gave to all animals in order to maintain themselves, and in order to cure themselves, and in order to defend themselves, and in order to raise their offspring, let him not stop in this alone, but climb through this to the knowledge of the Maker, and from there descend to himself. Which the Apostle briefly taught us when he said: "Does God perhaps have care of oxen?"

The Apostle well knew the skills that God had given both to this animal and to all the rest, for the things aforesaid, but taught by the Holy Spirit he understood that God did not stop there, but aimed principally at man, for whose service they were created. For by this means he intended to show him the greatness of his goodness, which so copiously provides his creatures with all that is necessary for their conservation, and the loftiness of his wisdom, which invented so many and so admirable skills for this, and the greatness of his omnipotence, since all that he wished and invented, with only his word he most perfectly finished, and together with this his most perfect providence, which comprehends and includes these three most high divine perfections in itself. But this for what end? So that men, considering this, might love that infinite goodness, and marvel at that so great wisdom, and obey and reverence that supreme omnipotence, and place the hope of remedy for all their necessities in that most perfect providence, because to this he provokes us when he proposes to us the example of the birds, which without sowing, or gathering, or storing, are maintained by their eternal Father.

And the more vile and despised things are, so much the more efficaciously do they strengthen our confidence. For he who considers the strange skills that the Creator gave to an ant in order to maintain itself, of which we shall treat below, how will he not quicken his hope with this example? How will he not say with all his heart: Lord, if you gave so many skills to this little animal in order to maintain itself, which serves for nothing in this world except to steal the labors of the farmer, what care will you have for man, whom you created in your image and likeness, and made capable of your glory, and redeemed with the blood of your Son, if he does not do that by which he unmerits your favor and protection? I do not know what heart there may be so weak that it is not strengthened and takes courage with this example. Therefore all these providences and marvels of the Creator aim at this mark, who in all his works has for his end his glory and the profit of man.

In this manner the Saints considered these works of God, because, as they had eyes to know how to look at his works, so in them they found him, praised him, and recognized him. And to this purpose Saint Augustine declares that verse of Psalm 62, where the Prophet says: "I went about surrounding and looking at the works

of God, and I offered him in his tabernacle a sacrifice of praise," or of jubilation, as this saint reads. Upon which he says thus: "If your spirit went about surrounding this world, and looking at the works of God, you will find that all of them, with the marvelous artifice with which they are fabricated, are saying: God made me. Everything that delights you in art preaches the praise of the artificer. Do you see the heavens? Look how great this work of God is. Do you see the earth, and in it so great a diversity of seeds, so great a variety of plants, so great a multitude of animals? Surround as many things as there are from heaven to earth, and you will see that all sing and preach their Creator, because all the species of creatures are voices that sing his praises. But who will explain all that is seen in them? Who will worthily praise the heaven, and the earth, and the sea, and all that is in them? But these are visible things. Who will worthily praise the angels, the thrones, the dominations, the principalities and powers? Who will worthily praise this that lives within us, that moves the members of the body, that knows so many things through the senses, that remembers so many with the memory, that attains so many things with the understanding? Therefore, if human words remain so low for praising the creatures,

how much more will they remain so for praising the Creator? Therefore then, what remains here except that, words failing, and going about with the Prophet through all the creatures, we offer in his temple a sacrifice of jubilation?" Up to here are words of Saint Augustine.

By these words and by all the rest that until here we have said, one will be able to understand the fruit that is drawn from the consideration of the creatures, both for the knowledge and for the love and reverence of the Creator. For which many of the Saints gave themselves much to this kind of contemplation, among whom Saint Ambrose and Saint Basil, both most holy, most learned, and most eloquent pontiffs, enamored of the beauty and wisdom of God, which shone forth in the creatures, each wrote his Hexaemeron, which means the work of the six days in which God created all things. And beginning with the heavens, they descended to treat of all things, down to the smallest, showing in them the artifice and wisdom with which they were created, and the goodness and providence with which they are maintained and governed. After whom Theodoret, also a Greek author no less learned and eloquent, treated a good part of this argument in the Sermons that he wrote On Divine Providence, from which I took the best morsels that I found in order to present them in this spiritual banquet to the pious reader. And so that he may read this with greater devotion, I wished to set at the beginning the following meditation.

Chapter II. There follows a devout meditation, in which it is declared that, although God is incomprehensible, nevertheless something of him is known by consideration of the works of his hands, which are his creatures

Oh highest and most clement God, King of kings and Lord of lords! Oh eternal Wisdom of the Father, who, seated above the seraphim, penetrate with the clarity of your sight the abysses, and there is nothing that is not open and naked before your eyes! You, Lord, so wise, so powerful, so pious and so great a lover of all that you created, and much more of man, whom you redeemed, whom you made lord of all, incline now those most clement eyes, and open those divine ears, to hear the cries of this poor and most vile sinner.

My Lord God, my soul desires nothing more than to love you, because there is nothing more owed to you, nor more necessary to me, than this love. You created me so that I might love you, you placed my blessedness in this love, you commanded me to love you, you taught me that here was merit, and honesty, and virtue, and sweetness, and liberty, and peace, and happiness, and finally all goods. For this love is a brief summary, in which is enclosed all the good that there is on earth, and a great part of what is hoped for in heaven. You also taught me, my Savior, that I could not love you if I did not know you. We naturally love goodness and beauty, we love our parents and benefactors, we love our friends and those with whom we have likeness, and finally every goodness and perfection is the mark of our love. This knowledge is presupposed so that from it love may be born. Therefore who will grant me that I may so know you and understand how in

you alone are all the reasons and causes of love? Who is more good

than you? Who more beautiful? Who more perfect? Who more father, and more friend, and more liberal benefactor? Finally, who is the spouse of our souls, the port of our desires, the center of our hearts, the last end of our life, and our last happiness, except you?

Therefore what shall I do, my God, to attain this knowledge? How shall I know you, since I cannot see you? How shall I be able to look at you with eyes so weak, you being an inaccessible light? Most high you are, Lord, and very high must he be who is to attain you. Who will give me wings as of a dove, so that I may fly to you? Therefore what shall he do who cannot live without loving you, and cannot love you without knowing you, since you are so high to know? All our knowledge is born from our senses, which are the doors by which the images of things enter into our souls, by means of which we know them. You, Lord, are infinite; you cannot enter through these so narrow wickets, nor can I form an image that represents so high a thing. Therefore how shall I know you? Oh highest substance, oh most noble essence, oh incomprehensible majesty! Who will know you? All creatures have their natures and powers finite and limited, because you created all of them in number, weight, and measure, and you made their lines for them, and marked the limits of their jurisdiction. Very active is fire in heating, and the sun in giving light, and much does its power extend, but nevertheless these creatures recognize their ends, and have terms that they cannot pass. For this cause the sight of our soul can reach from end to end and comprehend them, because all of them are enclosed, each one within its jurisdiction. But you, Lord, are infinite; there is no circle that comprehends you, there is no understanding that can reach to the last terms of your substance, because you do not have them. You are above every genus, and above every species, and above every created nature, because just as you recognize no superior, so you have no determined jurisdiction. Around all the world, which you created in so great a size, a mortal man can make a turn by the Ocean sea, because although it is very great, nevertheless its greatness is finite and limited. But around you, great Ocean sea, who will be able to go? Eternal you are in duration, infinite in power, and supreme in jurisdiction. Neither did your being begin in time, nor is it ended in the world. You are before all time, and you command in the world and outside the world, because you call the things that are not as those that are.

Therefore, since you are as you are, so great, who will know you? Who will know the loftiness of your nature, since he cannot know the lowliness of his own? This very soul with which we live, whose offices and power we experience at every hour, there has been no philosopher up to today who has been able to know the manner of its essence, because it is made to your image and likeness. Our rudeness being such, therefore, how will it be able to come to know that sovereign and incomprehensible substance?

But with all this, my Savior, I cannot nor ought I desist from this undertaking, although it be so high, because I cannot nor do I wish to live without this knowledge, which is the principle of our love. Blind I am, and very short of sight, for knowing you, but for that reason grace will help where nature fails. There is no other wisdom except to know you, there is no other rest except in you, there are no other delights except those that are received in looking at your beauty, although it be through the glass of your creatures.

And although it be little that we shall know of you, yet it is worth much more to know a little of the highest things, although it be with obscurity, than much of low things, although it be with much clarity. If we shall not know you wholly, we shall know all that we can, and we shall love all that we shall know, and with this alone our soul will remain content, since the little bird remains content with what it carries in its beak, although it cannot exhaust all the water of the fountain.

How much more, Lord, that your grace will help our weakness, and if we shall begin to love you a little, you will give us for this small love another greater one, with greater knowledge of your glory, just as you have promised it to us through your Evangelist, saying: "If anyone shall love me, my Father will love him, and I also will love him, and I will disclose myself to him," which is to give him a more perfect knowledge, so that

thus he may grow more in that love.

The holy catholic faith also helps us for this, and the sacred Scriptures, in which you, Lord, had it for good to make yourself known, and to reveal to us the marvels of your greatness, so that this so high knowledge might cause in our will love and reverence of your holy name. The university of the creatures also helps us, which give us voices that we should love you, and teach us why we must love you. For in their perfection your beauty shines forth, and in their use and service the love that you have for us. And thus on all sides they incite us to love you, both for what you are in yourself and for what you are for us. What is, Lord, all this visible world except a mirror that you placed before our eyes so that in it we might contemplate your beauty? For it is certain that, just as in heaven you will be a mirror in which we see the creatures, so in this exile they are for us a mirror so that we may know you. Therefore according to this, what is all this visible world except a great and marvelous book that you, Lord, wrote and offered to the eyes of all the nations of the world, both Greeks and barbarians, both wise and ignorant, so that all might study in it, and might know who you were? What then will all the creatures of this world be, so beautiful and so finished, except as it were broken and illuminated letters, which well declare the skill and the wisdom of their author? What will all those creatures be except preachers of their Maker, witnesses of his nobility, mirrors of his beauty, announcers of his glory, awakeners of our sloth, spurs of our love, and condemners of our ingratitude? And because your perfections, Lord, were infinite, and there could not be a single creature that represented them all, it was necessary that many be created, so that thus in pieces, each one for its part, it might declare something of them to us. In this manner beautiful creatures preach your beauty, strong ones your strength, great ones your greatness, artful ones your wisdom, resplendent ones your clarity, sweet ones your sweetness, those well ordered and provided your marvelous providence. Oh one testified by so many and so faithful witnesses! Oh one vouched for by so many vouchers! Oh one approved by the University, not of Paris nor of Athens, but of all creatures! Who, Lord, will not trust you with so many vouchers? Who will not believe so many witnesses? Who will not delight in the music so concordant of so many and so sweet voices, which by so many differences of tones preach to us the greatness of your glory?

Certainly, Lord, he who does not hear such voices is deaf, and he who with such marvelous splendors does not see you is blind, and he who, having seen all these things, does not praise you is mute, and he who with so many arguments and testimonies of all the creatures does not know the nobility of his Creator is mad. It seems to me, Lord, that all these faults fit in us, since among so many testimonies of your greatness we do not know you. What leaf of a tree, what flower of the field, what little worm is there so small, that if we considered well the fabric of its little body, we would not see in it great marvels? What creature is there in this world, however low it may be, that is not a great marvel? Therefore how, going on all sides surrounded by so many marvels, do we not know you? How do we not praise and preach you? How do we not have a heart understood for knowing the master by his works, nor clear eyes for seeing his perfection in his works, nor open ears for hearing what he says to us through them? The splendor of your creatures strikes our eyes, the artifice and beauty of them delights our understandings, and our understanding is so short that it does not climb one degree higher, to see there the Maker of that beauty and the giver of that delight.

We are like children, who when a book is placed before them with some illuminated and gilded letters, take pleasure in looking at them and playing with them, and do not read what they say, nor take account of what they signify. Thus we, much more childish than children, you having placed before us this so marvelous book of the whole universe so that by its creatures, as by living letters, we might read and know the excellence of the Creator who made such things, and the love that he has for us who made them for us; and we, like children, do no more than delight ourselves in the sight of things so beautiful, without wishing to notice what it is that the Lord wishes to signify to us through them. Oh perverters of the divine works! Oh children and more than children in the senses! Oh prevaricators and overturners of all the purposes and counsels of God! Woe to those (says Saint Augustine) who delight, Lord, in looking at your signs, and forget to look at what

by them you wish to signify and teach them, which is the knowledge of their Creator!

Therefore do not permit, most clement Savior, such ingratitude and blindness, by your infinite goodness, but enlighten my eyes so that I may see you, open my mouth so that I may praise you, awaken my heart so that in all the creatures I may know you, and love you, and adore you, and give you the thanks that I owe you for the benefit of all of them, so that I may not fall into the fault of being ungrateful and unknowing, because against such persons it is written in the Book of Wisdom that on the day of judgment "all the creatures of the world will fight against those who had no sense." For it is just that the same creatures, which were given for our service, should come to be our punishment, since we did not wish to know God by them, nor take their warning. You, Lord, who are "way, truth, and life," guide me in this way with your providence, teach my understanding with your truth, and give life to my soul with your love. A great journey it is to climb by the creatures to the Creator, and a great business it is to know how to look at the works of so great a master, and to understand the artifice with which they are made, and to know by them the counsel and wisdom of the Maker. He who does not know how to note the artifice of a small drawing made by the hand of some great craftsman, how will he know how to note the artifice of so great a painting as is this whole visible world?

To all of us, Lord, it happens, when we put ourselves to considering the marvels of this work, as to a rustic villager who enters anew into some great city, or into some royal house that has many and diverse rooms, and absorbed in looking at the beauty of the building, forgets the door by which he entered, and comes to lose himself in the middle of the house, and neither knows where to go, nor where to turn back, if there is not someone who may direct and guide him. Therefore what are all cities, Lord, and all royal palaces, except some nests of swallows, if we compare them with this royal house that you created? Therefore if in that so small hole a creature of reason loses himself, what will he do in a house of so much variety and greatness of things? How will he swim in a so profound gulf of marvels who drowns in a so small brook? Therefore guide me, Lord, in this journey, guide this rustic villager by the hand, and show him with the finger of your spirit the marvels and mysteries of your works, so that in them he may adore and recognize your wisdom, your omnipotence, your beauty, your goodness, your providence, so that thus he may bless and praise and glorify you unto ages of ages. Amen.

Chapter III. Of the foundations that the philosophers had for attaining by natural light that there is God

I.

The first thing that among the articles of the faith is proposed to us to believe is that there is God, that is to say, that there is in this universe a prince, a first mover, a first truth and goodness, and a first cause on which all the other causes hang, and it hangs on no one. This is the foundation of our faith, and the first thing that must be believed. And thus the Apostle says that "he who wishes to come to God must believe that there is God in this world." And this truth is so manifest in natural light that it is attained by evident demonstration, as many philosophers attained it, and all the wise attain it today, knowing by the effects that they see in this world the first cause from which they proceed, which is God. For which reason Saint Thomas says that the wise do not have faith concerning this first article, because they have evidence of it, which is not compatible with the obscurity that is attached to faith. But the ignorant, who do not attain this reason (and believe this because God revealed it, and the Church proposes it to be believed), have faith concerning this article.

But let us now see the foundations that the philosophers had for attaining this truth, which will serve to embrace with greater joy what our faith testifies. For when faith is married with reason, and reason with faith, the one answering with the other, there is caused in the soul a most noble knowledge of God, which is firm, certain, and evident, where faith strengthens us with its firmness, and reason gladdens with its clarity. Faith teaches God hidden with the veil of his greatness, but clear reason removes a little of that veil, so that

his beauty may be seen. Faith teaches us what we must believe, and reason makes us believe it with joy. These two luminaries joined undo all the mists, make the consciences serene, quiet the understandings, remove doubts, lift the clouds, level

the roads, and make us sweetly embrace this sovereign truth. For this we have two masters, one of the holy Scriptures, and another of the creatures, both of which help us greatly for the knowledge of our Creator. For that reason we shall touch here some of the motives and foundations that the philosophers had for attaining this truth. And I say some, because we shall touch only those that are clearer and more accommodated to the capacity of the people, leaving the other more subtle ones for the schools of the theologians.

It will seem to someone excused to treat this matter among Christians, since all have faith concerning this article. So it is, but with all that we have seen and see every day men so excessive, so soulless, and so tyrannical, that although with the understanding they confess that there is God, with their works they deny it, because they would do no less while believing it than they would do if totally they did not believe it. Therefore for these, who have the light of faith so forgotten and hidden, it will profit to show them clearly by light of reason that there is God: perhaps this would give them some restraint so that they might look to themselves. And besides this profit there is another greater and more common for all, which is that all the things that tell us there is God justly declare to us many of his perfections, especially his wisdom, his omnipotence, his goodness, his providence, with which he rules and governs all things.

Therefore among these foundations, the first and most palpable is taken from the order of things, because we see in this world diverse degrees of perfection in all creatures. And in this order we place in the lowest degree the four elements, which are simple bodies, which have no more than two qualities. In the second we place imperfect mixtures, such as snows, rains, hail, winds, frosts, and other similar things that have some greater composition. In the third are the perfect mixtures, such as stones, pearls, and metals, where perfect composition of the four elements is found. In the fourth we place the things that besides this composition have life, and grow, and diminish, such as trees and all plants. In the fifth are the imperfect animals, which besides life have sense, although they lack movement, such as oysters and many shellfish. In the sixth are the perfect animals, which besides sense have movement, such as fishes and birds, etc. In the seventh we place man, who, besides what has been said, has reason and understanding, with which he has advantage over and differs from all the brutes. Above man we place the angel, who has a higher understanding, and is spiritual substance apart from all matter. And among those same angels there is order, because some are of more noble and perfect nature than others, and following the sentence of Saint Thomas, which is very conformable to the doctrine of Aristotle, there are not two angels of equal perfection, though they are innumerable, but always one is essentially more perfect than another. Therefore climbing by this order, either we must give process into infinity without there being a last (which is impossible in nature), or we must come to stop in one thing the most perfect of all, above which there is no other more perfect. This, then, which is at the summit of all and above all, is what we call God, or first truth, first cause and first mover and author of all things, which must not be created or made by some creator or maker, because that one would be more perfect than he, since the creator is more perfect than his creature, and the maker than his making. From which it follows that this Lord must be eternal and without beginning, since he could not

be created or made by another. This is the first foundation of this truth, which is taken from the order of creatures.

II.

The second is that which is taken from the movement of things. For which we take as principle that all things that are moved bodily have within or outside themselves some power or force that moves them. Which is seen clearly both in man and in all animals, in which the body is what is moved, and the soul what moves it. And this appears to be so, because when the soul is lacking, the movement that proceeded from it is then

lacking. Therefore let us leave now the movements of the earth, and let us climb to the movement of the highest heaven, which is above the starry heaven, which moves the other inferior heavens, and is cause of all the movements that are here on earth, which moves with so great a lightness that in a single natural day it gives one turn around the whole world. Therefore this heaven, according to what has been presupposed, must have a mover that moves it. Therefore concerning this mover it is asked whether in its being and in the power that it has to cause this movement it has dependence on another, or not: if it does not have it, but by itself has its being and its power, such a one we shall call God, because only God is he who, as superior of all things, hangs, neither in his being nor in his power, on anyone, but on himself. But if you tell me that it has another superior, on whom it depends as to being and as to the power of moving, of that superior I shall make the same question as of the inferior, and proceeding in this discourse, either process into infinity must be given (which we said to be impossible), or finally we must come to a first mover, on whom the other movers hang, and to a first cause, from whose power all the other causes participate their power, and that is he whom we call God. This is the demonstration by which the philosophers proved that there was a first mover who hung on no one, but on himself. And those who penetrate the force of this demonstration do not have faith concerning this first article, because they have (as we said) evidence of it. And for these this is not called an article of faith, but a preamble to it, as the same holy Doctor says.

III.

Other motives the philosophers had, of which Tully makes much account, and with much reason, and one of them is that, with the nations of the world being so many and so various, there is none so barbarous nor so fierce that, granted that it does not know which is the true God, it does not understand that there is one, and honor him with some manner of veneration. The cause of this is because (besides the beauty and order of this world, which is testifying that there is God who governs it) the Creator himself, just as he impressed in the hearts of men a natural inclination to love and reverence their parents, so also he impressed in them another similar inclination to love and reverence God as universal father of all things and sustainer and governor of them. And from here proceeds that manner of cult and religion, although false, that we see in all the nations of the world. Which is in such manner impressed in human hearts that for the defense of it alone some nations fight with others, without there being another cause for fighting, as we see between Moors and Christians. For each one believing that his religion is the true one, and that by it God is truly

honored, and not by the others, it seems to them that they are obliged to take up the voice for their God, and make war on those who do not honor him as they understand that he must be honored: so impressed is the cult and veneration of God in human hearts. And what is more: every day we see men from diverse sects pass to our religion, and leave wife, and children, and estate, and honorable charges, as now we saw in one, who, having many years before denied the faith, came to the land of Christians, leaving all this that we have said, for the true faith. In which is seen how powerfully the Creator rooted this affection of religion in our hearts, since it prevails over and conquers the greatest affections that there are in man, which are the affections of these things that we mentioned. And this same happened in the time of Ezra to the children of Israel who were found married with women of the lineages of gentiles, when they returned from the captivity of Babylon, who left them together with the children that had been born from them, so as not to break the law of God, which prohibited such marriages.

IV.

They point to another indication of this truth, which also proceeds from this natural inclination that we mention, and it is that all men, when they see themselves in some great and extraordinary pressure and anguish, naturally, without any discourse, lift the heart to God to ask him for help. And since this movement is so accelerated that it forestalls the discourse of reason, it follows that it proceeds from the very nature of man, which, since it is formed by God, and God makes no idle thing and without purpose, it follows not only that there is God, but also that he is infinitely perfect. For this recourse is like a voice and testimony of nature

itself, which with this confesses that that divine President sees all, and foresees all, and that in every place he is present. Here it confesses his providence, his goodness, his mercy, and the love that he has for men, and the desire to remedy them, since he himself, when he created them, impressed in them this natural inclination that would move them to have recourse to him as to true father, in their anguishes and tribulations.

V.

1

The fifth motive that both the philosophers and all men had for recognizing the divinity was the fabric, and order, and harmony, and beauty, and greatness of this world and of its principal parts, which are heaven, stars, planets, earth, water, air and fire, winds, rains, snows, rivers, fountains, plants, and all the rest that there is in it. This consideration, with the two that we shall presently treat, Tully pursues copiously, most elegant orator and philosopher, in the name of another Stoic philosopher. And since in this matter we proceed by way of philosophy, it seemed to me to insert here (for those who do not understand Latin) what this philosopher, with the words of Tully's eloquence, says, leaving some things that below are treated in their proper places. But I advise the reader that, when in place of God he finds gods, he should understand that he speaks as a gentile philosopher, and as in this he is deceived, so also when he says that the gods have care of great things,

and not of small ones, which is contrary to what that Master who came from heaven taught us, when he said that not even a little bird fell into the snare without the will and providence of the heavenly Father. This philosopher says, then, thus:

"Nothing will be found in the administration and government of the world that can be justly reprehended, and if anyone should wish to emend something of what has been done, either he will make it worse, or altogether he will not be able to do it. Therefore if all the parts of the world are fabricated in such manner that neither for the use of life could they have been made better, nor for sight more beautiful, let us see whether they could have been made by chance, or persevere in the state in which they are, if they were not governed by divine providence. Wherefore, if the works of nature are more perfect than those of art, if those of art are made with reason, it follows that those of nature must not lack reason. Therefore who will there be who, seeing a very well painted panel, does not understand that it was made by art, and seeing from afar a ship run through the water, does not know that this movement is made by reason and art, and seeing how a clock marks the hours at their due times, does not understand the same, and dares to say that the world (which invented these same arts, with the craftsmen of them, and embraces all things) lacks reason and art?

But let us lift our eyes to greater things. In the heaven shine the flames of innumerable stars, among which the prince that enlightens and surrounds all things is the sun, which is many times greater than the whole earth, and likewise the stars are of immense greatness. And these so great fires do no harm to the earth nor to the things of it, but rather benefit it in such manner that, if they changed their places and positions, the whole world would burn." And a little lower the same Tully adds these words: "Beautifully Aristotle said that, if some men dwelt beneath the earth, in some palaces adorned with diverse paintings and with all the things with which the houses of those who are held for blessed and rich are adorned, which men, dwelling in those underground places, had never seen the things that are above the earth, and had heard by report that there is a sovereign divinity in the world, and after this, the throats of the earth being opened, they came out from those rooms, when they saw the earth, the sea, and the heaven, the greatness of the clouds, the force of the winds, and set their eyes on the sun, and knew its greatness and beauty and efficacy, and how it, enlightening the heaven with its light, is cause of the day, and night having arrived they saw the whole heaven adorned and painted with so many and so beautiful luminaries, and noted the variety of the moon, with its waxings and wanings, and considered the variety of the risings and settings of the stars, so ordered and so constant in their movements in all eternity, without doubt when such men, having come out of the darkness of their caves, suddenly saw all this, they would then know that the report of what had been told them had been true, which

was that there was in this world a sovereign divinity, on which all depended. This Aristotle said."

"But we," says the same Tully, "let us imagine darknesses as dense as those that are said to have come forth in time past from the fires of Mount Etna, which darkened all the neighboring regions, and let us imagine that for the space of two days no man could see another. Therefore if on the third day the sun enlightened the world, it would seem to these men that anew they had risen again. And if this same happened to

some who had lived always in eternal darknesses, who suddenly saw the light, how beautiful the figure of heaven would seem to them! But the custom of seeing this every day makes men not marvel at this beauty, nor seek to know the reasons of the things that they always see, as if the newness of things ought to move us more than their greatness to inquire into their causes. For who will hold as a man of reason the one who, seeing the movements of the heaven and the order of the stars so firm and constant, and seeing the connection and agreement that all these things have, says that all this was made without prudence or reason, and believes that those things were made by chance which no counsel nor understanding can come to comprehend with how much counsel they have been made? Perhaps, when we see some movable sphere, or clock, or some figures move artfully, do we not understand that there is some artifice and cause of these movements? And seeing the impetus with which the heavens move, with such admirable lightness, and that they make their courses so certain and so well ordered for the health and conservation of things, shall we not perceive that all this is done with reason, and not only with reason, but with excellent and divine reason?

But, the subtlety of arguments being left aside, let us set ourselves to look at the beauty of the things that by divine providence we confess to have been fabricated. And first let us look at all the earth, solid, and round, and gathered with its natural movement within itself, placed in the midst of the world, clothed with flowers, with herbs, with trees and with harvests, where we see an incredible multitude of things so different among themselves that with their great variety they are cause to us of an insatiable taste and delight. Let us join with this the perennial fountains of cold waters, the clear liquors of rivers, the green garments of their banks, the height of the concavities of caves, the roughness of stones, the height of mountains, the plainness of fields. Let us add to this the hidden veins of gold and silver and the infinity of precious marbles. And besides this, how great a diversity we see of beasts, some tame, some wild, how many flights and songs of birds, how great pastures for the flocks, and how many forests for the life of wild animals! Therefore what shall I say of the lineage of men, who placed in the midst of the earth, as its laborers and cultivators, do not allow it to be populated with wild beasts, nor to become a savage mountain with the roughness of wild trees, by whose industry the fields and the islands and the banks shine forth, divided into houses and cities?

Therefore if we looked at all these things with one sight by the eyes, as we see them with the spirits, there would be no one who, looking at all the earth together, would have doubt of the divine providence. But among these things, how great is the beauty of the sea, how great the multitude and variety of the islands that there are in it, what freshness and delight of its banks, how many lineages of fishes, some that dwell in the depth of the waters, others that go swimming and running over the top of them, others that are attached with their natural shells to the rocks! And the same sea in such manner with its beaches and banks embraces itself with the earth, that from two things so different there comes to be made one common nature of both.

Then the air neighboring the sea differs between day and night, which at times thinning itself rises to the height, and at other times thickening itself is converted into clouds, and gathering in

itself the vapors of the sea, waters the earth with waters, and running from one part to another, causes the winds. And it also sustains upon itself the flight of birds, and gives us the air with which animals are maintained and sustained.

There remains for us now the last place of the world, which is the heaven, so removed from our dwellings that it girds and embraces all things, which is the last term and end of the world, in which those resplendent luminaries of the stars make their courses so ordered, that they are cause of great admiration to him who

contemplates them. Among which the sun, moving around the earth, and rising and setting, is cause of the day and of the night, and approaching us one time of the year, and withdrawing another, makes two contrary turns, and in this interval the earth is saddened with its absence, and afterward is gladdened with its coming. But the moon (which, as the mathematicians say, is greater than half the earth), walking by the same ways as the sun, sends to the earth the light that it receives from him, changing many times, and being eclipsed with the shadow of the earth, and eclipsing the sun when it places itself before him. And through the same spaces the planets run around the earth, which at times hasten in their movements, and at times delay, and at others stop, which is a thing of great admiration and beauty. Then follows the multitude of the fixed stars, which are ordered in such manner that they come to make certain figures, by which they are named, as is the cart, the trumpet, and other similar ones, which are guide of those who navigate by the sea." All the aforesaid is from Tully, who with the argument of the fabric and beauty and profit of the principal parts of this inferior world, and with the order and invariable constancy of the movements of the heaven, proves that things so great, so profitable, so beautiful, and so well ordered could not have been made by chance, but have a most wise maker and governor.

And a little lower, declaring the care that divine providence has to attend to human necessities, he says of it that, besides the common pasture and sustenance of the whole world, it produced in diverse places diverse things for the use and provision of our life. And thus we see, he says, that "in Egypt the river Nile with its floodings waters and covers in the time of summer all the earth and, this done, gathers itself back, leaving the fields softened and disposed for sowing. Mesopotamia the river Euphrates makes fertile, in which each year it renews the fields, and almost makes them others. But the river Indus, which is the greatest of all rivers, not only gladdens and softens the fields, but also leaves them sown, because it brings with itself a great number of seeds, similar to the grains from which harvests are born. Many other memorable things I could recount, which are bred in diverse places, and many fertile fields, some that give one manner of fruit, and others another. But how great is the benignity and liberality of nature in having created so many and so diverse and so sweet things for our sustenance, and these not in one single time of the year, but always, so that with the newness of foods and with the abundance of them our taste and delight might be renewed! And how healthful winds and how proportioned to their times it produces, not only for the profit of men, but also of flocks and of all the things that are born from the earth, with which the great heats are tempered, and with them the sea is navigated with greater lightness!

Many other things we leave silent, and many also we say, because the profits that rivers bring us, and the changes of the sea, when it grows or diminishes, and the

mountains clothed with greenery, and the forests, and the salt-pits that are found in places very remote from the sea, and the multitude of medicinal herbs that the earth produces, and innumerable arts necessary for the sustenance and use of our life, cannot be counted. Now also the change of days and nights serves to conserve the life of animals, marking out for us one time to work, and another to rest. In such manner that on all sides it is concluded that this world is governed by divine wisdom and counsel, which by a marvelous manner directs and orders it to the health and conservation of all things." The aforesaid is from Tully in the name of a Stoic philosopher, who with so much attention discoursed through all the things of the world, feeding and recreating his soul in the contemplation of the works and marvels of divine providence. Which is for the confusion of many Christians, who spend so little time in the consideration of things so admirable.

2

But among all of them it is much to be considered in what manner all, as a music concerted of diverse voices, agree in the service of man, for whom they were created, without there being one alone that exempts itself from his service, and that does not bring him some profit, and pay some temporal or spiritual tribute. In which it must be considered how all things in this ministry help one another, as diverse servants of one lord, who having different offices, employ themselves all, each one in its manner, in the service of the lord. From

which results this harmony of the world, composed of infinite variety of things, reduced to this aforesaid unity, which is the service of man. Let us put an example beginning from man himself, who, according to Aristotle, is as an end, for whose service divine providence deputed all the things of this inferior world. Therefore he first has need of the service of diverse animals in order to maintain himself with their flesh, to clothe and shoe himself with their hides and wools, to till the earth, to carry and bring loads, and with this to lighten the labor of men. These animals have need of grass and pasture to sustain themselves. This is bred and grows with the rains that water the earth; these are engendered from the vapors that the sun makes rise both from the earth and from the sea. These have need of wind so that it may carry them from the sea to the earth. The winds proceed from the exhalations of the earth. For this the influences of heaven are necessary, and the heat of the sun that draws them out of it, and lifts them to the height. The heaven has need of the intelligence that moves it, and this of the first cause, which is God, so that he may conserve and sustain it in the office that it has. In this manner we could put an example in all the other created things, and show how they help and serve one another, and all finally are ordered and reduced to the service of man, for whom they were created.

Where it is reason to consider the divine wisdom in having ordered the causes of things in such manner that some have need of the help and ministry of the others, and that none by itself alone suffices for all, so that thus the occasion of idolizing might be taken away from men, seeing the necessity that the most excellent creatures have of the ministry and use of the others. For the sun is the one that among all of them has more power for the procreation of things, especially since it gives light to all the stars, and with the light efficacy for their influences. This planet, with its proper movement approaching and withdrawing from

us, is cause of the four times of the year, which are winter, spring, summer, and autumn, which are necessary for the production of things. But it itself, in order to cause days and nights (which are no less necessary for this), has need of the movement of the first heaven, which in a natural day makes the sun give a turn to the world, and with this day and night is caused. Likewise the other planets and stars, according to the diverse aspects that they have among themselves and with the sun, are cause of diverse effects here on earth, such as rains, serenity, winds, cold and heat, and similar things. This chain or, if it can be said, this dance so ordered of the creatures, and as music of diverse voices, convinced Averroes to believe that there was no more than one single God. For things so diverse cannot be reduced to one end with one order, if there were not one who is as choirmaster, who reduces them to this unity and consonance. But if there were two or many gods different among themselves, and they were not conformable nor subject one to another, this unity could not be caused, because each one would pull by his own way, and some would impede others, as a ship among equally contrary winds, which, while it so stood, would not move.

This most beautiful figure of the world Seneca describes elegantly to a noble Roman matron by these words: "Imagine that, at the time when you are born into this world, I declare to you the condition of this place where you enter, and I say to you: see that you enter into a great city, which embraces and encloses in itself all things, governed by eternal laws. You will see here innumerable stars, and one alone, which is the sun, which fills all things with its light, and with its ordinary movement equally divides the space of the days and of the nights, and divides into equal parts the four times of the year. You will see here how the moon receives from the sun, her brother, clarity, at times greater, at times lesser, according to the aspect and disposition in which it looks at him; which, at times, is entirely hidden, and at others, the face full of clarity, is entirely uncovered, always changing with its waxings and wanings, and differing from the day that preceded. You will see five other stars, which go by diverse roads, and run against the common course of the heaven, from whose movements proceed the changes and alterations of all bodily things, according as the position and aspect of them may be favorable or contrary. You must marvel at the dark clouds, and at the waters that fall from the heaven, and at the thunders and lightnings, and at the thunderbolts that fall crosswise. And when, the eyes already recreated with the sight of high things, you incline them to the lands, you will see another

form of things that may cause you new admiration. You will see the plainness of the fields stretched out through long spaces, and the mountains that rise on high with their hills covered with snow, and the fall of the rivers which, born from one fountain, run from east to west, and you will see the groves that on the height of their hills are moving, and the great forests with their animals and songs of birds that resound in them. You will see the sites and seats of diverse cities, and the nations enclosed and separated from one another, either with high mountains, or with banks, or lakes, or valleys, or pools of water. You will see the harvests grown with labor and industry, and other plants that without it give fruit. You will see the rivers run softly among the green meadows, and the inlets and banks of the sea that come to be made secure ports, and you will see so many differences of islands stretched through that great sea, that they cause distinction between some seas and others. Therefore what shall I say of the splendor of precious pearls, and of the gold that is found among the sands of the brooks when they are swollen, and of the Ocean sea, which spreads itself with great license over its banks, and with its three great gulfs divides the habitation of the peoples? Within which you will see some fishes of incredible

greatness, others very heavy that have need of help in order to move, and others lighter than a galley with its oars, and others that, following ships, cast from themselves a great spray of water, not without fear and danger of those navigating. You will see ships that seek lands not known, and you will see that nothing remained untried by human daring." Up to here are words of Seneca.

3

Therefore since the variety and beauty of the things of this world are so great, who will be so brute as to say that all this was made by chance, and that it does not have a most wise and most powerful Maker? Who would say that a very great altarpiece of many and very excellent colors and figures was made by chance, with a blot of ink that happened to fall upon a board? Therefore what altarpiece is greater, more showy, and more beautiful than this world? What colors more living and agreeable than those of the meadows and trees of spring? What figures more excellent than those of the flowers, and birds, and roses? What thing more resplendent and more painted than the heaven with its stars? Therefore who will be the blind man who says that all these marvels were made by chance?

If by chance, going on the road, you found in a forest a pleasure house of some prince, very well built and provided with every kind of sustenance, and with the offices that were necessary for the service of the prince, and you saw in it its tables set, its torches lit, its orchards and cisterns, and fountains of water, its rooms and diverse places for all its servants, and you, marveling at all this apparatus, asked how this had been made, they answered you that a piece of that mountain had fallen, and the pieces of it had happened to fall in such manner that without hand of craftsman those so beautiful palaces had been fabricated, with all that there is in them, what would you say? Could greater nonsense be feigned? Therefore tell me now: if you set yourself purposely to consider the beauty of the great royal house of this world, and seeing the fabric and provision of all the things that there are in it; seeing that vault of the heaven so great and so measured and painted with so many stars; seeing a table so supplied with so many differences of foods as is the earth with all the meats and fruits and other sustenances that there are in it; seeing so many freshnesses and orchards and fountains of water, so many cloths of greenery as are seen through all the mountains and valleys and meadows of the fields; seeing the torches and luminaries that burn day and night in the midst of those heavens to light this house, and the vessels of gold and silver, and precious stones that are born in the mines of the earth, the diverse and fitting rooms for the dwellers of this house, some in the waters for those who know how to swim, others in the air for those who can fly, others on the earth for the great and heavy bodies, and seeing above all this the governance of all this house and family, and its order, and how the angels, who are more principal creatures, move the heavens, and the heavens the elements, and from the elements the composites are formed, and all finally goes directed to the service of the prince of this house, who is man: he who sees all this, with other infinite things that cannot be comprehended in few words, how will he be able to believe that

all this was made by chance? How will he not see that it had and has a most powerful and most wise Maker?

Therefore this beauty and greatness of the world, with the variety of the things that there are in it, reduced to that unity that we mentioned, moved not only the philosophers, but also all peoples, to believe that things so great, so beautiful, and so well ordered had not been made by chance, but that they had a most wise and most powerful Maker, who with his omnipotence had created them, and with his wisdom governed them. And this is why David exclaims in Psalm 18, when he says: "The heavens denounce the glory of God, and the starry heaven preaches the works of his hands," etc. He means to say: The beauty of the heaven, adorned with so many luminaries, and the admirable order of the stars, and the diversity of their movements and courses preach the glory of God, and make all nations praise him, and marvel at his greatness, and recognize him as Maker and lord of all things. Likewise the order of the days and of the nights, the growth and the diminution of them so ordered and proportioned for the use of our life, and the invariable constancy that they keep in their risings and movements, preach and testify that works so great and so well ordered are not to be attributed to chance or to fortune, but that there is in the world a sovereign president who in the beginning created all these things, and conserves them with supreme providence. But these admirable works do not speak nor testify this with human voices, which could not reach to the end of the world, but their speech and testimony is the invariable order, and the beauty of them, and the artifice with which they are made so perfectly as if they were made with rule and plumb line. For this manner of language is heard in all lands, and invites men to the cult and veneration of the Maker.

4

VI.

There is another foundation no less urgent than the past one for knowing this truth. For not only the fabric of this greater world, but also that of the lesser, which is man, declares to us that there is God, Creator and Maker of him. For in it the wisdom of the Maker shines forth so much, that Saint Augustine could say with truth that among all the marvels that God made for love of man, the greatest is man himself, understanding by man the two parts of which he is composed, which are body and soul. And leaving for now the soul, in the fabric and composition of the body there are so many marvels that the many books that Galen and others wrote did not suffice to declare them entirely: each one of which by itself alone, and much more all of them together, declare the infinite wisdom of the artificer who ordered such a fabric. For there is not in the world royal palace nor commonwealth so harmonized that has so many manners of offices and officials, I mean so many diverse parts, as a human body has for its rule and conservation. Of which some serve to cover it, as is the skin and the flesh and the fat; others serve to cook the food, as the stomach and the small intestines; others make the blood, as the liver; others carry it to all the members, as the veins; others engender the spirits of life, as the heart; others carry these spirits through the whole body, as the arteries; others make the spirits of sense, as the brains; others distribute this power through the whole body, as the nerves; others serve the movement that depends on our will, as the little muscles. Some receive the superfluities of the body, as the spleen, the gall, the kidneys, the bladder, the intestines. Through another passes the air that recreates the brains and the heart, as the nostrils, the throat, the

lungs, and the venal artery. Some serve the exterior senses, namely: for hearing the ears, for seeing the eyes, for tasting the tongue and the palate, for speaking the lungs and the throat. Others serve as foundation or armature upon which all the other parts are armed and established, as the bones and cartilages. And what increases this admiration is to see that so much variety of things so different in figures, powers, offices, hardness and softness, come to be forged from a matter so simple as is that from which the human body is fabricated. Therefore who would be powerful to produce, from a matter so simple, so great a multitude of things so diverse except only that most powerful and most wise Maker? Therefore the variety and multitude of these parts, the figure and offices that they have for the service of the human body, manifestly declare that this was not made by chance, but with supreme providence and artifice of him who formed them.

This same argument the same Tully pursues elegantly in the book already alleged, proceeding through all the parts and through all the members and senses of the human body, both the interior ones that are not seen, and the exterior ones that are seen, declaring how each one of these parts serves so perfectly what is fitting for the conservation of human life (which is for the sustenance of our body and for the use and office of the senses) that no human understanding will be able to discover in so great a variety and multitude of parts anything that is lacking, or that is superfluous, or that does not come so to the purpose of what is necessary for this end, that by no way can another better be traced out. Wherefore he concludes that this work proceeds from a supreme providence and wisdom, which in nothing fails, and in nothing errs. But because this consideration is very profound and profitable, and asks a longer treatise, below we shall pursue it more copiously in its proper place.

VII.

And besides these aforesaid foundations, there is another no less efficacious for the knowledge of this truth, and very palpable and easy to penetrate for any understanding, however rude it may be. Which proceeds from seeing the skills that all the animals of the earth, of the sea, and of the air have for all that is required for their maintenance, for their defense, for the cure of their illnesses, and for the raising of their little offspring. In all of which they do nothing less than they would do if they had most perfect reason. Thus they fear death, thus they beware of dangers, thus they know how to seek what fulfills them, thus they know how to make their nests and raise their offspring as men of reason do. And they go even farther, that among a thousand differences of herbs that there are in the field of one same color, they know the one that is to be eaten and the one that is not, the one that is healthful and the one that is poisonous and, however much hunger they may have, they will not eat of it. The sheep fears the wolf without having seen it, and does not fear the mastiff, being so similar to it. The hen does not fear the peacock, being so large, and fears even the shadow of a sparrowhawk, which is much smaller. The chicks fear the cat and not the dog, being greater, and this even before they have experience of the harm that from contrary things they could receive.

Of this same consideration the same Tully made use to show the wisdom and providence of that sovereign artificer who governs all. Which he proves by declaring

how all things that have life are most perfectly fabricated and provided with all the skills necessary to conserve it. From him I shall relate here some things, leaving others for their places. And beginning with the plants, he says thus: "First the trees that are born from the earth are fabricated in such manner that they can sustain the burden of the branches that are on high and likewise with their roots fixed in the earth to draw the juice from it, with which they live and are maintained, and their trunks are clothed and sheltered with their barks, so that they may be more secure both from cold and from heat. But the vines have their tendrils, which are like hands, with which they embrace themselves with the trees, and climb to the height upon others' shoulders, and thus also they separate themselves from some plants that are contrary and harmful to them, when they are near them, as from a pestiferous thing, and by no way do they touch them.

But how great is the variety of so many animals, and how provided for all that is required for their conservation! Among which some are covered with hides, others clothed with hairs, others bristling with spines, some covered with feathers, and others with scales. And among them some are armed with horns, and others defend themselves by fleeing with the lightness of their wings. All of which nature provided abundantly with the pasture and sustenance that to each one in its species was proportioned. And I could relate here the skills that she gave them for seeking this pasture and digesting it, and how ingenious she was in tracing the figure and fabric of the members that are necessary for this. For all the interior faculties of their bodies are fabricated and seated in their places in such manner that there is none superfluous, and none that is not necessary. She also gave to all the beasts sense and appetite, so that with the one they might strive to seek their sustenance, and with the other they might know how to make difference between healthful and harmful things. And among them there are some that seek their sustenance by walking, others by crawling on the

earth, others by flying, others by swimming; among which some take the food with the teeth and with the mouth; others tear it apart with the claws; others with the curved beaks; others suck; others take the food with the hand; others swallow it just as it is whole, and others chew it with the teeth. All also have their natural places to which they run. And thus, when to the hen they throw the eggs of ducks so that she may hatch them, after they have come out to light and been raised, they themselves without a master go straight to the water, recognizing that this is their natural place: so great is the inclination that nature gave to all things to procure their conservation.

Many other things I could bring to this purpose, and many of them are very notorious, such as seeing with how much diligence the animals look out for themselves; how while grazing they look around to see if there is some danger, and how they hide and take refuge in their dens, and with how much diligence they defend and arm themselves against the fear and force of their adversaries, some with horns, as bulls, others with teeth, as wild boars, others by biting, as lions, some fleeing, and others hiding, and others with an intolerable stench that they cast from themselves in order to hold back their pursuers." These and other similar skills Tully relates of the animals, which, lacking reason, do the things so to the purpose of what is fitting for their conservation and defense, as if really they had it.

Therefore the philosophers now argue thus. All these animals lack reason (because in this alone do they differ from man and man from them), and with all that they do all the things that belong to their conservation as perfectly as if they had it; therefore necessarily we must confess that there is a universal reason and a most perfect wisdom that in such manner assists all of them, and in such manner rules and governs them, that they do the same as they would do if they had reason. For by the very case that the Creator formed them, and wished that they should be and live, it was clear that he must give them all that was necessary to conserve their lives; otherwise, in vain and without purpose he would have created them. If we saw a child of three years of age who spoke with as much discretion and eloquence as a great orator, we would then say: another speaks in this child, because this age is not capable of so much eloquence and discretion. Therefore, since we see that all the creatures that lack reason do all their works according to reason (which is all that is fitting for their conservation), necessarily we must confess that there is this universal reason and this supreme wisdom, which, without giving them reason, gave them natural inclinations and instincts so that what reason does in men, inclination might do in them. And in this the philosophers clearly took notice, who say that the works of nature are works of an intelligence that does not err, wishing to say: they are works of a supreme wisdom that makes its works with so much perfection, that no defect can be found in them. This consideration that is born from the creatures moved Saint Augustine to say that more easily he would doubt whether he had a soul in his body, than doubt whether there is God in this world, by reason of the testimony that created things give us of this first truth.

These three last considerations that here we have touched have need of longer declaration. And although what has been said would suffice for what the resolution and brevity of this Introduction asks, yet because my intention is, as I already said, to give matter of most sweet consideration to virtuous persons, we shall return to treat these three considerations more copiously. In which, imitating those two holy doctors whom we mentioned, Saint Ambrose and Saint Basil, we shall treat of the works of the six days, in which God our Lord created all things, so that by them we may lift our hearts to the knowledge of the goodness, and wisdom, and omnipotence, and providence of him who created them for the provision of our body and for the exercise and lifting of our spirit. For which anciently he ordained the keeping of the sabbath (on which it is written that God had rested from the work of Creation) so that men might employ this day in the consideration of the works that in the first six days he had wrought, and might give him thanks for them, since all were his benefits.

Therefore, conformably to this, we shall treat first of the world and of its principal parts, which are heavens and elements, and afterward we shall descend to treat in particular of all the bodies that have life, such as the

plants and the animals, and at the end we shall treat of man, who on the sixth and last day was created. And so that the Christian reader may profit better from this doctrine by knowing the mark at which all of it aims, let him know that my intent is not only to declare how there is a God, creator and lord of all things (conformably to what at the beginning I proposed), but much more to declare the divine providence that shines forth in all his creatures, and the perfections that go together with it.

For which it is to be known that, among these perfections, three are the most celebrated, which are goodness, wisdom, and omnipotence, which are the three fingers of which Isaiah says that the roundness of the earth is hung. Of these three perfections, which in him are one same thing, goodness is that which wishes to do good to its creatures, and wisdom orders and traces how this is to be done, and omnipotence executes and puts into work what goodness wishes and wisdom orders. Therefore these three things divine providence includes, which with a pious and paternal care and supreme artifice provides all things with what is necessary for them.

It is, then, now my intent to show how in all parts, both greater and lesser, of this world, down to the mosquito and the ant, these four divine perfections shine forth, and many others with them. But how great the fruit of this consideration is, by this reason it will in some manner be able to be understood. David calls "blessed those who scrutinize the words of God." Therefore no less will those be so who scrutinize his works, such as are not only those of grace, but also those of nature, since all flow from one same fountain. And if uncreated Wisdom promises eternal life to those who shall make it clear, what other thing do we attempt to do here, except to show the artifice of this supreme wisdom, which in all created things shines forth? A great part of the oratorical faculty is to know how to note the artifice that a great orator uses in his orations, and Saint Augustine does not esteem it little to have known how to do this in some places of Saint Paul. Therefore how much better a study will it be to inquire and note the admirable artifice of the divine Wisdom in the fabric and government of all created things? And if of the queen of Sheba it is written that her spirit failed considering the wisdom of Solomon and the works that with it he had fabricated, how much more will the devout spirit fail considering the artifice of the works of that incomprehensible Wisdom, if it knows how to penetrate the art and the counsel with which they are made? Therefore this is what with divine favor we intend to do in this book. But for what effect? So that, knowing in the created works those four divine perfections that we mentioned, our spirit may be moved to the love of so great a goodness, and to the fear and obedience of so great a majesty, and to hope in so paternal a care and providence, and to admiration of so great a power and wisdom as shines forth in all these works. This is, then, the end toward which all this doctrine aims, and toward which the pious reader must direct his intention, so that thus he may be able to attain these aforesaid virtues, in which consists all our good. This principle now being presupposed, therefore, we shall begin to treat of the principal parts of the world.

Chapter IV. Of the consideration of the greater world and of its most principal parts

Beginning, then, with the declaration of the first of these three parts, which is the greater world, the first thing and as foundation of what we must presuppose is that, when that most magnificent and sovereign Lord by his sole goodness determined to create man in this world in the time that pleased him (so that, knowing and loving and obeying his Creator, he might merit to attain the life and blessedness of the other), he also determined to provide him with sustenance and with everything necessary for the

conservation of his life. Therefore for this he created this visible world with all the things whatsoever that there are in it, all of which we see serve the use and necessities of human life.

And just as in any workshop there must be two things, that is to say: matter from which things may be made, and a craftsman who may make them and introduce the form into the matter, as the carpenter and any other

craftsman does, so the Creator provided that in this great workshop of the world there should be these two things, which are: matter from which things should be made, and craftsmen who should make them. The matter from which all things are made are the four elements: earth, water, air, and fire. The craftsmen that from this matter fabricate all things are the heavens, with their planets and stars. For granted that God is the first cause that moves the other causes, yet these bodies with the intelligences that move them are the principal instruments of which he makes use for the government of this inferior world, which in such manner hangs from the movement of the heavens that the philosophers come to say that, if this movement stopped, every other movement would cease, in such manner that fire would not burn a little tow that it found beside itself. For just as, the first wheel of a clock stopping, then all the others would stop, so the movement of the heavens ceasing (on which all the other movements hang), then they also would cease.

And because these celestial bodies are the first instruments of the first mover, who is God, and have so principal an office in this world, which is to be efficient cause of everything bodily, the Creator advantaged and ennobled them with great preeminences above all the other bodies.

I. For first he made them incorruptible and impassible, though they are always in continual movement and joined to the sphere of fire. So that, after so many thousand years as have passed since they were created, they persevere in the same wholeness and beauty that they had on the day they were created, without time, waster of all things, having diminished anything of them.

II. He also gave them light, not only for ornament of the world, without which all things would be dark and sad and sunk in the abyss of darknesses, but also for the use of human life and, as the Psalmist says, he created the sun to give light by day, and the moon for the night. And because she also is absent from our hemisphere, he created the stars in her place, so that the world might never lack light.

III. He also gave them so much constancy in their movements that, since he created them, they have never varied one point from that rule and order that he put upon them in the beginning. The sun always rises at its hour, it always makes with its movement the four times of the year, and all the planets and stars do the same. From which it proceeds that those who know the order of these movements predict from there to many years the eclipses of the sun and of the moon, without lacking one point, because these movements are so regular and ordered. By whose example all those who in the Church or in the Christian commonwealth have the place and office of heavens and of stars, which is to govern and rule others, will learn how regulated and ordered and how constant they must be in their lives and offices, so that in those who are in their charge there may be no disorder, if in those who rule them there should be. For if the light that must enlighten the darknesses of others should be darkened, what will those darknesses themselves be like? And if one blind man should guide another blind man, what can be hoped for except the fall of both?

IV. Therefore the greatness of these bodies is such that it puts admiration in him who thinks it, and altogether would be incredible if we did not know that there is nothing impossible to him who created them.

V. And no less admirable, but perhaps much more, is the lightness with which they move, of which things we shall treat below, when we come to the greatnesses and marvels of God.

VI. Therefore the beauty of the heaven, who will explain it? How agreeable it is in the middle of summer on a serene night to see the full moon and so clear, that with its clarity it hides that of all the stars! How much more do those who travel by night in the summer take pleasure in this luminary than in the sun, although it is greater! But when she is absent, what thing is more beautiful and more discovers the omnipotence and beauty of the Creator than the starry heaven with so great a variety and multitude of most beautiful stars, some very large and resplendent, and others small, and others of middling greatness, which no one can count except only he who created them? But the custom of seeing this so many times takes from us the admiration of so great a beauty and the motive that it gives us to praise that sovereign painter who so knew how to beautify that so great vault of heaven.

If a child were born in a prison, and grew in it until the age of twenty-five years without seeing more than what was within those walls, and were a man of understanding, the first time that, having come out of that darkness, he saw the starry heaven on a serene night, certainly this man could not fail to be amazed at so great an ornament and beauty and at so great a number of stars that he would see in whatever part he turned his eyes, either toward East or West, or to the quarter of the North or of the South, nor could he fail to say: who could enamel such great heavens with so many precious stones and with so many diamonds so resplendent? Who could create so great a number of luminaries and lamps to give light to the world? Who could paint so beautiful a meadow with so many differences of flowers, except some most beautiful and most powerful Maker? A gentile philosopher, marveling at this work, said: Intuere coelum, et philosophare. It means: look at the heaven, and begin to philosophize, which is to say: by the great variety and beauty that you will see there, know and contemplate the wisdom and omnipotence of the author of that work. And the Prophet knew no less how to philosophize in this matter, when he said: "I shall see, Lord, your heavens, which are work of your hands, the moon and the stars that you formed."

And if the beauty of the stars is admirable, no less so is the efficacy that they have in influencing and producing all things in this inferior world, and especially the sun, which just as it goes withdrawing from us (which is in autumn), all freshnesses and groves together with the leaf lose their beauty, until they remain naked, sterile, and as if dead. And when it turns back and approaches us, then the fields dress themselves in another livery, and the trees are covered with flowers and leaves, and the birds, which until then were mute, begin to sing and chirp, and the vines and the rosebushes then disclose their buds and shoots, preparing themselves to show the beauty that they have enclosed within themselves. Finally, so great is the dependence that this world has on the influences of

the heaven, that by however little a space something of them is impeded (as happens in the eclipses of the sun and of the moon and in the interlunations), then we feel alterations and changes in human bodies, especially in the weaker and sicklier ones.

Chapter V. Of the sun and of its effects and beauty

The heavens having been spoken of in common, it follows that we should speak in particular of the planets and stars that there are in them, and first of the most noble, which is the sun. In which there are so many greatnesses and marvels to consider, that a great philosopher, by name Anaxagoras, being asked for what he had been born in this world, answered that it was to see the sun, it seeming to him that to contemplate what God wrought in this creature, and what he works in this world by it, was sufficient cause for this. And with all this this philosopher did not adore the sun, nor hold it for God, as infinite other peoples did, rather he said that it was a great stone or material body very enkindled and resplendent. For which he was condemned to a certain penalty by the Athenians, and he would have been sentenced to death, if his great friend Pericles had not availed him.

But though this star is so admirable, no one marvels at the powers and properties that the Creator placed in it, because, as Seneca says, "the custom of seeing things run in one same manner makes them not seem admirable, however great they may be. But on the contrary, any newness that there may be in them, although it be small, makes all eyes then set themselves on the heaven. The sun has no one who looks at it, except when it is eclipsed, and no one looks at the moon, except when the shadow of the earth darkens it. But how much greater a thing it is that the sun, with the greatness of its light, hides all the stars, and that being so much greater than the earth, it does not burn it, but tempers the force of its heat with its changes, making it at some times greater and at others lesser, and that it neither fills the moon with clarity, nor darkens and eclipses it, except when it is in the contrary part. At these things no one marvels when they run by their order, but, when they go out from it, then we marvel, and ask what that will be: so natural a thing is it to men to marvel more at new things than at great ones." Up to here are words of Seneca. But Saint Augustine says that

wise men no less, but much more, marvel at great things than at new and unaccustomed ones, because they have eyes to know their dignity and excellence, and to esteem them for what they are.

I. Therefore returning to the purpose, among the powers and influences of this planet the greatest and most general is that it influences light and clarity in all the other planets and stars that are scattered through the whole heaven. And since it is true that both they and those work their effects in this world by means of the light with which they reach from the high to the low, and this light they receive from the sun, it follows that it, after God, is the first cause of all the generations, and corruptions, and alterations, and changes that there are in this inferior world. And thus we say that it concurs in the generation of man. For which reason it is commonly said that the sun and man engender man. And not only does it engender things, but it also, by means of the heat that it influences in them, makes them grow, and lifts them to the height.

Wherefore we see garden plants shoot up and harvests grow in the month of May, when already the heats begin to grow.

II. It itself lifts to the height the more subtle vapors of the sea, which, reaching the middle region of the air, which is most cold, thicken and are converted into water, and water the earth, and with this it produces all the fruits and pastures, which are the sustenance both of men and of brute animals. So that of it we can say that it gives us bread, and wine, and meats, and wools, and fruits, and finally almost everything necessary for the use of life, because water gives us all this.

III. It is the one that with the variety of its movements marks out for us the times, which are days and nights, months and years, because rising in this our hemisphere, it makes day, and setting and withdrawing from our eyes, it makes night, and running through each one of the twelve signs of the heaven, it marks out the months (because it stays for the space of a month in each one), and giving a perfect turn to the world through these twelve signs with its proper movement, it marks out the years. For one of these turns of its makes a year.

IV. It itself is the one that, approaching or withdrawing from us, is cause of the four differences of times that there are in the year, which are winter, spring, summer, and autumn, which divine providence ordered by means of this planet both for the health of our bodies and for the procreation of the fruits of the earth, with which they are sustained. And as to what touches health, it is to be known that, just as our bodies are composed of four elements, so they have the four qualities of them, which are cold and heat, moisture and dryness, to which correspond the four humors that are found in these bodies. For to coldness corresponds phlegm, to moisture blood, to heat choler, and to dryness melancholy. Therefore since that supreme governor saw that the health of our bodies consists in the tempering and proportion of these four humors, and illness when they are distempered, the one growing or diminishing over the others, he ordered these four times in such manner that each one of these four humors should have its three months proportioned in the year, in which it might be reformed and remade. And thus for phlegm serve the three months of winter, which are cold like it, and for blood the three of spring, which are temperate like it, and for choler the three of summer, which are hot like it, and for melancholy the three of autumn, which are dry as it is, and thus in these four times each one of these four humors reigns and predominates and thus, having the times and the forces equally divided, they are conserved in peace without one having envy of the other, since the times are divided for them with so much equality, and thus none prevails against the other, nor presumes to destroy it, seeing that it has equal forces and equal time on its side to remake itself, as he.

And no less marvelously does this change of times serve for the second thing that we mentioned, which is for the procreation of the fruits and pastures of the earth, with which these bodies must be fed. For in the time of autumn the fruits that summer with its heat ripened are finished being gathered and, with the first waters that then come, the farmer begins to break the earth and make his sowings. And so that the things sown may put forth deep roots in the earth, and grow with foundation, there follow very to the purpose the colds of winter, where the plants, fleeing the cold air, gather themselves inward, and thus

employ all their power in putting forth deeper roots, so that, afterward, they may grow so much more securely, as they shall be more rooted in the earth. This done, so that from there onward they may grow, spring succeeds, which with the power of its heat makes them grow and rises to the height, to which succeeds the ardor of summer, which ripens them, drying up with the force of its heat and dryness all the coldness and moisture that they have, and with this they ripen.

In this manner, the course of one year finished, provision of sustenance remains made both for man and for the animals that must serve him. So that, as lords who have servants and family are accustomed to depute a certain salary each year for their maintenance, so that great Lord, whose family is this whole world, with the revolution of the sun, which is made in one year, and with these four differences of time, provides each year sustenance and everything necessary for this his great house and family and, this done, then commands the sun to return to walk another time by the same counted steps, to make another new provision for the following year.

V. And because all men and animals are subject to death and, if the species were not repaired with their individuals, the world would come to an end, each year the Creator repairs it by the ministry of this same star, because with the turn that it gives toward us, when it comes to spring, when the trees seem to rise again, the world is also peopled with another new generation and with other new dwellers. For in that time new animals are bred on the earth, new fishes in the water, and new birds in the air. And in this manner that divine president sustains and governs this world, increasing each year his family, and providing pasture and sustenance for it. Therefore who, seeing the order of this divine providence, will not exclaim with the Prophet, saying: "How magnified are your works, Lord! All are made with supreme wisdom; the earth is full of your riches?"

I

VI. Nor is the order with which these four times succeed one another to be left unnoted, of which the same sun with its ordered movement is cause. For since their extremes are winter and summer, if after winter there did not immediately follow the ardor of summer, bodies could not fail to receive harm, because nature does not suffer extreme changes. Therefore for this the Creator ordered that the sun should move in such manner that it would be cause of other more temperate times being inserted in the middle. And thus, between the cold of winter and the ardor of summer spring is inserted in the middle, which has part of the two extremes because it is moist and hot, and thus man passes from one extreme to the other without danger. And the same inconvenience would follow, if after the ardor of summer the cold of winter immediately succeeded. And for this autumn passes through the middle, so that little by little the body may go disposing itself for the colds of winter.

VII. The same sun with its presence and absence divides time into days and nights, and all for our profit, because, if it were always day, the ages of men and the account of times would not be known. But now we make one day from the day and the night, and from seven days and nights one week, and in a little more than four weeks the sun is in one of the

twelve signs and, these having been walked, the solar year is made. And no less profitable is the proportioned inequality of days and nights for the fruits of the earth. For the great nights and small days of winter serve so that the plants root much with the cold of the long night (as we said) and grow little with the little heat of the brief day. But when now it is time for what is well rooted to grow, the nights are shortened, and the days grow, so that with the greater heat of the greater days the plants may go little by little growing and thriving. And in this manner days and nights are harmonized like two sisters in order to serve man, and live in peace, each restoring the greater space that it took in one time, diminishing it in another, conserving equality in the whole, amid inequality in the parts.

And although the day is of greater profit for the exercises and use of human life, yet the night also does not lack its fruits. For with the tempering and the dew of the night the sowings and the plants are refreshed in the hot and great days. In the night the bodies of men and of animals rest, tired from the labors of the day. In the night, the use of the senses ceasing, the natural heat is gathered in order to attend to the cooking and digestion of food, and to distribute it through all the members, giving to each one its ration. The night also separates bloody exercises, and the enemy ceases to pursue the reach of his adversary. In the night the wild beasts come out of their caves to seek food. For which reason the Prophet praises divine providence, saying in the Psalm: "You placed, Lord, darknesses, and the night was made, in which the beasts of the mountains go out and the young of the lions roaring and asking God that he give them to eat. But when the sun comes out in the morning, they return to gather themselves, and are enclosed in their caves and dens. The night is the most fitting time for man also to gather himself," and give passage to his soul, in which, free from the cares and business of the day, he may be free in silence for God and sing his praises, as the Prophet says. In the day God distributes his mercies, and in the night he asks his praises. To which the same Prophet invites more particularly "those who dwell in the house of the Lord, saying that in the night they should lift their hands to holy things, and bless the Lord." And he did not go outside what he advised others (although he was king, and so occupied) when he says he rose at midnight to praise God. Jeremiah also invites us to this same office by these words: "Rise by night at the beginning of the watches, and pour out like water your heart before God," that is: represent to him all the necessities that you feel in your soul, and ask remedy for them from the Lord. In this time the prophet Isaiah lifted his spirit to God, as he declares it when, speaking with him, he says: "My soul, Lord, desired you in the night, and with my spirit and with my bowels in the morning I shall watch for you." In the clear and serene night the humble heart awakens its devotion, looking at the beauty of the clear moon and, in her absence, that of all the stars, which by being silent and twinkling preach the beauty of their Creator, and with the diversity of their clarity teach us the variety of the glory and beauty of the glorious bodies, which will be seen on the day of the general resurrection, as the Apostle says.

Therefore all these things, and many others that we leave silent, this most beautiful and resplendent lamp works, besides giving light to everything that God has created in the heavens and on the earth, and together with this giving heat to the whole world, without there being anyone who can hide from it. Therefore what hand would be powerful to paint and enlighten a beautiful mirror,

such a luminary, such a lamp, such a torch, that would suffice to light the whole world? For which with much reason Saint Ambrose calls it eye of the world, since without it the whole world would be blind, but by it all things disclose their figures to us.

VIII. Finally, such are the properties and excellences of this star, that though creatures are not, as they say, more than a small shadow or footprint of the Creator (because only man and the angel are called image of God), nevertheless among bodily creatures, the one that most represents the beauty and omnipotence of the Creator in many things is the sun.

1. And the first: that being one star alone, it produces from itself so great a light, that it illumines everything that God has created from heaven to earth, in such manner that even being in the other hemisphere beneath us, it gives light to all the stars of the heaven. And its power is so great that it penetrates even to the entrails of the earth, where it breeds gold and precious stones, and many other things. Which will serve us so that in some manner we may understand how God our Lord, with his presence and essence, fills heaven and earth, and works all things, since he was powerful to give power to a bodily creature so that in the aforesaid manner it should extend its light and its efficacy through the whole universe.

2. Thus the sun illumines all this world, and of its Creator Saint John says that he illumines every man that is born in this world.

3. The sun is the creature, of as many as there are, most visible, and the one that least can be seen (because of the greatness of its splendor, and the weakness of our sight), and God is the most intelligible thing of as many as there are in the world, and the one that is least understood, because of the loftiness of his being, and the lowliness of our understanding.

4. The sun is among bodily creatures the most communicative of its light and of its heat, so much that if you close the door to defend yourself from it, it enters through the chinks of it to communicate to you the benefit of its light. Therefore what thing is more similar to that infinite Goodness, which so copiously communicates its riches to all creatures, making them, as Saint Dionysius says, as much as their nature suffers, similar to itself, and many times seeking those who flee from it?

5. From the great clarity of the sun all the stars receive clarity and power to work, and from the fullness and abundance of the grace of Christ our Savior, all the just receive light and power to do good works.

6. The sun produces as many bodily things as there are in this world, and that sovereign Governor, just as he fills all, so he works all in the heavens and on the earth, and thus concurs with all the causes, from the greatest to the least, as first cause, in all their operations.

7. Finally the presence of the sun is cause of light, and absence is cause of darknesses, and the presence of Christ in souls illumines and teaches them, and shows the road of heaven, and discloses the ravines from which they must turn aside, but, he being absent from them, they remain in very dark and dense darknesses, and thus they stumble and fall into a thousand

precipices of sins, without knowing what they do nor whom they offend, and in how great a danger of their salvation those who so live are living.

In all these things this noble creature represents to us the excellences of its Creator. At which that divine singer marveling, after having said that "the heavens and the stars preached the glory of God," then descends to treat in particular of the sun, comparing its beauty with that of his bridegroom who comes out from the bridal chamber, and its strength and joy and lightness with that of a giant, with which it goes out from the beginning of the heaven, and runs to the end of it. Which verse an interpreter declares by these words: After you have surrounded with the eyes and with the spirit all things, you will find that there is none so enlightened and that puts so much admiration in men as the sun, which is governor of all the stars, and conservation and health of all bodily things. And beyond this, what figure more joyful and beautiful can be offered to our eyes than that of the sun, when it rises in the morning? Which, with the clarity of its splendor, makes the darknesses flee, and gives its color and figure to all things, and with them gladdens the heavens, and the earth, and the sea, and the eyes of all animals. So that we can compare its beauty to that of a most lovely bridegroom, and its force and impetus to a giant. For with so much lightness it revolves from East to West, and from there to the other part of the heaven, that with one revolution it makes day and night, at times showing us from on high its most clear and resplendent rays, and at others hiding itself from our eyes, and occupying all the regions of the air, without there being a place where its clarity does not reach. For this star surrounds with its most clear flames all the works of the earth, giving to the world a healthful heat of life, with which it sustains and makes all things grow. But now let us leave the sun, and let us come to its companion the moon.

Of the moon and stars

The moon is as vicar of the sun, to which is committed by the Creator the providence of light in the absence of the sun, so that while it is absent, and attending to other regions to communicate the benefit of its light, the world should not remain in darknesses. And thus it itself is the one that provides her with light for this ministry, so much greater, when she looks at it more fully face to face. This planet has, among other properties, notable lordship over all waters and over all moist bodies, and especially has so great a

jurisdiction over the sea, that as a familiar servant it draws it after itself, and thus as she rises, it grows, and as she lowers, it lowers. For as it is said of the magnet stone that it draws iron after itself, so the Creator gave to this planet this power, that it should attract and call the sea to itself, and that it should follow her movement. In such a way that this planet has as it were reins in the hand, with which it takes possession of this so great element, and rules it and brings it to its command. From here are born the tides, which go with the movement of the moon, and which serve for navigations from one place to another, when the wind is lacking, and for the mills of the sea, which are made with them, and above all with this movement the waters are purified, which would not lack bad odor and bad sustenance for the fishes, if they stood as in a pond pooled without moving. But not only in the sea, but also in all moist things it has special lordship. And thus we see with her waxing the moisture of trees and of shellfish grow, and diminish with the waning. Now the alterations that

this planet causes in human bodies, especially in the sick, in its fullnesses and new moons and in its eclipses, when a little of its light is impeded with the shadow of the earth, we all experience. What here is more to be considered is the admirable power and strength that the Creator gave to this planet, which being so many thousand leagues removed from us, by power of that light that it receives borrowed from the sun, works so many effects and changes on earth, that just as it goes changing, so it goes changing with itself all these things with so great a lordship, that a little that its light be diminished in an eclipse, the earth must then feel it. Therefore what would it be if this planet were wholly lacking to us?

After the moon follow the stars, of whose ornament and beauty we already spoke. But what did we say of so great a beauty? Therefore the number and the powers and influences of them, who will explain them except only that Lord of whom David says that "he alone counts the multitude of the stars, and calls each one by its name"? In which he first declares the obedience that these most clear luminaries have to their Creator, who calls the things that are not as if they were, giving being to those that do not have it. And of that obedience the Prophet says: "The stars stood in the places and stations that the Creator marked out for them and, being called by him, they obeyed him and answered: Here we are, Lord, and they shone with joy in service of the Lord who created them." The Prophet's saying also that he calls each one by its name is to say that he alone knows their properties and nature, and according to this he gave them names accommodated to these properties. Of this, then, which is reserved to divine Wisdom, human tongue cannot speak. But among other uses and profits of the stars, they also serve as the road markers for those who navigate by the sea. For lacking in the waters signs by which they may direct the steps of their navigation, they set their eyes on the heaven, and there they find signs in the stars, especially in the one that is fixed in the north, which never changes, in order to take it as certain rule of their road.

Chapter VI. Of the four elements or elemental region

But now it is time that we descend from heaven to this lower world, where the four elements reside, which are earth, water, air, and fire, which, as we already said, are the matter in which the heavens employ the efficacy of their power, working in them, and engendering and composing from them all bodily things. Where first there offers itself to us the place and the site in which the Creator seated them by such order and measure that, being contrary among themselves, they may have peace and concord, and not only not disturb the world, but rather conserve and sustain it. For this he ordered that each one of the elements should have one quality conformable to that of its neighbor, and with this lineage of alliance and kinship he put peace and concord among them. For the earth, which is the lowest of the elements, is dry and cold, and the water is cold and moist, and the air is moist and hot, and the fire is hot and dry, and in this manner the elements clasp and give the hand to one another, and make as it were a dance of swords, continuing themselves amicably by this form with one another.

And for greater conservation of this peace, the Creator in such manner tempered the properties of them, that the one that is very powerful to work should be weak to resist and, on the contrary, the one that is strong to

resist should be weak to work. This we see in fire, which, being so active and so burning of what it finds, has no force to resist a little water, with which all that fury of its ceases. For if it were strong in the one and in the other, it would burn the whole world, and there would be no one who prevailed against it. But on the contrary, the earth has no force to work, but it has it to resist, because neither fire, nor water, nor air is sufficient to corrupt it and change it into another substance, as we see the air be inflamed with the neighboring fire, and be converted into fire. In this manner the Creator equaled the forces of these four simple bodies, recompensing on one part what he took away or added on another.

He also gave another thing to these four bodies, which is a great inclination and impetus to run to their natural places, because in them they are conserved as in their proper place and center, and outside it they would receive injury from other contrary bodies. And thus we see that the air enclosed in the concavities of the earth makes it tremble in order to find exit to its natural place. And the impetus of fire is no less. And besides this, being outside these their places, they would disturb the order of the universe, one body taking the place of another. And for this same conservation he gave them another inclination to join some parts with others, when we divide them, except the earth, which because it is the most imperfect of the elements, lacks this movement. But water and air, if you divide them, then join together, because they are better conserved together than apart.

And this natural inclination the Creator gave to all things, however small and insensible they may be, which is to procure their conservation. What thing is smaller than a drop of water? Yet if this falls upon dust, then it gathers and reconcentrates itself within itself, and becomes round, because thus it is farther from drying up than if it were scattered and spread out. Oil likewise, poured with water, either rises above it, or changes itself wholly into some small eyes, so as not to lose its being, being incorporated or soaked in the water. Salt cast into the fire leaps and flees from it as from its contrary, because it is of the nature of water, from which it was formed, which is enemy of fire. Trees, when they are much shaded, grow more, and climb to the height to seek the sun that raises them, and likewise their roots, if they have water near, extend toward it, seeking there their sustenance and freshness. So that the Creator provided all creatures with inclinations that carry them to seek what is profitable to them, and to flee the contrary, so that thus they may be conserved in the being that he gave them.

Chapter VII. Of the element of air

Descending to treat in particular of each one of the elements, we shall begin with the air, whose benefits are many. For first with it men, and birds, and the animals that walk upon the earth breathe, receiving at all times, both waking and sleeping, this refreshment with which they refresh and temper the ardor of the heart, which is

a very hot member, so that it may not be choked with the abundance of its heat. The air also is the medium by which the light of the sun and of the stars, and with it their influences, pass and come to us, without which they could not do it, because both the light and the influences are accidents, which cannot be without a subject that sustains them. And besides this the same air, placing itself in the middle between us and the sun, tempers its heat, so that without annoyance we may enjoy its benefits.

But here it is to be noted that divine providence divided the air into three principal regions for the use of the things that here we shall declare. The first and highest part of it is joined to the element of fire, and for this reason is very hot, conformably to the quality of its neighbor. The lowest, which is joined to the earth and to the water, is temperate, but does not fail to have (especially at some times) heat, by reason of the reflection of the rays of the sun that strike the earth. But the part of the air that is in the middle of these two extremes is most cold, because fleeing these two extremes, it gathers and reconcentrates itself within itself, and thus is colder, as we see in the waters of wells, which, just as in winter are warm because they flee the cold, so in summer are cold, because they gather themselves inward fleeing the heat, which declares the marvelous

providence of the Creator, because this serves for the frosts and the dew of the morning to be engendered there, with which the plants are sustained and maintained in dry times; and the snows, which make the lands fertile and abundant. Wherefore we are accustomed to say "year of snows, year of goods." For both they, and also the frosts, hold back the plants as with the hand, so that they may not climb to the height, because they employ all their power in the low part, rooting themselves more in the earth, so that in their time they may grow with so much greater fruit, as they shall have greater foundation in the roots.

Here also the rain waters are engendered, because the sun, by means of its heat, lifts the more subtle vapors of the sea, as we already said, which, since they are subtle and of the condition of the air, easily climb to the height and, reaching this middle region of the air, which is (as we say) cold, they thicken and are pressed together with the cold, and thus are changed into water, which, as it is heavier, descends to the low, resolving itself into rain water. The experience of this we see in the alembics in which roses and other herbs are distilled, where the force of the heat of the fire dries the moisture of the herbs that are distilled, and resolves them into vapors, and makes them climb to the height, where, not being able to climb more, they join and thicken and are converted into water, which with its natural weight then runs downward, and thus is distilled, whence proceeds what Saint Basil relates, that when water is lacking to sailors, they boil a little of the salt water of the sea, and put above it a sponge that receives the vapors of that water, which afterward are converted into sweet water, with which they somewhat refresh their thirst. In this manner art imitates nature, as it does in all other things.

And it is no lesser matter of praise to see the manner in which the Creator ordered that rain water should fall from on high. For if all the minds of men set themselves to think in what manner this water would fall in order to water the earth, they could not hit upon another more fitting than this one. For it seems that it comes strained through the cloth of a sieve, distributing itself equally through all parts, and penetrating the entrails of the earth, in order to give sustenance to the plants, which with it are sustained, refreshing from outside the leaves

and fruit of the trees, which irrigation water does not do. This is that marvel that among others is attributed to God, of whom it is written in the Book of holy Job that "he is the one who catches and binds the waters in the clouds in such manner that they do not fall fully and wholly upon the earth." And Moses writes the same, praising the land of promise, by these words: "The land that you go to possess is not like that of Egypt, which in the manner of gardens is watered with water from the foot. For upon this our land the eyes of the Lord are placed from the beginning of the year to the end, in order to send it water and dew from heaven." Which benefit the Royal Prophet sings in Psalm 146, saying: "The Lord is he who covers the heaven with clouds, and by means of them sends water upon the earth." And this with so much abundance that, as is written in Job, he not only waters the sowings and lands of labor, but also the deserts and lands without road, so that they may produce fresh and green herbs.

But how great this benefit of the water that rains is, who will explain it? For whoever looks at this with attention will see that everything that is necessary for human life, the Creator provides by this means: by this he gives us bread, wine, oil, fruits, legumes, medicinal herbs, pasture for the flocks, and with them their meats, wool, and hides for our clothing and footwear, which the Prophet did not leave silent when he said that the Lord produced "in the mountains hay and grass for the service of men." And he says of men, though this is food of animals, because these (as we see) serve men in many ways. Finally, so many are the goods that through this water we receive that one of those seven Wise Men of Greece, by name Thales, came to say that water was the matter from which all things were composed, seeing that water is what raises all the fruits of the earth, and that not only the fishes of the sea, but also men, with all the other animals, are maintained by them.

And because this benefit is so great and so universal, the Creator took the keys of it, and reserved for himself the distribution of these waters, in order by them to give sustenance to his faithful servants, and to punish the

rebellious, depriving them of this benefit. And thus it is written in Job that "by this way God judges the peoples (punishing them with hunger) and gives food to many of the mortals." And thus God promises to the faithful keepers of his law in Leviticus that he will send them "the rain water at its times, with which the earth and the trees will give them copious fruit for their sustenance. And on the contrary, he threatens the breakers of it that he will make the heaven for them of metal, and the earth that they tread of iron, and that in place of water he will give them dust, to consume them with hunger. And not only sins, but also lack of gratitude for this benefit is accustomed to be cause of losing it." Of which God complains through Jeremiah by these words: "And men did not say, let us honor God, who sends us from on high the early and the late water, and gives us each year copious harvests to maintain us." Certainly it is much to be felt that, this being so great a benefit of the Creator, there are so few who recognize it, and give him thanks, and serve him for it, with which he gives us all things, and without which we could not live. And of this it ought to warn us that we see the water come from on high, in order to understand that the Creator sends it to us from heaven. Therefore what is this except for men of reason to imitate beasts, which lack it, which receiving the pasture and sustenance with which they are sustained, neither recognize the giver, nor give him thanks for it?

Another benefit of divine providence is the winds, which either are air, or are very similar to it, which benefit the Prophet did not leave silent when he said that the Lord produced and "brought forth the winds from his treasures," understanding by treasures the riches of his providence, which ordered that there should be winds for the use and provision of human life. For first "the winds carry the clouds and the waters that are in them, as is written in Job, to where the governor of the world wishes to send them." And thus we see that in Spain it rains with the southwesterly wind, which, passing over the sea, brings with itself the clouds to this region. But on the contrary, in Africa it rains with the north wind, which blows from the quarter of the north and, also passing over the same sea, carries the clouds, which are as water-carriers of God, to that land. Therefore now, what would become of navigation and commerce with the islands and with the other peoples, if the winds were lacking, and the air were always in calm? Therefore with this help so desired by navigators we run in brief space to the ends of the earth, carrying the merchandise that in one part abounds and in another is lacking, and bringing from them what is lacking to us and abounds to them, and in this manner all things become common, and all lands supplied, and finally of the whole world we make a common plaza and a city that serves all. And what is more: by means of the winds the faith and the knowledge of the Creator has run to the parts of East and West and to all the other regions, which is the best merchandise that can be carried from some parts to others. And no less does divine providence shine forth in the course of the winds, because we know that in the East Indies at a certain time of the year some winds run that serve to navigate with them to certain parts, and at another time others run that are for returning from them, and this so ordinary, that these, which they call monsoons, never fail for these roads, which divine providence ordered for the service and use of men, making the winds, as their servants, carry and bring them as upon shoulders to the desired places. And this being so, how few there are who recognize this benefit and give him thanks for it!

The winds likewise serve, as Seneca says, to purify the air and shake from it any corruption or bad quality that has clung to it. Of which those who remember a great pestilence that there was in the city of Lisbon and in some other places of the kingdom of Portugal in the year 1570 have experience. Which ceased with a very strong and unaccustomed wind, with which the sea grew so much that it covered the fountains that were beside it, and from sweet made them brackish for some days; which wind carried after itself the corrupt air, which was the cause of that pestilence. And for this the same author says that divine providence wished that winds should rise from all the parts of the world, so that in all of them the air might have one who purified and exercised it; so necessary is exercise and labor for all things. The winds also serve so that the farmer may winnow the threshing floor, and clean the grain from dust and from straw, and no less in the force of summer, when we are stifled with great heat, the Creator makes a fresh air rise, with which the entrails are refreshed and the force of the heat is tempered, with which those who know how to refer all things to God, and from all draw matter of edification, consider what that torment of the eternal fires will be, where the unfortunate are

burning in those flames, and never hope for this kind of relief and refreshment.

Chapter VIII. Of the element of water

From the element of air we descend to that of water, which is its neighbor, which at the beginning of Creation covered all the earth, as the element of air covered that same water. But because in this manner the earth could not be inhabited, the Creator, who created this whole world for the service of man, just as man for himself, commanded that all the waters be gathered in one place, which was the Ocean sea, and that the earth be uncovered for our habitation, and thus it was done, drawing the water out of its natural place, which was to be over the earth, and gathering it into another.

In this element there are many things to consider, which preach the praises of him who created it, namely: its greatness, its fecundity, its gulfs, its beaches, its ports, its waxings and wanings, and finally the great profits that come to us from it. For its greatness and fecundity the Psalmist praises God, saying: "This great and spacious sea, where there are so many differences of fishes that have no count, and animals both small and great"; this greatness the Creator ordered so that all nations might enjoy the profits of the sea, which are, on one part, navigation, which serves (as we said) for the commerce of peoples, and on another the sustenance that it graciously gives us, with the infinity of fishes that it raises. And for this the Maker wished that in it there should be many arms and gulfs, so that they might insert themselves through the lands, and enter through our doors, inviting us with their riches and providing us with sustenance. From here proceeds the Mediterranean sea, and the Red sea, and the Euxine sea, and the gulf of Persia, and many others, which are as arms of this great body, whose profits the Creator wishes all to enjoy. And in all of them there are their ports and beaches, where ships may safely be free from the force of the winds.

Nor does the omnipotence and providence of the Creator shine forth less in so great a multitude of islands as are distributed through the sea, which Saint Ambrose says are as some jewels of this so great and so beautiful body, which adorn it and declare the omnipotence and providence of the Creator: the providence, in providing these as inns and stations for navigators, where they may take refreshment, where they may recover themselves, where they may rest, where they may take shelter, either in time of storms, or when they wish to escape from the robbers of the sea. Nor does the omnipotence of the Creator shine forth less here in conserving some small islets in the midst of so great gulfs and abysses of waters and of the great waves that seem to wish to drown the earth, without for that reason being able to usurp a small piece of them, which is that marvel that the same Lord emphasizes when, speaking with holy Job, he says: "Who closed and set doors to the sea, when it ran with great impetus as if it came out from the womb? I am he who encircled it with my terms, and put doors and locks to it, and said to it: To here you shall come, and you shall not pass onward, and here the fury of your swollen waves shall be broken." And certainly it is a thing of admiration that, all the elements running with so great an impetus to their natural places, as we already said, and the natural place of water being to be over the whole body of the earth, and to have it covered, God has, with only his word, drawn it out of this place, and conserved it so many thousand years outside it, without it usurping one step of the space that he marked out for it. Which he brings as argument to confound the disobedience and disrespect of men, the obedience of the

unserviceable creatures being seen. And thus Jeremiah: "Will you not fear me, and will you not tremble at my presence, who was powerful to make the sand be the term of the sea, and to put upon it precept and commandment, which it will never break? And the waves will be moved, and will not prevail, and they will swell, and will not pass it over."

In the navigation that there is from Portugal to East India (which are five thousand leagues of water) there is in the middle of the great Ocean sea, where no bottom is found, an uninhabited islet that is called Saint Helena, supplied with sweet waters, with fishes, with game, and with fruits that the same land without any labor produces, where navigators rest, and fish, and hunt, and provide themselves with water. So that it is like

an inn that divine providence deputed for this effect alone, because for no other does it serve. And he who placed it there was not to create it in vain. And what marvels us more is how that peg of earth on which the island is founded rises from the most profound abyss of the water to the summit of it, without so many seas having consumed and worn it away. And besides this, how, this islet being in comparison with the sea no more than a nutshell, does it persevere among so many waves and storms entire, without consuming or wearing away anything of it? Therefore who will not adore here the omnipotence and providence of the Creator, who thus can found and secure what he wishes? This is, then, the bridle that he put upon this great body of the sea so that it may not cover the earth and when it runs impetuously against the sand, it fears to arrive at the terms marked out, and seeing there written the law that was put upon it, turns back in the manner of a furious and rebellious horse, which with the force of the bridle stops, and turns backward, although it does not wish to.

The sea also on one part divides the lands, crossing itself in the middle of them, and on another joins them and reduces them to friendship and concord with the common traffic that there is among them. For the Creator wishing to befriend the nations among themselves, did not wish that one alone should have everything necessary for the use of life, so that the necessity that some have of others might reconcile them among themselves. And thus the sea, placed in the middle of the lands, represents to us a great fair and market, in which are found so many buyers and sellers, with all the merchandise necessary for the sustaining of our life. For since the roads that are made by land are very laborious, and it would not have been possible to bring by land everything that is necessary to us, the Creator provided this new road, through which small and great ships run, one of which carries a greater load than many beasts could carry, so that nothing should be lacking to ungrateful and unknowing man.

These and many other utilities we have in the sea, because as Saint Ambrose says, it is hostelry of the rivers, fountain of the waters, matter of the great floods, carrier of merchandise, compendium of travelers, remedy of sterility, help of necessities, and bond with which separated peoples are joined, and bridle of the fury of the barbarians, so that they may not do us so much harm.

The sea also has another thing, which, as so principal a creature, represents to us on one part the meekness, and on another the indignation and wrath of the Creator. For what thing is meeker than the sea when it is quiet and free of winds, which we are accustomed to call a ladies' sea, or when with a temperate air it softly curls, and sends its gentle waves toward the bank, one succeeding another with a sweet noise, and

the one following the reach of the other, until they break upon the beach? In this, then, it represents to us the softness and meekness of the Creator toward the good. But when it is combated by strong winds, and lifts its fearful waves to the clouds, and the more it lifts them to the height, so much the more profoundly it uncovers the abysses, with which it lifts and lowers the poor navigators, powerfully whipping the sides of the great ships (when men are placed in mortal sadness, their forces and lives already surrendered), then it declares to us the fury of divine wrath, and the greatness of the power that can raise and quiet such tempests when it pleases him. Which the Royal Prophet counts among the greatnesses of God, saying: "You, Lord, have lordship over the sea, and you can tame the fury of its waves. Yours are the heavens, and yours the earth, and you created the roundness of it, with all that it embraces within itself, and the sea and the north wind that lifts it, you fabricated it."

There remains for us another excellence of the sea, so great that the mind and the pen fear to undertake it. For what words suffice, I do not say to explain, but to count by their names (if they had them) the differences of fishes that there are in this element? What understanding, what wisdom was that which could invent, I do not now say so many species, but so many differences of figures of fishes of such different bodies, some very small, others of incredible greatness and, between these two extremes, another thousand differences of greater and lesser? For he is the one who created the whale, and created the frog, and did not labor more in the fabric of that fish so great than in that of this so small one. There are some craftsmen who cut with shears

in silk or in paper a thousand differences of figures and chimeras in the manner that they wish, because the paper and the silk obey the will and mind of the cutter. Therefore what cutter was that so excellent who knew how to cut and trace so many differences of figures as we see in the fishes of the sea, giving to all their properties and natures so diverse? For he who cuts with shears does no more than form a figure, without giving it more than what it represents. But this sovereign Cutter together with the figure gave soul, and life, and senses, and movement, and skills to seek their sustenance, and offensive and defensive arms for their conserving and above all this so great a fecundity to conserve their species, that if we had not seen it, it would be totally incredible. For who will count the eggs that a shad has, or a hake in roe, or any other fish? Therefore from each little egg of these is raised a fish as great as that from which it came, however great it may be. Water alone as a soft mother, by power of the Creator, receives it in its lap, and raises it until bringing it to its perfection. Therefore what thing is more admirable? For since divine providence created this fishery for the sustenance of men, and those who must fish do not see the fishes in the water in the manner that hunters see game on the earth or in the air, he ordered that the fecundity and multiplication of the fishes should be so great, that the earth should be packed with them so that, wherever the net should fall, it would find what to seize. Many and almost innumerable are the species of birds and of animals that there are on the earth, but without comparison there are more that are in the sea, though it seems that this element was not disposed to receive dwellers that would populate it, nor to give them the pastures that we see on the earth, so that they might sustain them.

Therefore what shall I say of the differences of shellfish that the sea gives us? What of the variety of the figures with which many imitate the animals of the earth? For there are fishes that have the figure of a horse, others of a dog, others of a wolf, and others of a calf, and others of a lamb. And

so that nothing should be lacking to imitate, others have our figure, which they call sea-men. And beyond this, what shall I say of the shells from which fine scarlet is made, which is the ornament of kings? What of the other shells, and scallops, and figures of large and small snails, fabricated in a thousand manners, whiter than snow, and with this with spots of diverse colors, sown through all of them? Oh admirable wisdom of the Creator! How magnified are your works, Lord! All are made with supreme wisdom, and not only the earth, but also the sea, is full of your marvels. Therefore what shall I say of the strange powers and forces of fishes? The little fish that they call tardanaos makes a great ship stop, although it goes under full sail. Therefore how powerful is that Lord who, with so small an instrument, works so great a thing! A smaller fish is the sardine, and this supplies the sea and the earth, because it is common pasture of the greater fishes, and also is so of men. For which reason it is usually said of it that it goes more by land than by sea, traveling from some parts to others for our sustenance.

Nor is the sweetness and flavor that the Creator placed even more in fishes than in meats less to be considered, and thus anciently they served for the delights of princes. For which Saint Ambrose exclaims here, saying: "Woe is me, before man were created delights, before him abundance, mother of our luxury, than nature; first the temptation of man, than the creation of man!" But the Creator did not do this for temptation but for refreshment and provision of men, showing in this that he treated them as cherished children, so that the sweetness and taste of these foods might incite them to love and praise the Creator, who prepared this table and so sweet a banquet for them. But many men have so little discourse that, the creatures inviting them to praise the giver of all these goods, they in such manner feed and soak themselves in them, that it does not pass through their thought to give him thanks, and at least to say: The Creator made this for me, without owing it to me.

Chapter IX. Of the fourth element, which is the earth

Let us now descend to our common mother, which is the earth, from which our bodies are produced and fed. But this will be without departing much from the sea, because it is the sea that, by the veins and secret roads

that the Creator ordered, is kneaded with the earth for many profits: of which one is to make it a solid body, joining and pressing together with its moisture and coldness the parts of it, so that it may sustain us. For otherwise, it being in the highest degree dry, its parts would be as loose and unattached as quicklime is in powder, and thus it could not sustain us.

Among all the elements, this is the lowest and least active: but with all that, being helped by heaven and by the other elements, it serves and profits us more than all. With which our nature ought to grow and be strengthened, which, although of itself it is lower than that of the angels, can with the favors and helps of grace rise above them. Its seat and natural place is the center and middle of the world, surrounded on all sides by air and water, without for that reason inclining to one part or to another. For just as the Creator placed in the magnet stone that marvelous power, that it should look only to the north, and in it alone rest, so also he placed in the earth this natural inclination: that it should have for center and for its natural place the point that is in the middle of the world, and that to it it should always run, and in it alone

rest, without moving to one part or to another, which is as great a marvel as if a ball were in the air in the middle of a great hall, a thing that some philosophers could not believe. This is that marvel that the Psalmist sings when he says: "You founded, Lord, the earth upon its own firmness, which in the ages will never lose that place and position that you gave it, nor will it incline to one part or to another, and you ordered that the abyss of the waters should be like a garment, with which it was surrounded and clothed."

The same Psalmist says that "this was the place that divine providence deputed for the habitation of men. The heaven of heavens (he says) the Lord deputed for himself, but the earth for the dwelling of men." Therefore this earth, obeying the disposition and commandment of the Creator, as a benign mother receives us when we are born, and maintains us after being born, and sustains us while we live, and at the end receives us into its lap after we are dead, and faithfully keeps our bodies for the day of the general resurrection. This great element is softer and more favorable to us than the others, because from the waters we see that there proceed the floods and risings of rivers, which do notable harm in the neighboring lands; the air thickens in the clouds, from which are born the storms, which damage the sowings and destroy the labors of the poor farmers. But the earth, as servant of man, what fruits it produces, what odors, what flavors, what juices! What colors does it not engender! Who will be able to explain how great its fertility is, how great its riches, especially if we consider how many differences of metals were drawn from it five thousand years before the coming of Christ, and how many have been drawn from then to here, and will be drawn until the end of the world, men reaching, as that poet said, even to the shadows of hell, and pursuing gold and silver, however much it hides itself in the entrails of the earth? Therefore what shall I say of the variety of precious stones of great value and power, which are hidden in the inmost part of it?

But among the benefits of the earth very notable is that of the fountains and rivers that flow from it, and moisten and refresh it. For just as the Creator distributed the veins through the whole human body to moisten and maintain it, so he also wished that this great body of the earth should have its veins, which are the rivers, which running through all parts, refresh and moisten it, and help us to maintain ourselves, raising fishes and watering our sowings.

And because in many parts fountains and rivers are lacking, divine providence ordered that the whole earth should be soaked in water, because in this manner, by digging, men might supply with wells the lack of fountains. But who will not marvel here at the origin and principle from which these rivers and fountains flow? We see in many lands far from the sea, beneath a living rock, a great arm, and at times an ox, of water come out. From where, then, is this water born? How does it always run, winter and summer, in one manner? What abyss is that so copious that it always has something to give, and in so many thousand years is never exhausted? If you say that it is made from the air that is in the concavities of the earth, since it is true that from ten parts of air one of water is made, what so great a quantity of air will be necessary so that from there the river Nile, or the Danube, or Euphrates, or

our Guadalquivir, may perpetually come out, although I well know that other rivers that join with these help their greatness, but nevertheless they, and other similar ones, are great rivers in their birth? The Prophet praises God because "he brings forth the winds from his treasures," which is from the places that he with his wisdom marked out. How much more ought he to be praised for having created in the earth so great bosoms and gatherings of perennial water that never fail? What is the matter from which so much water is produced, and what the efficient cause that from that matter produces it? For until now the minds of the philosophers vary in declaring this generation of the waters, and scarcely do they say a thing that satisfies. But what here most satisfies is to give glory to God for this benefit, and to marvel at the providence of him who knew and was able to do this. And very coarse must he be who does not understand this. Once a very rough black man, passing with his master the river that is between Cordoba and Castro del Rio, and seeing its water run, turned to his master with his rough tongue, and said: Running, running, and never filling; running, running, and never ending: a great thing is God. Therefore this rough black man on one part confounds us, and on another obliges us to praise the Creator for this benefit. But that angel of the Apocalypse obliges us more, who, as Saint John relates, "came flying through the midst of heaven, crying out and saying to the dwellers of the earth: Fear the Lord, and glorify him, because the hour of his judgment draws near, and adore him who made the heaven, the earth and the sea, and all that there is in them, and the fountains of the waters." In which words, passing over in silence all the marvels that we see in the other elements, of the fountains of waters alone (as of a thing more admirable) he made special mention.

Therefore what shall I say of the medicinal waters that spring from the earth for the cure of many illnesses? For there are some that relax contracted members, of which the crippled make use; others on the contrary tighten those that are loose and relaxed; some dry up the abundance of phlegms, others serve to cure melancholy; some avail against gout, others against the stone, others heal half-rotten wounds: so great is the power that the Creator placed in so simple a medicine, and all directed and provided for the health and remedy of ungrateful man, who receives the benefit, and does not answer with due thanksgiving.

And above all this, how so great is the power that that divine president gave to the earth with one word and commandment that in the beginning he put upon it, which every year without ceasing gives us abundance of wheat, of wine, of oil, of fruits, of legumes, and of pasture for maintenance of the animals that serve us. Men pass easily through these things, and neither consider this marvelous fertility that the Creator gave to the earth, nor the admirable power that he placed in a grain of wheat and in all the other seeds, because the custom of seeing this every day took admiration away from things so admirable. They marvel only at rare and unaccustomed things, not because they are greater, but because they are less used. But for those who know how to weigh the works of God, as Saint Augustine says, these daily things are matter of greater admiration and knowledge of God than all the others, however rare and new they may be.

Chapter X. Of the fertility and plants and fruits of the earth

After the earth, it follows that we treat more in particular of its fertility and fruits. And this is already to begin to treat of the things that have life, because those that until here we have referred to, which are heavens, stars, elements, with all the other imperfect mixtures, do not have it. And because the things that have life are more perfect than those that lack it, the wisdom and providence of the Creator shines forth more in these, and when the life shall be more perfect, so much clearer testimony does it give us of the artificer who made it, as will be seen in the process. For God is not, as they are accustomed to say, a gatherer of ashes and a scatterer of flour, but rather, the more perfect things are, so much greater care and providence he has of them, and so much more he discovers in them the greatness of his wisdom, and so that we might know that to him alone we owed this so general benefit of the fruits of the earth, he created them on the third day, which was before he created the sun and the moon and the other planets, with whose power and influences the plants are born and raised, and before there were seeds from which they might be born, as now they are born. In such manner

that the power alone of his omnipotent word supplied the material and efficient cause of all the plants and trees of the earth. All this variety of innumerable species cost him no more than only these words: "Let the earth produce green herb, which has within itself its seed, and fruit-bearing trees according to their species, etc." This commandment being heard, then, the earth at once gave birth, and dressed itself in greenery, and received power to fructify, and adorned and beautified itself with diverse flowers. But who will be able to declare the beauty of the fields, the odor, the sweetness, and the delight of the farmers? What will our words be able to say of this beauty? But we have testimony of Sacred Scripture, in which the holy Patriarch compared the odor of the fertile fields with the blessing and grace of the saints. "The odor," he said, "of my son is like that of a full field." Who will be able to declare the beauty of the purple violets, of the white lilies, of the resplendent roses, and the grace of the meadows, painted with diverse colors of flowers, some of the color of gold, and others of scarlet, others variegated and painted with diverse colors, in which you will not know what pleases you more, either the color of the flower, or the grace of the figure, or the sweetness of the odor? The eyes are fed with this beautiful spectacle, and the sweetness of the odor that is poured through the air delights the sense of smell. Such is this grace that the Creator himself applies it to himself, saying: "The beauty of the field is in me": For what other artificer would be sufficient to create so much variety of things so beautiful? Set your eyes on the lily, and look how great is the whiteness of this flower, and the manner in which its foot climbs to the height accompanied with its little small leaves, and afterward comes to make on high a form of a cup, and within it has some grains as of gold, enclosed in such manner that they can receive harm from no one. If someone picked this flower, and took away its leaves, what hand of craftsman could make another that equaled it, since the Creator himself praised them, when he said that neither Solomon in all his glory was clothed so richly as one of these flowers?

Do we marvel that the earth has engendered so quickly? How much greater marvel it is if we consider how the seeds scattered in the earth do not give fruit, if they do not first die: in such manner that the more they lose what they are, so much greater fruit they give. Saint Ambrose takes delight in this place contemplating and painting with words the manner in which a grain of wheat grows, in order to teach by his example to contemplate and find God in all things, and thus he says: "The earth receives the grain of wheat and, after being covered, she as mother gathers it into her lap, and afterward that grain is resolved and converted into

grass, which, after having grown, produces an ear with some small pods, within which the grain is formed, so that with this defense neither the cold may harm it, nor the ardor of the sun burn it, nor the force of the winds nor of the many waters mistreat the newly born fruit. And that same ear defends itself from the little birds, not only with the pods in which the grain is enclosed, but much more with the awns that in the manner of pikes are aimed against the injury of these little birds. And because the slender stalk could not suffer the weight of the ear, it is strengthened with the shirts of the leaves with which it is clothed, and much more with the knots that it has distributed at intervals, which are like brick courses in walls of rammed earth, to secure them. Of which the oat lacks, because, as it does not have a load on high, it had no need of this fortification. For that most wise artificer, just as he does not fail in what is necessary, so he does not make superfluous things." The aforesaid is from Saint Ambrose.

Under this name of herb are understood not only the harvests, of which we have now finished treating, but also many differences of legumes created for help of our sustenance, of which some are kept dry for the whole year, and others, of which we then make use, when they have grown. And of these, some are raised beneath the earth, and others above it. And among these enter those that raise within themselves kernels, which afterward serve as seed in order to be born again, among which are counted those for which the children of Israel sighed in the desert. And in this is seen the providence of the sovereign Governor, who, just as he created fresh fruits accommodated to the time of summer, for refreshment of our bodies, so also he created legumes proportioned to the quality of this same time. So that, not content with the provision of so many meats of animals, of fishes, of birds, of fruit trees and of abundant harvests, he also increased this

providence of legumes, so that no lineage of sustenance might be lacking to men, who know so badly how to thank it, since making use of the benefit, they do not know how to lift the eyes to look at the hands of him who gives it, not only to the good, but also to the bad for love of the good, just as in providing for men he did not forget the animals for love of men. Which the Prophet did not leave silent when he said that the Lord "produced in the mountains hay and grass for the service of men." And he says "of men," because although this is not their sustenance, it is that of the servants that are deputed for their service, which are the brute animals. Therefore by what has been said it will be understood that not only are those men barbarous who go naked like savages beneath the equinoctial line, but also many of those who drag silks and velvets, which will be understood by this example. If a gentleman, going on the road, came to stop at the house of a rich farmer, and this man, without having any obligation to him, lodged him with all the humanity and apparatus that was possible to him, and set for him a table full of all the best foods and birds that he had in his house, and if, the meal finished, the gentleman departed without taking leave or giving thanks to his host, nor speaking to him a single word of humanity or of thanksgiving, what would we say of this man? We would say that he was more than barbarous, and proud, and inhuman, and scarcely would we hold him for a man. Therefore according to this, in what predicament shall we place many rich and powerful men who, seating themselves each day at the table, and seeing it full of precious and diverse foods, which God created not for himself nor for the angels, but only for refreshment and sustenance of men, neither give thanks to him who thus provided and hosted them in this his great house of the world, without having any obligation to them,

and nor does it pass through their thought, seeing each day the table full of his benefits, to remember so liberal and magnificent a benefactor and provider? Therefore who will deny me that those who live with this so great forgetfulness are more than barbarous? Such was that avaricious rich man of the Gospel who, eating each day splendidly, neither remembered God, nor poor Lazarus whom he had before him.

I

And no less were infinite medicinal herbs created for man, of which medicine today makes use, some that purge choler, others phlegm, others melancholy, others that purify the blood, others that heal wounds, others that serve to give heat to the stomach, others to temper that of the liver, and others that distilled serve to clear the sight, and others for a thousand manners of illnesses. Therefore how admirable is the providence of the Creator in the powers that he placed in all these herbs! Let us put an example in only the root of rhubarb, which has special power to purge the choleric humor, in such manner that, being drunk, the power of it reaches the liver, where is the fountain of all the veins, which are spread through the whole body. And since in them is the mass of all four humors, the power of this root principally attracts and calls to itself the choleric humor, leaving the others, which by its call comes, and by the same goes out of the house, and leaves its body clean and healthy. So that, just as the Creator gave to the magnet stone this power, that having beside itself diverse metals, it attracts only iron to itself, leaving the others, so he placed power in this root to call and attract this humor in the manner that has been said.

And not only in herbs, but in precious stones he placed medicinal powers, as in the stone that they call bezoar, which avails for many things, and even in sticks and wood he placed this curative power, as we see in the wood that they call of China and of India, to which he gave power to heal illnesses, which most times are acquired with offenses of his Majesty, notwithstanding which he wished to provide remedy for it; so great and so magnificent is that sovereign Goodness. In all which even the blind will see how great is the love of the Creator toward men, and the care that he has for their health, since so many manners of medicines as are already discovered and as are discovered each day, he created for him. For the root of what they call mechoacan was known in Spain in our days.

All this so great provision and abundance of things that the earth gives declares the providence that our Lord, as a father of a family, has for his house, to sustain, cure, and provide for his servants. But what shall we say of so many differences of flowers so beautiful, which do not serve for sustenance, but for the sole recreation

of man? For for what other office do the pinks, the carnations, the lilies, the white lilies and wallflowers, the clumps of basil, and other innumerable differences of flowers serve (with which the gardens, the mountains, and the fields and the meadows are full), some white, some red, some yellow, some purple, and of many other colors, together with the skill and artifice with which they are worked, and with the order and harmony of the leaves that encircle them, and with the most sweet odor that many of them have? For what, then, does all this serve except for the recreation of man, so that he might have in what to feed the sight of the eyes of the body, and much more those of the soul, contemplating here the beauty of the Creator and the care that he had, not only of our sustenance, as father of a family for his

servants, but as true father toward his children, and cherished children? And as such he is not content to provide them with what is necessary for their conservation, but also with things fabricated for their recreation. And thus he wished that not only the splendor of the stars that in serene nights we see in the heaven, but also the abundant valleys and the green meadows, painted with diverse flowers, should be for us as another starry heaven, which on one part might recreate our sight with sweetness and beauty, and on another might awaken us to praise the Creator, who traced and created all this, not for himself, nor for the angels, nor for the brutes, but for the taste alone and honest recreation of man.

Let us now put this into practice, and looking among other flowers at a beautiful clump of carnations, let us take one in the hand, and begin to philosophize in this manner. For what end did the Maker create this flower so beautiful and odorous, since he does nothing without some end? Certainly not for the sustenance of man, nor either for medicine or a similar thing. Therefore what other end could he intend here except to recreate our sight with the beauty of this flower, and the sense of smell with the sweetness of its odor? And let him not stop only here, but proceed further, considering how many other differences of flowers he created for the same, and above all this how many of most precious stones that no less, but much more, gladden this sense. And beyond this, how many other things he made to recreate the senses! How many musics of birds for the sense of hearing! How many aromatic spices for that of smell! How great an infinity of flavors for that of taste! Therefore how much is declared in this benignity and sweetness of that sovereign Lord, who, at the time that he created things, had so much account of man, that not only did he create for him so great a multitude of foods and of all the rest that was necessary to him, since all this visible world serves him, but he also had special care to create so many differences of things for his honest recreation, and this so abundantly that none of the bodily senses lacks its proper objects in which it may delight! Therefore what thing is more proper to a loving father toward his children, and even children (as I said) cherished?

And not content with this, he also created trees for this effect alone, as is the laurel, the myrtle, the cypress, the odorous cedars, and the poplars, and the ivy, which dresses the walls of gardens with greenery, and serves them as hangings for arming, and other trees of this quality, which (since they lack fruit) seem to have been created for the sole recreation of our sight, which is such, that Ecclesiasticus could say: "The eyes take pleasure in the grace of beauty, but the greenery of the sowings has advantage over this."

But to wish to count the multitude of the herbs, and the powers and properties of them, is a thing that was reserved to Solomon, of whom Scripture says that he treated of all the plants, from the cedar of Mount Lebanon to the hyssop that is born in the wall. But this is evident to us, that the earth is no less populated with plants than the sea with fishes; rather many seas are found without fishes, and scarcely will a palm of earth be found that is not clothed with clothing in its time, without there being one who sows or tills it, it obeying the commandment that in the beginning was placed upon it by the Creator.

II

After the herb the Creator also commanded the earth to produce every kind of trees, whose differences and species also cannot be explained, as those of the other plants. Of which some are fruitful, others sterile, some that give sustenance for men, others for beasts, some that never dismiss the leaf, others that each year change

it, some that (as we said) serve for no more than freshness and shade, and others that serve for other uses, and thus there are other similar differences.

And among those that are fruitful, some give fruit for the time of summer, others of winter, and others for all time. And in the one and in the other there is much to consider the trace and order of divine providence, which distributes these trees by diverse genera, and beneath each genus places diverse species, which are comprehended beneath them, both so that there may be abundance of sustenance for men, and so that it may take away from them weariness with the variety of the fruits. Let us put examples: beneath the plum tree, how many species there are of plums, some early, some late, some of one color and of one figure, some of diverse colors and figures! Beneath the genus of grapes, how many differences there are of grapes! Beneath the pear tree, how many differences of pears! Beneath the fig tree, how many differences and colors of figs! Beneath the pero and the apple tree, how many species of peros and of apples! Beneath the lemon, how many species of limes and of lemons! In this manner that most wise Governor distributed things by their lineages and castes, as we see here. Which (as we said) serves so that this lineage of sustenance may never be lacking to us, because in this manner some fruits succeed others, which are the late to the early, and for this cause in the same tree not all the fruit comes together in one same time, as is seen in fig trees, but little by little: after one part of the fruit of the same tree ripens, the other goes ripening, so that thus its fruit may last more days.

And the gift of this providence is seen more clearly in the fruits of summer. For with the heat and dryness of the time bodies naturally desire refreshment from cold and moist fruits, for which the Creator attended with so many differences, not only of fruits, but also of legumes accommodated to the quality of this time. Therefore why will unknowing man not have account with him who thus had it with his refreshment and gift? Nor does it make against this that many become ill with fruit, because this is not the fault of the fruit, but of distempered man, who makes bad use of the divine benefits, just as it is not the fault of wine that many become drunk from it, but of the abuse of men.

Nor does divine wisdom shine forth less in the fabric of any tree. For first, as the one who wishes to make a house first opens the foundations upon which the building is to be sustained, so the Creator ordered that the first thing that the plant or the seed should do before it climbs to the height should be to put forth roots in the low part, and these proportioned to the height of the tree, so that, when the tree climbs more to the height, it always puts forth so much deeper roots in the low part. This done, from there then comes forth the trunk, which is as a column of the whole building, from which proceeds the crown of the tree with its branches extended to all parts, recreating the sight with its flowers and leaves, and afterward liberally offering us the fruits already seasoned and mature. Where it is also a thing to note what Seneca very well noticed, that the differences of these leaves being as many as are those of the trees and shrubs and herbs (which are innumerable), none altogether resemble others, but always, either in greatness, or in figure, or in color, or in other such things, we see some differ from others. And the same he noted in the diversity of the faces of men, that being innumerable scarcely is there one that resembles

the other: so great is the power of that sovereign painter, who in so many things discovers to us the greatness of his art and wisdom.

Nor is the manner in which these trees and all the plants are maintained less to be considered. For in the roots they have some little beards, through which they attract the moisture of the earth, which with the heat of the sun climbs to the height through the heart and bark of the trunk, and through all the pores of the tree, for whose conservation these same barks serve, which are like shirts or garments that shelter and dress it. The leaves also have, in the manner of the human body, their veins, through which this juice runs and is distributed, traced in such manner that in the middle is the greater vein, which divides the leaf into two equal parts, and from this all the veins branch, becoming thinner more and more until they remain like hairs, through which the nourishment is communicated to the whole leaf, which I noted in some leaves of a pear tree, from which some little worms maintain themselves that ate the most delicate part of the upper surface of

the leaf, and thus that marvelous net and weaving of very tiny veins that were discovered there remained clear. Therefore in this manner not only is the tree maintained, but it also grows by means of the power of the vegetative soul, and grows more than any of the animals that have the same soul. And among other causes of this growth, one is that the brutes not only are occupied in sustaining the body, but also in the works that are called animal, of the senses, of which office the plants lack, and for that reason, as more unoccupied, they grow more. And from here it proceeds that studious men, or those given to contemplation, have weaker bodies, because they exercise more these animal operations, not of the exterior senses, but of the interior ones, and power divided is weaker than that which is joined.

III

Nor either did providence forget the guard of the fruits already mature, because for this it first provided that the trees should have leaves, not only for beauty and shade, but to defend the fruit from the ardors of the sun, which in a brief space would dry it. And when the fruit of these trees is more tender, as is that of the fig trees and vines, so much did he provide that the leaves should be larger, as we see in these. But he did not wish that the leaves should be round, but jagged and open in some parts, so that in such manner they might defend from the sun, that they should also leave these wickets open, in order to enjoy temperately the airs and it.

But still more is this providence discovered in the guard of other fruits that are in greater danger, such as those of very high and windy trees, of which some are born on the summit of the mountains, as are the pines, whose fruit would not be achieved if the Creator did not put upon it so faithful a guard as is the pinecone, where with so marvelous an artifice the fruit is lodged and guarded in its little vaulted houses so well, that all the fury of the winds is not sufficient to knock it down. Walnut trees also are large and high trees, and no less are chestnut trees (which are sustenance of poor people, when bread is lacking to them), which at times are planted in mountainous places, and thus very subject to the impetus and coldness of the winds. For which the Creator clothed and sheltered them with that hedgehog-like burr that we see outside, and afterward with two tunics, one harder and another softer, that dress the fruit, which are like the dura mater and pia mater that encircle and guard the brains of our brain. And almost the same we can say of walnuts, which also are born well wrapped and guarded from the injuries of suns and airs.

And because some bear notably large and heavy fruit (as are quinces and citrons), the author provided that the branches or rods from which this fruit hangs should be very strong, as are those of quinces, with which the holy martyrs were cruelly whipped. And because citrons are even greater, he provided that the branches from which they hang should not only be strong and thick, but that they should also be straight, so that they could better support the load, because even in this it may be seen how in no created thing did that sovereign providence and wisdom of the Creator sleep or lose a point.

Therefore the beauty of some trees, when they are very loaded with fruit already ripe, who does not see it? What thing so joyful to the sight as an apple tree or camueso with its branches loaded on all sides with apples, painted with such diverse colors, and casting from itself so sweet an odor? What is it to see an arbor, and to see among the green leaves so many and so great and so beautiful clusters of grapes of diverse casts and colors hanging? What are these except as beautiful jewels, which hang from this tree? Therefore the artifice of a beautiful pomegranate, how much it declares to us the beauty and artifice of the Creator! Which, because it is so artful, I cannot fail to represent in this place. Therefore first he clothed it outside with a garment made to its measure, which encircles it all, and defends it from the intemperance of the suns and airs, which on the outside is somewhat stiff and hard, but within softer, so that it may not roughen the fruit that is enclosed in it, which is very tender; but within it the grains are distributed and seated in such order that no place, however small it may be, remains unoccupied and empty. It is all distributed into diverse shells, and between shell and shell there extends a cloth more delicate than sendal, which divides them among themselves. For since these grains are so tender, they are better conserved divided with this cloth than if all were together. And beyond this, if one of these shells rots, this cloth defends its neighbor, so that part of its

harm may not reach it. For for this cause the Creator distributed the brains of our head into two bosoms or bags, divided with their cloths, so that the blow or harm that one part of the brain received might not reach the other. Each one of these grains has within itself a little white bone, so that thus the soft may be better sustained upon the hard, and at the foot it has a little stem as thin as a thread, through which the power and juice climbs from the low part of the root to the high part of the grain, because by this little stem it feeds, and grows, and is maintained, just as the child in the entrails of the mother by the little navel. And all these grains are seated in a soft bed, made of the same matter as the interior of the bag that dresses the whole pomegranate. And so that nothing should be lacking to the grace of this fruit, it is all finished on high with a royal crown, from which it seems that kings took the form of theirs. In which the Creator seems to have wished to show that this was queen of the fruits. At least in the color of its grains, as living as that of some corals, and in the flavor and healthfulness of this fruit, none has advantage over it. For it is joyful to the sight, sweet to the palate, savory to the healthy and healthful to the sick, and of a quality that it can be kept the whole year. Therefore

why do men, who are so acute in philosophizing in human things, not be so in philosophizing in the artifice of this fruit, and recognizing by it the wisdom and providence of him who from a little moisture of earth and water creates a thing so profitable and beautiful? The Spouse understood this better in her Canticles, in which she invites the Spouse to the juice of her pomegranates, and asks him to go with her to the field to see if the vines have flowered and she.

And because here mention is made of the vines, it will not be reason to pass in silence the fertility of the vines, because though the vine is so small a tree, the fruit that it gives is not small, because it gives grapes almost for the whole year, gives wine that maintains, strengthens, and gladdens the heart of man, gives vinegar, gives boiled must, gives raisins, which is savory and healthful sustenance for healthy and sick. For that reason it is not much that that eternal Wisdom compares the fruits that proceed from it to those of this little tree so fertile. And the Savior in the Gospel also compares himself with it, speaking with his disciples and saying: "I am vine, and you the branches." Wherefore, just as the branch cannot fructify if it is not united with the vine, so neither can you if you are not in me. And although this tree is so small, and cannot by itself climb to the height, remedy did not lack for it for that, because from it proceed some twisted little branches, with which it grasps the branches of the trees, and climbs as much as they climb, especially when they are joined with a very high tree. In which the image of our Redemption appears to be expressed, because in this manner we men climb (though we are creatures so low, if we compare ourselves with the angels), leaning upon that high cedar of Mount Lebanon, which is Christ our Redeemer, uniting ourselves with him, not with the tendrils of the vine, but with bonds of love, with which (according to what the Apostle says) we rise again with him, and climb to heaven with him. Which Saint Gregory declares by these words: "That divine height could not be seen by us, and for this reason it lowered and prostrated itself on the earth, and took us upon its shoulders and, he rising, we all rose together with him, since by the mystery of his Incarnation human nature remained, as to this debt and kinship, sublimated and ennobled above the angels themselves."

IV

And because in the division of the trees that above we made, the sterile and wild trees enter, it is also reason to declare in this the care of divine providence, which (seeing how men had need of sustenance to sustain themselves, so also they had it of houses to lodge themselves and defend themselves from the injuries of the times) created trees very accommodated for this end, because just as he ordered that the fruitful ones should be for the most part low and sprawling (so that the fruit of them might more easily be gathered), so he wished that those that he created for buildings should be high and very straight, as are the royal pines, the high oaks, the white poplars, and other similar ones, because such it was fitting that they be for the great timberworks. But the other infinite rabble of wild trees serves for pasture of many animals that are maintained from the branches and barks of them, and also serve for fire, which is greatly necessary to us, not only for our shelter,

but also for our sustenance and for many other offices. In which is seen that there is nothing so vile and low in the fields that it is not

necessary for the provision of our life, which, as it is so weak, has need of all that is seen in this world, so that it may be conserved.

And because nothing should be lacking to the necessities and use of human life, that most liberal hand created another kind of trees for other uses different from the past ones, because he created aromatic trees, as is that of cinnamon and the one that they call eagle wood, which is of most sweet and very healthful odor, and others also, from whose tears proceeds the balsam in the parts of the East and amber in Africa and Egypt, which being the tear of a tree, comes to be as hard as a stone, within which are seen little pieces of leaves of trees, or little animals that fell into it when it was tender.

He also wished that wild trees could be domesticated and made fruitful with the art of grafting, as we see that from wild olive trees fruitful olive trees are made with this benefit, and likewise that those that had some defect should be capable of remedy and medicine. In this manner Saint Ambrose says that if, bruising the root of the bitter almond tree, they inserted into it a little piece of pine, it comes to be made sweet.

Another thing we see in trees that, according to this same Saint, is worthy of admiration, and it is that there are in some trees male and female, as in the palm, which being near the palm that they call male, naturally inclines its branches toward it, and from it the dates receive the ripeness and sweetness that they have, for which the farmers, when the male is far, gather from its fruits, and put them on the female, and with this manner of remedy the fruit is seasoned. And much more common and more notorious is this in fig trees, which in many parts receive from the wild figs, which are the males, the sweetness and honey of the fruit that they produce, without which the figs come out useless and diminished. And for this the gardeners use a similar artifice to the past one, making some strings of these male figs and putting them on the branches of the fig tree, which they call caprification, where there are two things of admiration: the one, that from this fruit of the wild figs there come out some very small little flies, which, touching the little eye that the fig has on high, give it all the ripeness and honey that it has, in so much abundance that at times a little thread of the honey that is inside comes out through that little eye. The other is that, there being in a fig tree thousands of figs, they surround it all in such manner that they leave no fig untouched and without doing it this benefit. Therefore who will not marvel at the omnipotence and providence of the Creator, who to an animal so small gave such power that it sufficed to mature and season this fruit only by touching it, and such industry and providence that it left none untouched? In which the Creator wished to teach us that all things have need of one another, and that there is none that by itself alone has it all, and likewise that there is none so small that it does not have its power and property. For which in all things may the Creator be forever praised, who made all things in number, weight, and measure, and in all wished to give himself to be known to us.

But at the end of this matter it is not reason to cast into oblivion the care that divine providence had for the conservation of the species of all corruptible things, and especially

of plants. For which he provided two things: the one, that the abundance of seed that each one of the plants produced should be so great that seed could never be lacking from which such a plant might again be produced. The other was to have placed so marvelous a power in each seed of these that, from a grain or very small kernel, there should be born a great plant, which also should produce this so great abundance of seeds for its repair. The one and the other we shall see in a mustard plant, of which the Savior makes mention in the Gospel, which bears little grains of mustard in such abundance as we see, and each little grain of these, after being sown, produces another plant loaded with thousands of them. Likewise, from a melon seed is born a melon plant, and in each melon so great an abundance of seeds to repair and conserve this species. Therefore what shall I say of the seed of the orange tree sown? How many other oranges and seeds it bears, and this each year! Therefore in this manner, how must the species of plants be lacking in the world, having so

copious a matter for repairing themselves, as many grains of seeds as each one bears? In which we see how well God knows how to provide what he wishes to provide. And with this example we can very well philosophize and understand how copious the Redemption has been that he sent us, by means of the mystery of the Incarnation of his only-begotten Son. For if so copious was the remedy that he provided to conserve the species of the plants, how copious would be the one that he provided to repair and sanctify the species of men? Which the Apostle did not leave silent when he said that "the riches of grace that the Son of God brought to the world were incomprehensible." Nor did the same Lord leave it silent, when he said: "I came into the world to give men life, and very abundant and copious life."

But here we shall give an end to the work of the third day, when the Creator commanded the earth to fructify, but not to the praises and thanks that for this benefit we must always give him, hearing the common voice of all the creatures, which with the artifice of their composition and with the benefit of their fruit are always saying to us: "God made me, and for you he made me."

Chapter XI. Preamble for beginning to treat of the animals, chiefly of those that they call perfect

Another more perfect degree of life have animals (chiefly those that we call perfect) than plants, of which until here we have treated, because they have sense and movement, and as much as these are more perfect than plants, so much greater notice do they give us of the Creator, who has greater providence for the more perfect things. And thus there are books by great authors, and even by illustrious kings, who, marveling at the fabric of the bodies of animals, and much more at the abilities that they have for their conservation, gave themselves to inquire into the natures and properties of animals. That great Alexander, who seems to have been born for nothing more than arms, in the midst of this business, which suffices to occupy the whole man, desired so much to know the properties and natures of animals that he commanded all the hunters, and fishers, and huntsmen, and shepherds of cattle, and breeders of birds or animals that there were in all Greece and Asia, that they should obey Aristotle, and give him notice of all that each one in his faculty knew, so that he might write those so praised books of the animals. And all this was done for a little taste that the curiosity of human wit receives with the knowledge of similar things. This was certainly a small reward for so great a

labor. But how much greater is that which is promised to the religious man in this consideration, since by it he rises above the stars and above all created things, and climbs to the knowledge of that sovereign Maker, in which knowledge there is a great part of our blessedness? And thus he says by Jeremiah: "Let not the wise man glory in his wisdom, nor the strong man in his valor, nor the rich man in his riches, but in this let him glory who wishes to glory, which is to have knowledge of me." Therefore to this so great knowledge this treatise is ordered, in which, if it should be longer than is fitting for a philosopher (for this is proper matter for philosophers), let no blame be laid upon me, since I do not treat it here as a philosopher, but as one who treats of the work of Creation, which is proper to theology, especially since all of it is referred to the knowledge of the Creator. I did it also because this matter is sweeter and more pleasant to the reader, who many times will not be able to cease marveling at the wisdom and providence of God, which in these things singularly shines forth, where he will see things in appearance so incredible that it will be necessary for him to have recourse to that memorable sentence of Pliny, who says to this purpose that the majesty of the works of nature is so great that many times it surpasses human faith and credulity. But whoever considers that in all animals God supplies the lack that they have of reason, with his providence, working in them by means of the natural inclinations and instincts that he gave them, what they would work if they had it perfect, what is said in this matter will not be incredible to him. For he who by his will and goodness alone created them, and wished them to remain in the being that he gave them, it was clear, since his works are so perfect, that he had to give them all that was necessary for their conservation, he working in them what was fitting to them for this. And thus Saint Thomas says that all these animals are instruments of God, who, as first and principal

cause, moves them to all that is fitting to them by means of those natural inclinations and instincts that he gave them when he created them. But because above we said that God does not stop at this provision alone of the animals, but passes further on to manifest by this means his glory (which is discovered so much the more perfectly, as he does more and greater marvels in this), for this reason no one should hold as incredible the things that concerning this shall be said, since both the efficient cause (which is God) and the final cause (which is the manifestation of his glory) make all these works so much the more credible, as they are more admirable, and give us greater testimony of the glory of the Creator.

That memorable sentence of Aristotle also serves for this credulity, who says that the works of animals have great likeness to those of men, because what these do for their conservation, those also do for theirs. Which, setting aside other infinite examples, he proves with the art with which the swallow builds its nest. For as the mason, when he wishes to coat a wall with mud, mixes straw with the mud to bind the one with the other, so also does she in the fabric of her nest. And thus all the rest of it she makes so proportioned to the rearing of her little young, as any man of reason would do it. And according to the sentence of this great philosopher, the more the works of animals are like those of men, so much are they on this side more credible, although to those who do not consider this, they may seem more incredible. To men the Creator gave understanding and reason so that they might provide themselves with all that is necessary for their conservation, although for this infinite things may be necessary, because reason alone suffices to discover them and invent them. But with all this God is not bound to conserve the life of animals by this means, because without it he can impress in them

such natural inclinations and instincts that with these they do all that they would do if they had reason, not only as perfectly as men, but much more perfectly. For they are more certain, and more infallible, and more regular, and more constant in the works that belong to their conservation, than men in theirs. And they even pass further ahead than they, both in the knowledge of their medicines, and in guessing the changes of the airs and of the times, which men do not know except by learning them from them. All which will be seen in the process of what we shall say. Therefore in this the Creator manifested the greatness of his power and of his wisdom and providence, because, although the species of animals that there are in the sea, and on the earth, and in the air are innumerable, and seem more than the stars of heaven, in none of them, however small it may be, did he neglect even a single point, because in all of them he placed so many and so diverse abilities and faculties for their conservation, as they are, which are almost infinite. Therefore who will not remain astonished considering the greatness of that power and of that wisdom and providence, which worked so many and so great marvels in so many differences of creatures, and what is more, with a single word?

And in order to proceed in this matter orderly, first we shall treat of the properties of animals in common, and afterward we shall descend to treat of them in particular.

Chapter XII. Of the common properties of animals

Beginning to treat of the common properties of animals, the first thing that it is fitting for us to notice in this matter is the perfection and beauty of divine providence, which, since by its infinite goodness it determined to create them for the service of man, by the same case also determined to provide them with all that would be necessary to conserve themselves in that being that it gave them, which is for maintaining themselves, for defending themselves, for curing themselves in their ailments, and for rearing their children, without there lacking for each of these things a point.

Therefore for this first he created diverse differences of foods proportioned to all the species of animals, of which some maintain themselves on flesh, others on blood, others on grass, others on branch, others on grain, and others on little worms that go about on the earth or through the air. In which there is much to consider the provision and supply of this sovereign providence, because, the species of the animals great and small being innumerable, and their sustenances being so different, to none, however little and despised it may be, is its

proper sustenance lacking, which is that marvel that the Prophet sings when he says that "the Lord gives food to all flesh." And in another place: "He gives," he says, "their pasture and sustenance to the beasts and to the little young of the ravens that call upon him." This is still more admirable in the little birds, which do not graze grass. For we see in Spain at the beginning of the month of May, when there is no grain of wheat, nor of barley, nor of flaxseed, nor of millet in the fields, such abundance of swallows, both parents and newly reared children, that there is no church, nor house, nor village so remote, that it is not full of them. And the same we can say of the little birds that they call sparrows,

for scarcely will a hole of a house be found without them. I am silent about many other species of little birds of this size. I ask, then: on what are so many mouths of parents and children maintained at a time when there is not yet grain, as I say, in the sowings? This certainly is a thing at which I can marvel, but not give reason. Only that Lord who in this time provided them with their food knows this, giving in this confidence to his faithful servants that he who is never lacking to the little birds of the field will not be lacking to them in what is necessary for life. And with this example he strengthens our confidence in his Gospel, saying: "Set your eyes on the birds of the air, which neither sow, nor reap, nor gather wheat into their granaries, and your heavenly Father gives them to eat. Therefore are you not worth more than they, so that he may have greater care for you?"

Therefore to provide the animals with their food the Creator gave them all the abilities and powers and senses that were required to seek it. And beginning with the most general, for this first he gave them eyes to see the sustenance, and power to move themselves to seek it, with the instruments of it, which are feet, or wings, or a similar thing, as the little fins that fish have. And all of them have their bodies inclined downward, in order to have their sustenance nearer. And since there are many animals that maintain themselves by the hunting of the weaker ones, in such manner the Creator fabricated the bodies, that in them they should have instruments with which they can defend themselves from the violence of the more powerful, so that these should not consume and finish them. And thus to some he gave swiftness of feet, to others of wings, to others defensive arms (as are the shells, and those that armed fish have, as is the spiny lobster and the lobster), and to others offensive ones to withstand their enemy, to others craftiness to hide themselves in their burrows and shelter themselves in them, to others to live in herds, to help themselves with the company of many against the force of the few. And because animals also have illnesses like men, he provided them with a natural instinct for curing themselves and seeking for themselves the remedies for them.

This same instinct gives them knowledge of the animals that are their enemies, in order to flee from them, and of those that are enemies of their enemies, and defend them from them. And thus the sheep flees from the wolf, and does not flee from the mastiff, being so similar to him. He also gave them another instinct to know the changes of the times that are to be contrary to them, and to repair themselves for them, and likewise of the quality of the places that are healthful or contrary to them, in order to seek the one and move from the others, as swallows and many other birds do, which go to have the winters in Africa, because it is warm land, and the summers in Spain, which is more temperate. They also have much care to provide themselves with sustenance at one time for another, as the bees do, which make haste to make their honey in the time of summer in order to have what to eat in the winter.

I

And beyond this, just as divine providence had care for the conservation of the species of plants (ordering that the seeds that proceed from them should be so many that there should never lack matter from which they might be born), so also did it have it for the conservation of the species of animals, which at a certain time of the year nature inclines with so much vehemence to this conservation of their species, that never ever in this has it failed, nor will it fail. At which not a little did Plato in the Timaeus, and Tully in the book On the

Nature of the Gods, marvel, considering how infallible, how solicitous that divine providence is in the conservation of the things that it created, since in all the years it deputed a certain time in which the animals should have these inclinations so vehement and, this time finished, they should wholly cease, and return to that first repose, and the males should converse with the females with all honesty and temperance, which temperance declares that in human nature there was corruption of sin, since it is so far from keeping this law.

But how solicitous and careful they are in the rearing of the children that they beget, that is, in maintaining them, and defending them, and putting them in a secure place, where they may receive no harm! And although of these there are many examples, I will not fail to refer one. A bitch gave birth in a monastery of ours to three or four little dogs, which, because they were not necessary, the religious killed, and threw through diverse parts of an orchard. But the mother, seeing herself without children, went all day sniffing through the whole orchard until finally she found them and thus, dead, returned them to the same place where she was rearing them. Seeing this, the religious threw them onto a high roof, for which there seemed to be no ascent. But the greatness of this natural love gave wit to the mother so that, leaping through a window onto a little roof, and from that onto another, finally she came to reach the children, and thus returned by the same steps to bring them to their first place. In which is clearly seen how perfect that divine providence is in all things, since it placed so much force of love in parents for the rearing of children, when they are little.

And this providence shines forth no less in the birds, to which he gave greater love of the children, because he had placed upon them a greater burden in the rearing of them, because, for the lightness that was necessary to them in order to fly, it was not fitting to have either the burden of milk or of the vessels for it. For which it was necessary that, in order to maintain the little young, they should take parts of the sustenance that they had for themselves, sought with labor, and share it with them. From which it is born that, if you take a little bird from the nest, and shut it in a cage, there its parents recognize it, and through the bars they give it its ration, and share with it what for themselves they had sought. And because this was more difficult to do, the Creator provided them with greater love to overcome this difficulty, because this is what can do all and conquers all, which is scant for itself, because it is compassionate, and liberal for the one it loves. For which Saint Bernard said: "Let us love, brothers, Christ, and then all that is difficult will be made easy for us." This love is clearly seen in a hen that is rearing, because although this is a very timid and distrustful bird, if you wish to come near to the chicks that she is rearing, she begins to cluck and bristle and set herself against you.

And divine providence shines forth here no less in what it takes away than in what it gives, because, just as it provides this love to all animals at the time of rearing the children, in order to suffer the burden of the rearing, so after they are reared, when they can already live by their beak, they make no more account of them than of the other birds or animals. Likewise he provided that so enkindled desire that serves for the conservation of the species at a certain time of the year. And this season past, all that ardor ceases, because it is no longer necessary. Likewise to all animals he provided eyes with which they might see the sustenance, so that they might procure it, which he did not give to the mole, because, since it is maintained from the earth, it always has its food at the mouth. And this has place no less in plants than in animals, because

the reeds of wheat and of barley, as has been said, have their knots at intervals, which are like bond courses in mud-wall building, in order to be able to sustain the load of the ear, of which knots the oats lack, because they have no load. This, with other similar things, declares to us how the Creator did not wish that in all his works there should be any idle or superfluous thing, and that by this it should be understood how his providence is declared to us no less in what he takes away than in what he gives.

But returning to the rearing of birds, there is much to consider the ability that the Creator gave them to fabricate the nests, woven in the manner of little baskets proportioned to the measure of their children. And inside the nest they put some little straws or soft little feathers, so that the children, still tender, may not hurt themselves with its roughness. Therefore what more would these parents do, if they had use of reason? And the little children, in order not to dirty this bed with the excrements of the belly, place themselves at the edge

of the nest to purge it, and afterward the parents throw it out with the beak, which is the master builder, which alone suffices both for the fabric of the nest and for its cleanliness.

And because there are some birds and other animals much pursued by hunters, and weak to defend themselves, divine providence supplied this lack with notable fecundity, so that thus the species might be conserved, as we see in doves and in rabbits, which rear almost every month, and also in partridges, which at times lay twenty eggs, from which it is born that, there being for them so many hunters, they always have what to hunt by reason of this fecundity.

All animals also have offensive and defensive arms, some horns, others claws and others teeth, and the unarmed and timid have craftiness and swiftness to defend themselves from the violence of the powerful, as the hare and the fallow deer, which, as they are the most timid of all animals, so are they the swiftest. All also know the use of their members, as we see in the little calf and in the little boar, which, even before these arms are born to them, undertake to wound with that part where they are to be born. Likewise all know the force of the more powerful, and thus the little birds tremble when the bell of the hawk sounds. All also know the pasture that is healthful to them, and that which will be harmful to them, and using the one they do not touch the other, however much hunger they may have. This knowledge the animals have with the odor of the same herbs that they graze. For this sense of smelling is more lively in the brutes than in men. For which Galen writes an experience that he made, putting before a newly born little kid one bowl with wine, and another with oil, and another with crumbs, and another with milk, but the little kid, smelling each one of these, left it, and on coming to that of the milk, immediately began to drink it. In this manner, then, divine providence teaches the brutes what without study men do not attain. Likewise all animals have ability to seek their sustenance, as we see in the little dog which, just having been born, its eyes still closed, immediately finds the teats of the mother, and when the milk does not run, it calls it, pressing with the little hands the fountain from which it is born. What more shall I say?

As the Creator saw that where reason was lacking, ability was also lacking to seek clothing and footwear, he provided them at birth, and many before they are born, with the one and

the other, some with feathers, others with hides and hairs, others with wool, others with scales, others with shells, some of which change their clothing each year, but to others it lasts without tearing or growing old all their life. And above all these providences we see that many animals, without being able to speak, have voices with which they signify at times anger and fierceness, at others meekness, at others hunger and thirst, at others pain. The little birds also in the nest with their chirping signify the hunger that they suffer, and with it solicit the parents so that they may give them to eat.

II

For this same conservation there also serves the fabric and proportion of the members that were given to them, as we see in cranes and in storks, which, because they have long legs, the Creator provided with a high neck so that they might easily reach the food of the earth; and to the owls, which seek their sustenance at night, and to the cats, which at this same time hunt, he provided a particular light within the same eyes, so that with this the one might seek their sustenance, and the others might clean our house at night, and free us from these little enemies that trouble us.

III

All animals also have their properties accommodated to their natures, with which they are differentiated from one another, as Basil refers it in these words: "The ox is strong and robust, the ass lazy, the horse very inclined to war, the wolf can never be domesticated, the fox is crafty, the stag fearful, the ant laborious, the dog grateful and recognizing of the benefit received. The lion is naturally furious and enemy of the other company of the animals of his species, because as sovereign king he holds it dishonor to see in his company

others who are as honored as he. Nor does he eat on the present day from what remains to him from the past day, and as a great lord he always leaves over something of what he eats. And above all nature gave him instruments to give so terrible a roar, that many animals that conquer him in swiftness, by this roar alone fall dead to the earth, and thus he seizes and hunts them. And with all this great force that he has, he has fear of a mouse, and much more of a scorpion, as Saint Ambrose says, so that it may be seen that there is nothing so strong that it does not have something from which it may be feared, nor thing so weak that some time it cannot do harm. From which was born the fable of the beetle and the eagle. The tiger is vehement and runs with great impetus, and thus it has a light body, which serves for this swiftness. The she-bear is lazy and crafty and slow, and thus has the body heavy and misshapen." Above all these things that are common to all animals, there is another that greatly declares not only the providence, but also the goodness, the sweetness, and the magnificence of the Creator, because, not content with having given being to all animals, and abilities to conserve it, he also gave them all that manner of happiness and contentment of which that nature was capable. The one and the other that divine singer declared when he said: "The eyes of all creatures wait upon you, Lord, and you give them their food in convenient time." This he says for what touches the provision of sustenance. And he adds more: "You open your hand, and fill every animal with blessing." Therefore by these names of filling and of blessing must be understood this manner of happiness and contentment with which this Lord fills the breast

of all animals, so that they may enjoy all that according to the capacity of their nature they can enjoy. Let us put examples: when we hear the swallow, and the nightingale, and the little goldfinch, and the canary pouring themselves out in song, let us understand that, if that music delights our ears, it delights no less the little bird that sings, which we see it does not do when it is sickly, when the weather is heavy and sad, because otherwise, how could the nightingale sing whole nights, if it did not taste of its music, since (as philosophy says) "delight makes the works"? When we also see the little calves run with great pride from one part to another, and the little lambs and little kids separate themselves from the herd of the old parents and, divided into two posts, skirmish with one another, and some attack and others flee, who will say that this is not done with great joy and contentment of theirs? And when we see little cats and little dogs play among themselves, and wrestle with one another and fall, now beneath, now above, and bite one another softly without doing harm, who does not see there the contentment with which they do this? Nor are the fish less pleased in swimming, and the birds in flying, and the kestrel when it is making swoops and postures, and beating its wings in the air.

Therefore by what has been said we shall understand what that great Dionysius wished to signify when he said that God intended to make all things like himself, as much as the capacity and nature of them suffers it. Wherefore, just as he has being, and blessed being, so he wished that all creatures, each one in its manner, should have the one and the other. And for this he was not content with having given them so many abilities to conserve themselves in their being, but wished also that they should imitate him in this manner of blessedness and contentment of which he made them capable. Therefore how great an argument is this of that immense goodness and largess, which thus communicates itself to all its creatures and regales them? O immense goodness! O ineffable sweetness! If you had done this, Lord, with rational creatures, which can recognize this benefit and give you thanks for it, it would not have been so much to marvel at, but to do it with creatures that neither know you nor praise you, nor have to thank you for this regalement, this declares to us the greatness of your goodness, of your royalty, of your nobility, and of your magnificence toward all your creatures, since you give them of pure grace all that of which their nature is capable, without expecting return of gratitude for it. In which you give us to understand what you will have kept both in this life and in the other for those who serve and love you, since such you show yourself with the insensible creatures that do not know you. Of all these marvels, Lord, the earth, the sea, and the airs are full, wherefore with so much reason the Royal Prophet exclaims: "Our Lord, how admirable is your name in all the earth!" And for this same cause he says that in all this world, from the beginning where the sun rises, to the end where it sets, the

name of the Lord is worthy to be praised, because all the things that we see in it give us copious matter for his praise.

Chapter XIII. Of the particular abilities and faculties that all animals have for their conservation

In the past chapter we declared in general the abilities and faculties that all animals, both those of the earth and those of the water and air, have for their conservation. Now

we shall descend to show this in particular in all these species of animals. But this will not be in all (because this would be an infinite work, and one of which many grave authors have treated), but what will suffice so that by sight of the eyes we may know the perfection and vigilance of divine providence. For which it is to be noted that just as a great penman who wishes to establish in a city a school of writing, makes many differences of letters, some of running hand, others of round hand, others of scholastic letter, others of business hand, others broken, others illuminated, to show in this the sufficiency that he has, so that sovereign artificer, although the comparison is very low, declared the marvels of his providence not in one manner, nor in one single genus of animals, but in all of them, and in so many and so different manners, that no writings until now have been able to comprehend them, especially since each day in new lands new animals and new abilities and properties of them are discovered, which in these our lands have never been known.

But here it is to be noticed that this name of conservation, which we use here, comprehends more than it sounds. For beneath this name we understand first the abilities that animals have for seeking their sustenance and, second, those that they have for their defense; third, those that they have for curing their illnesses and conserving their health; fourth, those that they have for the procreation of their little young. Therefore of these four things we shall treat in particular, but in such manner that as in passing we shall also treat of some that are annexed to them. And after these we shall descend to treat in particular of the little animals, as is the ant, the bee, the spider, the mosquito, and the worm that spins silk, because in these that seem so vile, Saint Augustine, Aristotle, and Pliny say that the artifice and care of divine providence shines forth even more than in the great ones. And after these five treatises, we shall add the sixth, of other properties of animals worthy of great consideration and admiration.

And in all these things we shall show the perfection of divine providence, which not one jot nor in one point neglected or forgot anything of all that was necessary for all these genera of creatures for their conservation. And we shall also see how all that these creatures would do if they had understanding and reason, he supplies (as we said), giving them natural inclinations and instincts so that they may do what they would do if they had it. And the business passes still further ahead, because they not only attain what they could if they had reason, but even many things that exceed the faculty of it, because they are necessary for their conservation. And thus they know the herbs and medicines with which they are to cure themselves, and the changes of the times, that is: of rain, and of serenity, and of the tempests of the sea before they come. And thus in this as in other infinite things he wishes to discover to us the perfection and artifice of his providence, so that in all created things we may see it and recognize it and adore it, and understand that in all of them his presence assists. And for this he does such things that to many seem incredible. But so that those which this book shall recount may not be so, I warn the Christian reader that I shall write nothing in this matter that is not taken from grave authors, chiefly from the Hexaemeron of Saint Ambrose, from whom I drew the greater part of what I write. And it is not to be marveled that I stole so great a part from him, since he also stole all that he wrote from the Hexaemeron of Saint Basil, putting into most elegant Latin style what Basil wrote in Greek. Of which Basil Gregory the Theologian, his contemporary, writes that although in all his writings he is admirable, in this one he was so much so that it seems, by way of speaking, that he was at the

side of God when he was creating things, understanding the reason and the counsel and artifice with which he was creating them, because thus he shows it in this work that he made on the creation of the world.

Chapter XIV. Of the abilities that animals have for maintaining themselves

The first consideration that we touched on concerning animals is the abilities that the Creator gave them for maintaining themselves, since nothing has life that does not have its proper sustenance with which to sustain it, which office lasts as long as that life lasts. We shall begin, then, with the sheep and with the lamb its child, with whom the Savior was pleased to be compared, and with these let us join all the animals that graze grass. Therefore all these in a pasture, where a thousand differences of herbs are born, some healthful and some poisonous, and all of one same color, by natural instinct know the one and the others, and graze the good ones, and do not touch the bad ones, although they suffer great hunger, as we already said. Which exceeds the faculty of human understanding, which does not attain this, but not the divine, which governs them. And thus Sulpicius Severus writes, in his Dialogue, of a holy hermit who maintained himself on herbs of the field, who, since he lacked this knowledge, suffered great pains of the stomach because of the bad herbs that he ate, so much that at times he ceased to eat in order not to suffer such pains. And as he asked remedy from the Lord, for whose love he suffered that, he sent him a stag with a bundle of herbs in its mouth, which, casting them on the ground, separated the bad ones from the good, and in this manner the saint remained taught by the brute animal what he by himself could not know. The sheep also has another discretion, with all its simplicity: that at the mouth of winter it gives itself great haste to eat with an insatiable hunger, making use of the occasion of the time so as not afterward to find itself weak and fleshless in the time of cold and of less pasture. O if men with all their discretion did what this simple animal without it does, which is to make use of the occasion and preparation that in this life they have for doing good works, so as not to find themselves naked and poor in merits in the other, because in this manner there would not happen to them what Solomon says: "For love of the cold the lazy man did not wish to plow, and therefore he shall go begging in the time of summer, and there will be no one who gives him!"

The lamb also, though being an animal no less simple than its mother, when among the whole herd it loses her from sight, goes through all of it bleating, and she with love of mother responds to him in the same tone so that he may know where she is, and he among a thousand bleatings of similar sheep recognizes the proper one of his mother and, passing through many other mothers, leaves them all, because he wants his mother alone, and wishes to maintain himself on her milk alone. And the mother also, among many thousands of bleatings and of lambs of one same tone and of one same color, recognizes only her child. The shepherd many times errs in this knowledge, but the lamb and the mother never err.

There is also another marvelous providence in the fabric both of this animal and of all the others that ruminate, as are oxen, and goats, and camels, and other such. Which is that, besides the crop, where the pasture is digested, which corresponds to our stomach, they have another bosom, where the pasture is received in first instance before it goes to the

stomach, where it is to be digested, and from this first bosom they draw the food that they have eaten, and by night or by day, when they rest, they bring it to the mouth and are there at leisure ruminating it, preparing it in this manner to send it to the crop, where it is to be cooked and digested. This was a work of divine providence, because seeing that the days of winter are small and the nights long, if these animals grazed and ruminated together, little would be the pasture that they would enjoy. Therefore for this they graze by day and ruminate by night, and in this manner the night serves them no less for their sustenance when they ruminate, than the day when they graze.

Let us come to the domestic birds, which are better known. The rooster always goes seeking some grain to eat. And, when he finds it, he calls with a certain call to his hens and, as a good married man, takes the food from himself, and shares it with them. Which the capon does not do, who keeps continence, and for this

reason, while the rooster goes thin, he is fat and well treated, because he has no account except with himself alone, teaching us with this the difference that the Apostle places between the married and the continent. For the good married divide the labors and the time between God and the care of their wives, but the good continent, free from these burdens and obligations, give themselves wholly to God, and for that reason are more profited and advanced in the spiritual life.

The hen also, which rears her chicks, always goes scratching with her feet in the dunghills and, finding something, calls the little children with great haste, and as a good mother she fasts in order to give them to eat. And what is more: one manner of call she has when she calls them to eat, and another when she calls them so that they may put themselves beneath her wings, and another when she warns them to flee and hide from the kite, when she sees it coming. And they, newly born, without doctrine and without teacher, perfectly understand all these languages that we would not understand, and thus they obey with great haste what by them is commanded them. And I even noted another thing, seeing food thrown to a hen with her chicks: that if those of another mother came near to eat of her ration, with pecks she cast them from there, so that they should not lessen the food of her children. Therefore what more would this bird do, if she had reason? For it seems that by the work she was saying: "this food belongs to my children, and the greater part you eat of it, so much the less will fall to them. Therefore I have not to consent that others' children eat the food of mine."

I

Let us pass to another thing less known and more admirable, which Basil and Ambrose recount. The crab is very fond of the flesh of oysters and, in order to have this food, places itself like a spy secretly in the place where they are, and at the time when they open their shells to receive the rays of the sun, the thief comes out from the ambush where it was, and what does it do? A thing certainly in appearance incredible: because in the meanwhile that it runs, lest the oyster close its doors and it remain mocked, before it arrives it throws a stone at it, so that it cannot close its doors well, and then it with its claws opens it and takes possession of it. Therefore who could have expected from so little an animalcule such industry? And who could give it to it, except that Lord who gives food to all flesh, and gives ability and art to seek it?

Therefore what shall I say of the abilities that the fox has for this? Here comes to purpose what Isaiah says: "Woe to you, who rob others! Perchance will you not also be robbed?" The crab steals the flesh of the oyster, and the fox steals that of this crab, and not with less artifice. Witness of this is a mountain that there is in Biscay, which enters a piece into the sea, in which there are many foxes. And the cause of this is the convenience that they have there for fishing. But in what manner do they fish? They imitate the fishermen with rod, and wit and industry are not lacking to them for it, because they put almost the whole body in the tongue of the water, and extend the tail, which serves them there as rod and line for fishing. And as the crabs that go swimming there do not understand the ambush, they bite at it: then she shakes it with great haste, and casts the crab on land, and there she leaps, and tears it to pieces and eats it. Therefore who could discover this new invention and art of fishing? But this is not her only ability, because she also knows how to provide herself with sustenance for another day, because after having leapt into some poultry yard, and killed as many as she finds, and drunk their blood, she makes a hole, and buries them there in order to have provision for another day. This is very notorious, and more so is what I shall say, although it may not come so much to purpose, since I have made mention of this animal, which, although bad and harmful, still discovers with its craftiness much of divine providence, which seems to have wished to represent to us in it what he says in the Gospel: "that the children of this age are more prudent in their dealings and businesses than the children of light." This animal, then, has artifice to drive fleas away from itself, when they trouble it. But in what manner? It takes in its mouth a little branch, and entering into the water of some river or of the bank of the sea, and drawing itself from the water little by little backward, the fleas, fleeing from the part of the body that is becoming wet to that which is dry, proceed in this manner, she putting herself little by little into the water until they all come to place themselves on her head, which she also ducks into the water in such manner that

nothing remains for her outside except the eyes and the mouth. Then, they leaping onto the little branch that we said she had in her mouth, she releases the branch, and leaps out of the water, already free from the enemies that fatigued her. This artifice so exquisite, who could teach it to a brute animal except the Creator? Therefore, Lord, what is it to you that fleas are troublesome to a fox, since she is so troublesome to us? It matters much, he will say, because although little matters to me for that little animal, much is involved in men understanding by this and by other examples how perfect and how universal is my providence, since there is nothing so small to which it does not extend and to which it does not provide remedy, although it be as small as that one. Of this instrument with which the fox fishes the mouse also makes use in another different matter. For it puts its little tail into the oil cruet that it finds, and afterward licks what by this so ingenious artifice it was able to draw from it.

But returning to the matter of foods, no less admirable is the manner in which a certain bird is maintained, which cleans the teeth of the crocodile, among which there enter many little splinters of the flesh that it has eaten, which give it pain, and such is divine providence, that it provided this animal with a toothpick, which is a certain little bird, which, he opening his mouth, does in one journey two errands, which is to clean his teeth, and maintain herself with what she draws from them. Is there a more loving, more regal, and compendious providence than this? O admirable God in all his works, who by so strange an artifice provides for two necessities with one single work! Therefore what shall I say of the manner in which certain birds are maintained, which those who sail to the East Indies many times see, which is that they always go in pursuit of others, and gather in the beak the

excrements of those they follow, and with it maintain themselves? Who could believe this, if he did not see it? The name of these birds I do not put here, because it is conformed to the food on which they maintain themselves.

Therefore what shall we say of the craftinesses that the octopus uses to seek food? In which it seems the Creator wished to represent to us the arts of the men whom we call of two faces, doubled, feigned, and dissemblers, because this fish comes to attach itself to some rock that is in the water, taking its color, and hiding its own; then the sardines and other little fish, as simple folk, are deceived with that lying color, and come near to it. The traitor then comes to them, and seizes them with those its branches with which it fishes. And from here was born the proverb of the Latins, who say that false and deceitful men have the conditions of octopuses.

Another craftiness Tully refers of a bird, although it is accompanied with force and violence. For he says that there is a bird by name platalea, which seeks its food by pursuing the birds that dive in the sea and, when they come out carrying some fish in the mouth, it bites them on the head so strongly that it makes them release what they carry, with which this bird is maintained. And of the same bird he writes that it fills the crop with some shells of the sea and, having recognized them in the crop, comes to vomit them, and chooses from them what is to eat. But another more artful thing he himself refers of the sea frogs, which cover themselves with sand and move themselves next to the water, and as the little fish undertake to wish to bait themselves on them, they then uncover themselves, and seize them, and in this manner they fish and maintain themselves, all of which declares to us the greatness of that infinite Wisdom that knew and could invent so many modes for maintaining the animals that he created.

A common and known thing is what a little goldfinch does, which being captive upon a board, and having hung from it two very small buckets, one with water, and another with the grain that it is to eat, when it has hunger it lifts with the little beak the one that has the food, and when it wishes to drink, it raises in the same manner the one that has the water. But another thing I saw more artful than this, because the bucket of water is empty, but below there is a little chest full of water, and when it wishes to drink, it puts the little bucket into this little chest, and gives it so many turns with the beak, that finally it gathers water, and then raises it to the height and drinks. Therefore who will not marvel? Who will not give thanks to the Creator, seeing in so

small a little body such industry, which the Creator and necessity, teacher of all things, teaches?

The hedgehog also with all its heaviness knows its artifice for supplying itself with sustenance, because, finding at the foot of an apple tree the fallen apples, it rolls itself in them, fastening them with its spines, and thus carries them with itself, and of them makes deposit to maintain itself. And if anyone wishes to harm it, it encloses itself within its prickles, and thus shelters itself with them from the enemy.

More admirable is the faculty and artifice that a fish has that is called tremelga, which knows how to defend itself and also maintain itself with two strange properties that the author of nature gave it. The one is that, putting itself beneath the mud, it makes the little fish that come near to it fall asleep, which is what is usually said of sorcerers; then this marine sorcerer comes out from beneath the mud, and takes possession of them and maintains itself on them. The other ability is not

less strange, because, being touched with the fisherman's hook, it has so much power that by the line and by the rod it climbs up to the fisherman's arm and numbs it in such manner that he releases the rod, and the fish goes away free: in so much variety of things did the Creator wish to show his providence.

Not only weak animals, but also strong ones, help themselves with their industries and artifices to seek food. Of the tiger (to whom neither forces, nor arms, nor swiftness are lacking) Aelian refers that it goes to the place where there is abundance of female monkeys, of whose flesh it is fond, and stretches itself on the ground beneath a tree where they usually come, and places itself there in the figure of a dead one, without stirring itself, nor seeming to breathe. They, being on high in the tree, suspecting it, send ahead a spy so that, approaching somewhat to it, they may see if it is alive or dead, but with such caution that they do not trust it. Afterward the spy returns a second and third time, approaching somewhat more, until altogether it persuades itself that it is dead. And giving report to the others, they descend securely, and leap upon it, triumphing joyfully over their enemy. Then the dead one, seeing itself surrounded by the prey that it was awaiting, with great haste rises again, and with teeth and claws tears to pieces as many as it can, and turns their feasts into weeping, they paying for their mad daring.

II

Some cats, great hunters, use this same artifice, because in an orchard that I saw, one of these stretched itself among the trees and the vegetables, and stretched and extended itself in such manner that it seemed dead, and there it persevered without stirring itself, awaiting its fortune. The simple little birds, then, being deceived with this figure, came near to it securely, and then the thief, with one leap, caught them and ate them.

And since I made mention of the cat, I shall also say of it what each day we see, but not all of us note in this, the care of divine providence, which in infinite manners is discovered to us. It created this animal so that it might defend our houses and pantries from the harms and troubles of mice. And we all see the industries and instruments of claws and swiftness that they have for this, and above all this, as we already said, they see by night, which is the time of their hunting. And because, this animal being necessary for what has been said, it would have been inconvenient for the house to smell badly with the purgation of its belly, it seeks for this its most remote corners, and (what none of as many animals as there are does) with its claws it digs in the earth, and covers what it purged. And to see whether it is covered, it applies the sense of smell and, if it finds that it still smells badly, it returns again to scratch and cover it better. So that what God commanded the children of Israel to do, when they dwelt in the desert, with a little spade that they carried with themselves, this animal does without having that law or example of any other that does such a thing. This we see each day, and we do not see the regalement of divine providence toward man, giving order how he may have his house clean and free from bad odor. For since he was doing him this benefit in giving him this hunter that should clean his lodging for him, it should not be given to him on the other hand with this tribute of dirtying it for him.

Therefore the craftinesses and ambushes that the cat has for hunting and for stealing, each day we see. It well knows at times how to remove the cover of the pot that has just been set on the fire, and put in the claws, and draw out the meat, and flee with it. But I am witness of another craftiness that

I shall say here. It was going along the top of the back of a wall after a little lizard, which, fleeing from it, put itself beneath a roof tile that by chance was there mouth down. What did it then do? It made this account: if I put my hand in here, it has to flee from me by the other mouth of the tile. Therefore I shall attend to that. But in what manner? It placed one hand at the narrower mouth of the tile, and through the wider one put in the other, and in this manner, as between doors, reached the prey that it sought. Therefore what more would it do, if it had reason?

Strange also are the arts that wolves have for maintaining themselves. But one alone I shall recount, which Aelian writes, which in part responds to a question that is usually posed, which is: how are there so few wolves, the female bearing many little wolves, while on the other hand there are so many rams and lambs, the sheep bearing no more than one, and so many being killed each day for our sustenance? This author says, then, that when the wolves have nothing to eat, a band of many of them joins together, and they go running around like a ring, some after others, and the first one that, its head made dizzy, falls, comes to be food for all the others. And this is one of the causes of there being fewer wolves, because they eat one another. Where much must be noted the style of divine providence, which impedes by its ways and paths the multiplication of the animals that were to be prejudicial and harmful to us, as is seen in the birth of the scorpion, because the female bears eleven eggs, of which she eats the ten, and leaves one alone, which, after being born, seems not to have so much account of the benefit of the mother as of the death of its brothers, and thus takes vengeance on her, killing her and eating her.

Nor is what is recounted of a most poisonous snake that is found in Brazil less illustrious testimony of divine providence, which infallibly kills him whom it bites, if the member where it bit is not immediately cut off, which the Creator ordered thus so that by the remedy for this danger he might declare to us this care of his providence, which especially is known by the remedies that he provides for our evils. And the remedy for this is to have created this bad beast with a manner of little bell on the head, so that the sound of it may warn the careless of this danger. Therefore who does not recognize here the care of divine providence both in the remedy of our dangers and in the diversity of the means that it invents for this? And of the viper Saint Basil says that she tears open her belly when she gives birth. And of the lioness he says that with her claws she also breaks her belly at the time of birth. In this manner the Creator, on one part, conserves the species of things, and on the other gives order so that, as is usually said, "of enemies, the fewer."

But someone will say more: for what did he create these species of animals enemies of nature? This was the argument of Epicurus, who denied providence (as Tully refers), saying: "If God created all things for love of man, for what did he create vipers?" To this it is answered that in a perfect republic there are also gallows, and prisons, and whips, and executioners for punishment of evildoers, and it was not reason that in the great republic of this world, in which God presides, executioners and executors of his justice should be lacking. And thus he punished the children of Israel in the desert, sending them serpents that should bite them, because they also bit with tongues of evil-speakers the ministers that God had given them. And he punished the Egyptians with locusts and biting flies and mosquitoes that cruelly wounded them, and thus he created great whales in the sea, and great and frightful

dragons on the earth, of whose greatness many histories treat, which he did in order to show the greatness of his power, and with it to put dread and fear in human hearts, and to declare to us how great an evil it would be to come to stop in the throats of the infernal dragon, who with his tail drew after him the third part of the stars of heaven.

And returning to the purpose of the sustenance of animals, we see how much diversity there is both in them and in the faculties that the Creator gave them to seek it. In which the wisdom of his providence marvelously shines forth, because, if all had one same food and one manner of ability to seek it, this would not appear so admirable a thing. But there being so many differences of foods, and so many and so diverse faculties and instruments of the members to seek them, it is a thing that at every step is crying out and preaching the care and the wisdom of this highest providence, and provoking us to admiration and reverence for it. We see, then, that among animals some seek their food on the earth, others in the water, and others in the air, and of these some maintain themselves on blood, others on grass, others on grain, and others on other things without count. Therefore the Creator formed all of them with such bodies and members that they should serve them to seek their food. For the lion and the tiger and other similar ones he created with very strong teeth and claws, and with swiftness to follow the hunt, and with a brave and generous spirit so as not to fear dangers nor the forces of others, as the lion has it, of whom Solomon says: "The lion, which is the strongest of the beasts, does not fear the encounter of anyone." Therefore this one "with his cubs goes out by night, as the Psalm says, roaring in order to rob, and to ask God to give him to eat." And conformably to this generosity he has this property, that as a great lord he does not eat of the hunt that remained to him from the day before. Of whom Aelian writes that, after by age he is weak and heavy, and thus unfit for hunting, he goes out with his cubs, and awaits them at a certain post, and they bring to the old father the prey that they found, whom he embraces when they come, and licks their faces in sign of gratitude and love. And after this loving reception, they all sit down to eat of the prey. Therefore what more would they do, if they had reason like men? And even in this piety they surpass them, since we see many children very scant and inhuman toward their poor and old parents, which does not fit even among fierce animals.

The artifice of divine providence also shines forth in the abilities and instruments that it gave to birds of prey for hunting and with this seeking their sustenance. In these the beak is very artful, and very different from that of the other tame birds. For the upper part of it is sharp and curved in order to fix into the flesh and draw pieces from it, and the lower is like a razor, and comes to meet and fit into the higher, and thus cuts and lops what the beak of the upper part raises. Therefore who will be able to imagine that a thing so proportioned and so accommodated for this office was made by chance, and not with great artifice? Which appears still clearer with the correspondence of all the other faculties and instruments that serve for this, as are the claws so sharp and strong for seizing the prey, and also for retaining it, the front claws closing with the rear one in order to hold it so tightly that it cannot go from them. They also have great heat in the stomach, so that hunger makes them more covetous and swift for the hunt. They also have an animous and trusting heart, since a wild falcon in very few days becomes so domestic and so faithful that you send it to the clouds after a heron, and call it and command it to come to your hand, and thus it does. For since the Creator formed these birds

not only so that they might maintain themselves, but also so that they might help to maintain and recreate man, as goshawks do, such arms and such spirit and such confidence he had to give them. And because he did not give this to the kite, although arms and wings are not lacking to it, it swoops down upon the weak little chicks, because it has no heart for more, representing in this the baseness of villainous and pusillanimous men, who, being so cowardly toward those who can do something, are most cruel toward those who can do nothing, wronging the poor and maintaining themselves on their sweat.

To the vultures also, which maintain themselves on flesh, the Creator gave a marvelous instinct, with which they guess the destructions and deaths of men, on whose flesh they maintain themselves, and thus they follow armies, sensing the slaughter that is to be in them. And what is a more admirable thing, from fifty miles they smell dead bodies, as the Commentator says, book two On the Soul.

III

In the storks the Creator represented to us a most perfect image of piety of parents toward their children, and of children toward their parents. For the parents, besides maintaining their children in the nest, as the other

birds do, use this piety with them, that when the sun burns in such manner that it could be harmful to the tender little young, they extend their wings, on which they receive the rays of the sun, and with this make shade for them, being cruel to themselves, because they are pious to the children. In which he represents to us those pious entrails and love of the Eternal Father toward his spiritual children, to whom the Psalmist attributes this same piety, saying that with his shoulders he will make shade for them, and will gather and guard them beneath his wings. And no less do they represent the greatness of the charity of the Son of God, who received upon his most sacred shoulders the lashes that our sins deserved, paying (as he said) what he did not owe. Therefore this charity that the storks have toward their children when they are little, the children have toward their parents when they are old and unfit to seek food. For they pay in the same coin the benefit that they received, maintaining their old parents in the nest with all care. And when it is necessary to move to another part, the good and grateful children, extending their wings, take the old ones upon themselves and move them to the place where they are to dwell, in which they also represent to us the charity and mercy of that sovereign Father toward his children, of whom the Prophet says that "as an eagle he extended his wings, and brought them upon his shoulders."

To the birds that maintain themselves on grain or on grass, as to the hen and other such, he gave sharp beaks, which serve them not only to eat with them, but also as arms when they fight with one another, and feet with toes and claws to scratch with them, and unearth the grain beneath the earth. But on the contrary, to those that seek their food in the water, as swans and ducks and drakes, he gave the feet extended like a paddle of an oar, with which they marvelously row and swim, bracing themselves with the soles upon the water, and passing forward with the body, from which art, imitator of nature, learned to row, because these natural oars were before the artificial ones. He also formed the beak in another manner, not sharp, but flat like a shovel, and with some little teeth like

a saw, so that the fish, which are smooth and slippery, might be detained and seized in them.

To the birds that have large legs, large necks were also given, so that they might easily reach the food of the earth. And the same was done with the animals that are high at the withers, as are camels, to which the large neck was given so that they might easily seek their pasture on the earth. And another thing I noted in them: that, men and all the brutes having two principal joints in the legs, one in the knees and another in the hip of the thigh, these animals, because they are very tall, have three, distributed in such manner that their legs appear as made of hinges: thus they bend and gather them in order to lower themselves to receive the load, or to stretch themselves on the earth, when they wish to sleep. But because for the elephant, which is much taller, it was not fitting to give so great a neck with which it might be able to reach to graze, there was given to it in place of it that trunk of cartilaginous flesh, which it serves itself with as with a hand not only for eating but also for drinking, because it is hollow within, and through it it drains a pillar of water, and at times for playfulness sprinkles with it those standing around.

Of the fabric of the legs of this animal Saint Basil marvels, considering "how accommodated they are for sustaining the weight of that so great body, because they are like some strong columns, proportioned to sustain that so great load, and in the lower part of the feet it does not have joints and distribution of bones, for greater firmness. From here it is that we see them in battles carry upon themselves wooden castles, which appear animated towers or mountains made of flesh, and rush with all this load with so great impetus into the enemy ranks, and fight spiritedly for their own. And it is a thing of admiration to see that, with this animal being so great and so powerful, it comes to be subject and obedient to man, so that, if we teach it, it learns, and if we punish it, it suffers. In which it is seen that God created it for the service of man, because man had been created in the image of God. And with all this service it lives three hundred years, and more." Thus far Basil.

It also has a natural shame, by which it uses the female in a hidden place and, if by chance someone passes there, it receives so great anger that it makes him pieces. And with all this it has other noble respects. Those

who come from the East Indies recount a notable thing about this animal. When it goes in heats, it is most fierce. Going, then, through a street with this fury, it encountered a nursing child, which it took with the trunk, and put upon

a roof to free it from danger, which child wept and gave cries at seeing itself in that place. Then the elephant, having pity on the child, turned around, and took it with the same trunk, and returned it to put it in the same place where it was: so great is the sense that the Creator placed in this animal, because thus it was more able for the service of man. Other strange things are recounted of it, of which the books of diverse authors are full, where those who wish will be able to see them, because for my purpose what has been said suffices.

The eagle also, because its nature is to fly in high flight, as queen of the birds, which dwells in the highest place, the Creator provided with a singular sight, so that from there it may see the prey on which it is to maintain itself. And thus the same Creator says of it to holy Job that "it dwells among the crags and on the high cliffs, where no one can reach, and from there it sees the prey that is below." Nor is industry lacking to it together with force for the hunt, because, if it happens to take a tortoise, or freshwater turtle, it raises it very high in its claws, and lets it fall upon some stone so that there its shells may be broken, and it may tear it to pieces safely. And it is even written that by this occasion the distinguished poet Aeschines died, because he, being bald, and having his head uncovered, an eagle, believing that it was some stone, let the turtle fall upon it, and from this wound he died.

The hunt also serves for the sustenance not only of the birds of prey, but much more of men, wherefore that holy Patriarch loved his son Esau more than Jacob, because he ate of the hunt that he brought him. And thus, wishing to give him his blessing, he commanded him to take his bow and his quiver, and go to the hunt and, from what he killed, make him a meal in the manner that the youth knew, so that, having finished eating, he might give him his blessing. Therefore for this hunt many differences of dogs greatly serve, which the Creator created for this, without the hunters for that giving him many thanks. But just as there are many differences of hunting, so there are also of dogs, because there are hounds of beautiful bodies and generous hearts that undertake against wild beasts; there are greyhounds no less beautiful and swift, which follow hares; there are other more vile ones, which eat rabbits; there are mastiffs, which serve for the guarding of the flocks; there are scent hounds, which with the liveliness of their smell discover the wild beasts, and find them after they are wounded; there are partridge dogs, which with the same smell find the partridges in such manner that nothing is lacking to them except to show them with the hand; there are water dogs, which swimming enter through the lagoons to draw out the bird that you wounded, and bring it to you in the hand. Therefore all these species of animals the Creator formed with these abilities for help of the sustenance of men, besides the birds of prey, which also serve him

for this. For since he created the hunt for the sustenance of man, he also had to provide instruments with which he might be able to hunt it.

IV

But since the necessity of sustenance obliged us to treat of dogs, I shall add here another thing, which will serve, not for all, but for those who yearn for the perfection of the Christian life, which I saw represented so properly in a hound, that there was no more to know nor to desire. For in it I saw these three things that I shall say. The first: that never ever, ever did it separate itself from the company of its lord. The second: that when at some time the lord commanded one of his servants to separate it from him, it growled and howled and, if they took it in arms to separate it, it kicked with feet and hands, defending itself from the one who did this. The third thing that I saw was that, this lord traveling in the month of August, three leagues already gone before eating, the hound was panting with thirst. Then the lord commanded a groom that he should take it by force to an inn that was near, and give it to drink. I was present, and saw that, at every two swallows of water that it drank, it turned its eyes to the road to see if the lord appeared, so that, even drinking, it was not wholly

where it was, because the heart, and the eyes, and the desire were with its master. But at the point when it saw him appear, without finishing drinking, and without being able to be detained a point, it leaps and runs to accompany its lord. There was much to philosophize upon this. For the Creator not only formed animals for service of our bodies, but also for teachers and examples of our life, as is the chastity of the turtledove, the simplicity of the dove, the piety of the children of the stork toward their old parents, and other such things. But returning to our purpose, if the lover of perfection had toward his Creator these three things that this animal so grateful had toward the lord who gave it to eat by his hand, he would have arrived at the summit of perfection.

Among which the first is that he never separate himself from him, but that all the time, as much as may be humanly possible for him, he always walk in his presence, so that he neither ever lose him from sight, nor lose the actual union of his spirit with him, doing in his manner on the earth what the angels do in heaven, which is to be always actually loving, and reverencing, and adoring, and praising that sovereign Majesty. If he does this, he will have arrived at the ultimate perfection and happiness of the Christian life. This perfection Saint Augustine asked of our Lord in one of his meditations by these most devout words: "In you, Lord, may I always think by day, in you may I dream sleeping by night, to you may my spirit speak, and with you may my soul always converse. Blessed are those who love no other thing, wish no other, and know to think no other, except you. Blessed are those whose hope you are, and whose life is a perpetual prayer." This, then, is the first work of perfection that that animal teaches us, which never separated itself from its lord.

The second is that, as this animal felt so much the separation from him, so the lover of perfection should feel much all that separates him from this most happy union with God, as the blessed Saint Gregory Pope felt it, who, seeing that the occupations of the pastoral office diverted him somewhat from this actual union with God, laments and complains of himself at the beginning of his Dialogues by these words: "The miserable one of my soul,

wounded with the wound of the occupations that the pastoral office brings with itself, remembers that quiet life that it enjoyed in the monastery: how then it had beneath its feet all the goods of this life; how it was higher than all the things that roll with fortune; how it knew how to think of nothing more than the things of heaven; how it desired death, which is painful to all, in order to go to enjoy eternal life." You see, then, here expressed the second thing that this dog represents to us, when it howled and kicked because they separated it from its lord. But the third is the most arduous, and in which all the force of this business lies: which is that, just as this dog renounced the taste that it received in drinking, so as not to lose a point of the company of its lord, so the perfect servant of God has to cut through all tastes, and affections, and cares, and covetousnesses, and businesses, and excessive occupations that may be an impediment to this most blessed union, unless it be when obedience or the necessity of charity obliges him to it, and even in this time he has to labor all that is possible not to turn the eyes of the soul away from the presence of his Lord. This third thing David shows that he did, when he said that "his soul had renounced all the consolations of the earth, and occupied itself in thinking on God, with whose memory it had received so great consolation, that his spirit fainted with it."

This is properly to die to the world in order to live to God; this is to leave everything in order to find everything in him alone. And if this dog did this for a piece of bread that it received from the hand of its lord, what will it be reason that you do, unknown man, for that Lord who created you in his image and likeness, and conserves you with the benefit of his providence, and redeemed you with his very blood, and has his glory prepared for you, if you do not lose it by your fault?

And since in this chapter we signaled all the species of dogs, I cannot cease marveling at the sweetness and regalement of divine providence in having created another very different species of dogs, which are little lapdogs, which no one can deny to have been created by the hand of the Creator. For, given the case that one individual is begotten from another individual, as one dog from another dog, yet such or such a species of

dogs or of other animals, only the omnipotence of God can create. Therefore what greater indication of that immense goodness and sweetness than to have wished to create this manner of regalement, of which queens and princesses and all noble women make use? For this little animal is so small that it serves for no other thing of those that here we have referred, except for this alone. So that, just as he created a thousand differences of most beautiful flowers and pearls and precious stones, many of which serve for no other thing than to recreate the sight, and give us notice of the beauty of the Creator, so he created this species of little animals for an honest recreation of women. For since they have been formed to regale and caress the little children that they rear, when these are lacking to them, they employ this animal affection in caressing these little puppies, which have so much faith with their ladies, that they do not wish to separate themselves from them, and feel much when they go out of the house, and rejoice and make them great festivity when they return, and seek them through the whole house when they disappear, and do not rest until they find them. For which a very virtuous and noble lady told me that a little puppy she had confounded her, seeing that she herself did not seek God with as much care as the little puppy sought her. The Creator saw, then, that the human heart could not live without some manner of recreation and delight, and because this inclination, which is very powerful, should not carry it to poisonous delights, he created infinite things for honest recreation of men, so that recreated and baited with them, they might despise and abhor the ugly and dishonest ones. And with this we shall give an end to this first chapter of the sustenance of animals.

Chapter XV. Of the abilities that animals have for curing themselves in their illnesses

Since the bodies of animals are composed of the four elements, and have in them four contrary qualities, which are cold and heat, moisture and dryness, it is necessary that they be mortal and subject to diverse illnesses like ours. For, when the proportion that these four qualities have among themselves, in which health consists, is a little distempered, illness immediately follows. Men for remedy of their ailments have reason, and with it they have discovered with many labors and experiences the science of medicine. But, since this reason is lacking to the brutes, that most perfect providence supplied this lack, which, although it shines forth much in all the things that until here we have said, is seen much more clearly in this one, since animals know by special instinct of God more than men have attained with study and labor of many years, since there are many illnesses for which physicians have not found remedy, and animals suffer none for which they do not find it, because they are guided and taught by a better master. For which reason it is not to be marveled that they were our teachers in some medicines that we learned from them. The virtue of celandine for curing the eyes the swallow teaches us, which, taught by its Creator, seeks this herb to cure the sick or blind eyes of its little young, and that of fennel, which serves for the same, we learned from the serpents, which with it cure their own. The medicine so common of clysters the ibis showed us, a bird similar to the stork, which, feeling its belly loaded, fills the beak with salt water, and this serves it as clyster with which it purges itself. Bloodletting we learned from the sea horse, which in the Greek tongue is called hippopotamus, which, feeling itself sick, goes to a newly cut cane-brake, and with the sharpest point that it finds, bleeds itself, as Pliny refers, in a vein of the leg. But what remedy in order not to bleed itself wholly out? I believe that all our wit will not know how to give remedy to this. But this animal knows it, taught by that highest providence that fails in nothing. For it goes to roll itself in some muddy place, and the mud that sticks to the wound serves it as a bandage to stop the blood. Therefore what other teacher taught the pig, being sick, to go to the coast of the sea to seek a crab to cure its illness? What other taught the tortoise, when it ate some viper, to seek oregano in order to drive the poison from itself? And what is more admirable, who else taught the wild goats of Candia to eat the herb dittany, in order to drive from themselves the crossbowman's arrow? If it were to cure the wound, I would not marvel so much, but that there be an herb powerful to drive from the body a span of arrow fixed in it, this is work of the Creator, who wished to provide remedy for this animal so harried by the huntsmen.

Therefore the dog, when it is very full of choleric humor, if it does not cure itself, comes to go mad, but divine providence, which has care of it and of us, taught it an herb that is born in the hedges, which serves it as very fine rhubarb, since by it it expels by vomit all the choler that it had. And if it receives some wound, it has no need of more plaster than its tongue, because if with it it manages to lick it, it has no need of more surgeon. The weasel, wounded in the battle that it has with mice, cures itself with rue, the boars with ivy. The bear, finding itself sick because it has eaten a poisonous herb, which is called mandrake, cures itself by eating ants. Who could believe that an animal of so great a body could be cured with a thing so small as ants are? But in all things, however small they may be, the Creator placed his virtue, who made nothing in vain. Nor did he leave the dragon, though being an animal so abominable and harmful, without medicine, because feeling itself sick, in place of rhubarb, it cures itself with the juice of wild lettuces. And no less harmful nor fierce is the leopard, which has human dung for medicine. Cleaner medicine is that of partridges and rooks and wood pigeons, which cure themselves by eating leaves of laurel. All the aforesaid is from Pliny, in the eighth book.

Of dogs Albertus Magnus says that, when they feel worms in themselves, they cure themselves by eating wheat in blade. And he himself says that the stork, feeling itself wounded, puts oregano on the sore, and thus heals. By these examples we shall understand that the Creator left no illness of animals without remedy, since all his works are finished and perfect. The common herbs with which men cure themselves are agaric and rhubarb, but animals, for each illness, have their proper herb or medicine, because this variety of remedies discovers more the wisdom of the Proto-physician of the world. Nor either is it a new thing, but very everyday, for cats to seek other herbs with which they purge and relieve themselves, when they find themselves loaded and ailing. The lion by his great forces, and the dolphin of the sea by his great swiftness, are called kings, that one of the animals of the earth, and this one of the fishes of the sea. And divine providence ordered both to have one same medicine for curing themselves, because the lion, when he falls ill, cures himself by eating the flesh of the ape of the earth, and the dolphin with another lineage of ape that there is in the sea. The she-bear also, as Saint Ambrose refers, when she is wounded seeks an herb that in the Greek tongue is called plomos,

and with only touching the wound with it, heals. Nor either was medicine to cure herself to be lacking to the fox, since she knows so much in other things, and this, the same saint says, is the gum of the pine, with which she cures her ailment.

To this purpose of medicine belongs the changing of places, which both birds and fish seek for the conservation of their health. In a certain place of Portugal neighboring the sea, which is called Our Lady do Cabo, there gathers in the month of September a great multitude of diverse little birds, in order to pass into Africa to have there the more temperate winter. And by this occasion the hunters come there, and with little industry take a great number of them. And it is a thing to note that, as good and faithful companions, they wait for one another to make that journey together. And the winter past, they flee from the heats of Africa and return to the more temperate airs of Spain.

The same in their manner do many differences of fish in the sea, changing places, especially when they go to spawn, because for this more benign seas and heavens and airs are necessary. And for this many differences of fish gather and come together from diverse parts, and all travel together like a great army, and go to the Euxine Sea, which is on the band of the north, to pass there with their children the more temperate summer. Upon which Saint Ambrose exclaims, saying: "Who taught the fish these places and these times, and gave them these commandments and laws? Who taught them this order of traveling, and signaled to them the times and terms in which they had to return? Men have their emperor, whose commandment they await, and he sends his edicts and royal provisions so that all the people of war may gather on such a day in such a place and, with all this, many of those called are lacking. Therefore what emperor gave the fish this commandment? What master taught them this discipline? What guides do they have to go this path without

erring? I recognize in this work who the emperor is, who by divine disposition notifies to the senses of all these animals this his commandment, and without words teaches the mute the order of this discipline, because his providence not only penetrates and reaches to great things, but also to the very small." Thus far Ambrose.

The same Saint refers another memorable thing, with which this that we have just said is declared more, which is that there is nothing so small that it is deprived of this benefit of divine providence. He says, then, that "the sea urchin, which is a little fish, in time of fair weather, by the instinct that the Creator gave it, knows that there is to be a storm, and thus repairs itself for it. But in what manner? O marvelous virtue of the Creator! It ballasts itself in this time, taking a stone in the mouth so that the waves cannot so easily play with it from one part to another. Seeing which the sailors, understanding by this fish what by themselves they did not attain, also repair themselves, and prepare the anchors with all the rest

to withstand the storm. Therefore what mathematician, what astrologer, what Chaldean can thus know the course of the stars and the movements and signs of heaven as this little fish? With what acuteness of wit did it attain this, or from what master did it learn it? Who was the interpreter of this omen? Many times men by the changes of the airs divine that of the times, and many times they are deceived, but this urchin is never deceived, nor are the signs that move it false. Therefore by what way did this fish attain so much wisdom, that it divines things to come? Therefore when this little animal is more vile, so much the more does it declare to us that this knowledge was given to it by divine providence. For if it is she who clothes with so much beauty the flowers of the field, if she gave that so great ability to the spiders to weave their web, what marvel is it to have given to this little fish knowledge of what is to come? For she forgets nothing, there is none that she does not provide for. He who provides all things sees all. He who made all things with highest wisdom fills all things with his wisdom." What has been said is from Saint Ambrose.

I well know that birds also divine storms, because sea ravens and gulls, which naturally delight in the high sea, divining the tempest like this urchin, take shelter on the beach, where they are more secure. And the herons also, which delight in lagoons of water, on whose fish they maintain themselves, suspect the great rains and tempests of the air, from which they free themselves by flying above the clouds, where the heaven and the air is serene. But with all this I made more account of the example of this urchin, because the more vile this little fish is, and the more artful the means by which it repairs itself, so much the more does it discover to us the wisdom and providence of the Creator, who wishes that in all things we may see and reverence and glorify it, as those sovereign spirits do who perpetually are praising the Creator, saying that the heavens and the earth are full of his glory, because all that in them there is are works of his hands, witnesses of his glory, preachers of his praises, and all discover to us his goodness and wisdom and providence, which is so universal and so perfect that to no creature, however small it may be, does it fail, with which they invite us to love, serve, and glorify him who by so many ways wished to give himself to be known to us.

Chapter XVI. Of the abilities and arms that animals have for defending themselves

Having spoken of the cure of animals, it follows that we speak of the arms and abilities that they have for defending themselves. For all of them generally have offensive and defensive arms, and other arts or abilities that serve them as arms, not in one manner, but in many and diverse ones. For the Creator provided some with claws, teeth, and curved beaks; others with hooves, as those that horses have; others have defensive arms, as are those of some that have hides so hard that scarcely will a dart pass through them; others have shells, as tortoises and freshwater turtles, and some serpents and dragons and whales, and other great beasts of the sea. Such are the shells of that great beast that Scripture calls Leviathan, whose arms the same Lord who gave them to it describes so particularly in the Book of Job, saying: "Its body is like a shield of steel, furnished with scales so joined one with another, that not even a little air enters through them. It makes no

more account of iron than of straws, nor of steel than of rotten wood. No crossbowman will make it flee, and the stones of the sling are for it a light awn, and the blows of the hammer are for it a light straw, and it will make mockery of the lance that comes through the air brandishing." These and other arms the Creator gave to this fierce beast that he there represents to us, in order to show, both in great things and in small, the greatness of his power and wisdom.

But in a small body the defensive arms that he gave to the spiny lobster of the sea and to the lobster are of extreme admiration, because these names they have in Portugal. These fish are dressed in a jointed armor, made of a hard shell, and this so perfectly finished that in all the smithies of Milan a more perfect one could not be made. Only the eyes had to be uncovered in order to see, but above each one there is for guard a kind of point of worked diamond, so that no one can reach them without his harm. And it has more another advantage over our armors, which is that the shell above is sown with caltrops and sharp points, so that no fish can bite it without hurting its mouth. And because it was necessary to have some secret place by which they should discharge the excrements, for this they have a hatch so fitted and so tight, that no water can enter through it. And because these arms were heavy for the swiftness of swimming, the Creator supplied this lack by giving them twelve oars, six on each side, with which they marvelously cut the waters and swim. Nor because he gave them these defensive arms did he deny them the offensive ones, because they have two arms with two pincers at the end of them, which they open and close at their will, and with them seize what they wish. And because nothing necessary should be lacking to them, the two pieces of these pincers or claws are not smooth, but in the manner of a saw have their little teeth so that the fish that they seize cannot escape from them. And with these claws they bring the food to the mouth, and eat in the manner that we eat, serving themselves with hands for this, which none of the fish nor even of the other animals does, setting aside the apes, because all the others serve themselves with the mouth alone to eat or graze, but this one brings the food to the mouth with the hands, which we see each day, not without admiration, in crabs, which, as they are similar to them, eat in the same manner.

These are the modes with which the Creator provided many of the animals, both for hunting and for defending themselves, but to those to whom he did not give arms, he gave swiftness to flee from enemies, as to the stag, the fallow deer, and the hare. To others he gave singular arts and industries to escape from dangers, and leave their adversaries and pursuers mocked, as to the foxes, which know a thousand tricks for escaping, and no less to the hare, which at times steals the body from the greyhound that pursues it, at others with greater artifice, when it sees the enemy near, raises dust with its feet in order to blind him and make him lose his aim. But what does it do when it sees the eagle fall upon itself? Nor either is industry lacking to it for this, because it rises on its feet, and lifts its ears as much as it can and, as the eagle hunts by flight, it attacks the part of the body that it sees more lifted; then it immediately lowers it, and thus escapes, overcoming by art the force of the pursuer, and showing us by experience what the Wise Man said: "Wisdom is worth more than forces, and the prudent man than the strong." And in another place: "The wise man scaled the city of the strong, and destroyed all the force of his confidence."

This animal also has another industry, and it is that it enters the burrow by a leap, in order not to leave trail so that its house may be known. And strong and armed animals also use another similar industry. For the bear, so that the place of its dwelling may not be found, uses this artifice, that it enters into it turning itself mouth upward, and going backward so as not to leave sign of the print of its feet. But the lion conquers it even in this industry, because he walks backward and to one part and to another, now downward, now upward, and part of this footprint

he covers with dust, so that with this confusion of paths he may also leave the hunter confused so that he does not know how to hit upon where he dwells and rears his little young. Therefore if the strong help themselves with art and industry, what will the weak do, who have no other arms? Thus the partridge does not enter the nest by flight, so that it may not be known, but much before falls to earth, and walking arrives at

it.

Finally, to all these unarmed animals the Creator provided fear, which is mother of security, because this makes them go solicitous, fleeing from dangerous places and seeking the secure ones, as the stags and fallow deer do, which go through the high crags and precipices, their heads lifted in order to see and smell anything that can harm them. With which they also teach us that the security of our souls is no less in the fear of God, than that of their bodies with the fear of dangers. For this Solomon says that "blessed is the man who always lives fearful, because this fear makes him solicitous to steal the body from all the occasions of dangers." And Ecclesiasticus: "Keep," he says, "the fear of God, and grow old in it." He means: although you be reared old in the house of God, and your virtue be very ancient and proved, do not for that lose the company of fear.

I

It is a thing of great admiration what Solinus writes of the elephant, which, seeing itself much pressed by hunters, breaks the tusks and leaves them on the earth so that, giving them the ivory that they seek, they may leave it with life, redeeming its vexation with one part of its body in order to conserve the whole. And the same author, chapter 23, says another thing similar to this of another animal, which in Latin is called castor, from which it seems that the name of castrated was derived, because this one castrates itself with its teeth when it sees itself much harried and pursued by hunters, leaving on the earth that part of its body that they seek, so that they may cease pursuing it. These things will seem incredible to those who look at nothing more than the abilities that can be expected from an animal, but whoever considers that divine providence governs animals, and gives them inclinations and natural instincts for all that is fitting to their conservation and defense, will hold none of this as incredible. For if we said that divine providence supplies in all animals the lack that they have of reason, giving them inclinations and instincts so that with them they may do what they would do if they had it, and we see that all men who have it consent that an arm or a leg be cut from them in order to conserve life, it is not an incredible thing that these animals should wish to lose one part of their body for the same cause.

Nor will what I shall say of the battle that the elephant and the unicorn have between themselves over the pastures be incredible. For the unicorn, which has over the nose a horn as hard as iron, having to enter into the challenge with the elephant, which is much greater than it, trusting in its arms, prepares itself for the fight by sharpening that horn on a stone in order to wound better with it. And entering the field, as it is smaller than its contrary, it puts itself beneath its belly, and with a thrust that it gives him with this horn, kills him. But if perchance it misses the blow, the elephant, which is of greater forces, makes it pieces. And with all that the elephant, because of the advantage that it recognizes in the arms of the enemy, fears it greatly. Known and very notorious in the kingdom of Portugal is the battle that there was between these two animals in the time of the most serene King Don Manuel. In which

the elephant had so great fear of this beast, that it determined to avail itself of its feet by fleeing. And not seeing an open way for this except a great window that had an iron grating, it struck against it with so great impetus that it knocked it down, and through it escaped. This is the truth of this history, and those who wrote it in another manner are deceived.

Very notorious to hunters is the battle of falcons with herons, but not all know how to philosophize and contemplate the wisdom of the Creator, both in this and in other things. This hunt is so pleasant that many lords spend more than would be reason on it, without remembering that all this taste that they buy with so dear a price and weariness, is to wish to enjoy and see the abilities that divine providence placed in these birds, in the one for attacking valiantly, and in the others for defending themselves wisely. They loose, then, the falcons against this bird, of which some are no more than groomers that pluck it, and others killers, which are those that kill it. Where a thing of admiration happens, and it is that, on loosing from the hand the killer, which is very far from it, it divines that that one is the one that is to kill it, and immediately begins to croak

and to make the feeling that it can for its near death. And not for this does it faint nor cease doing all it can to escape with life. And for this it does another thing of no less admiration, because, feeling that the load of sustenance is an impediment to it for flying, it vomits it and unloads itself of it, so that the hunters see the little fish that it had eaten fall to earth. The hour of the last combat arrived, then, the falcon falls like lightning upon it, but industry and arms are not lacking to it for defending itself, because it turns its beak upward between the wings, and if the falcon is not very dexterous, the more furiously it comes to strike it, so much the greater danger it runs of being nailed upon its beak, and with this it happens that the one who came to kill dies, and pays with his death the fault of his daring. Other times it uses another industry, which is to take shelter in some lagoon of water, if perchance it finds it, because the falcon is fearful of water, and thus it shelters itself. But who taught this bird so many arts and industries? Who told it that the falcon was fearful of water, in order to take shelter and secure itself in it from its enemy? Who made it divine, among many falcons that pursue it, the one that is to kill it, and this on loosing it from the hand? Who taught it to lighten itself by discharging the food eaten in order to fly more lightly? Who taught it to await the blow of the enemy with the point of the arm that the Creator gave it, which is as if it said: if you have to come to me, it has to be by the point of the sword? All these are works of divine providence, which did not wish to leave this bird altogether forsaken of the arms and industries necessary to defend itself from its enemy, and with this to provide a noble and honest recreation to kings and great lords. But it belongs to them, when they recreate themselves in this, to lift their eyes to the Creator, whose are these things that recreate and exercise them, and also to provide that they not give themselves so much to this that they forget the obligations of their estate and office, as is written of King Antiochus, whose vassals complained of him that, because he gave himself much to hunting, he did not attend to the businesses of the kingdom.

Our Lord wishes to show us the greatness of his wisdom in infinite differences of means that he orders for one same end. Who would think that there are species of herbs that help to fight? In the orchard of a monastery of ours there appeared at times a scorpion, and a large and spirited cat determined to fight with it, for which it prepared itself with rue, rolling itself much in it. And armed, and trusting in these arms, it goes to seek the

enemy, a religious from the window of his cell watching this combat. And after many encounters from one part and the other, finally the cat, taking the scorpion between its claws in the air, tore it to pieces and killed it.

To this purpose another more admirable thing is recounted. There are on the island of Ceylon some large snakes, which they call of hood, because such their head and neck appear, which are so poisonous that in twenty-four hours they kill. But divine providence, which ordered remedy for all things, provided that on this island there should be born a tree that serves as theriac against this poison. For only its odor and the breath of the one who has eaten it puts this beast to sleep and weakens it. For which reason, when a little animal of the shape of a weasel wishes to fight with this snake, it fills itself with the leaves of this tree, and breathing upon it with this odor, puts it to sleep and thus prevails against it. It also uses another singular industry, because it makes two doors in its burrow, one wide-mouthed and another narrow, and in the fight flees to this burrow by the wide mouth, through which the snake enters in pursuit of it: but, entering further in with the force that it carries, it comes to be entangled in the narrowness of the hole, leaving half the body outside of it. Then the little animal, going out quickly by the other narrow mouth, leaps upon the snake, and cuts it through the back. Here we have another example of how much more industry is worth than force, and another argument of how divine providence left nothing, however small it might be, without arms and without remedy. For what thing is more vile and despised than a little snail? This one lacks eyes, but it does not lack defensive arms, because in place of them it has two very delicate and very sensitive little horns, with which it tests and feels all that can be harmful to it. And meeting with something that is troublesome to it, immediately it shrinks and withdraws into its little house, which is the repair and refuge that the one who created it gave it,

conformably to its smallness.

II

At every step we find many manners of arms and defenses in animals, in which the Creator traced many things similar to ours, but what in us art does imperfectly, in them nature does perfectly. Merchants carry their merchandise by sea to other lands and, in order to navigate secure from corsairs, they carry in their company an armada of men of war that may defend them. Therefore a thing similar to this, as Saint Ambrose refers, the storks do, which at a certain time of the year, gathered in one company, travel toward the band of the East with as great order and concert as an army of very well-ordered soldiers would go. And because on this road dangers of other enemy birds are not lacking, divine providence ordered that there should be other friendly birds that would be faithful companions of their road, and would help to defend them, which is a great company of rooks. And this is understood to be so, because in this time these birds disappear from the land and, when they return, the wounds that they received in defense of their friends are seen. Therefore who, let us see, made them so constant and so faithful in this defense, and moreover at the cost of their wounds and blood? Who placed laws and penalties upon them if they abandoned the militia, since none of them turned its back nor left the company? Let men learn, then, from here the laws of hospitality, let them learn from the birds the fidelity and humanity that is owed to guests, to whom they do not deny their dangers. But we, on the contrary, close the doors to those to whom the birds give their very lives. What has been said is from Ambrose.

From the storks let us pass to the cranes, which have another manner so admirable for freeing themselves from dangers, that, because it is so known, it has taken away its due admiration from a thing so admirable, which, if it were not so notorious, would seem incredible to many. For who could believe that when they go on the road, and night having arrived they have to sleep and rest, one has the charge of watching, so that the others may sleep secure, and if some danger should offer itself, it awakens them with its croakings so that they may put themselves in safety? Who would believe that this watcher, so that sleep may not conquer it, takes a stone in the hand, so that, if perchance it should fall asleep, at the falling of the stone it may awaken? And because it is reason that the labor be distributed through all, since the benefit is common to all, when this one wishes to rest, it awakens another with a certain lower croaking, which, without complaining that the thread of sleep was cut from it, nor saying why more to me than to any of these, succeeds in the office of watch, and also takes its stone in the hand, and faithfully does the office of sentinel in the watch that falls to it.

In this manner and with these industries the Creator provided for the security of these birds. But to what end this? Let us now argue as Saint Paul argues upon that law in which God says: "Do not tie the mouth of the ox that threshes." "Perchance," says the Apostle, "does God have care of oxen?" It is clear that God did not place this law for love of the oxen, but for love of men. Therefore thus I also say. Perchance does God have care of cranes? It is clear that this manner of providence that he has for them is not for them, but for men, because with these works that so clearly discover him to be the author of them, he wished to give them to understand the care of his providence and of those three virtues that we said go in its company, which are goodness, wisdom, and omnipotence. For knowledge of them is one of the things that most moves our hearts to love, fear, hope, reverence, and obey so great a Majesty. In which there is much to feel the blindness of our heart, because going swimming among so many warnings and benefits of God and among so many marvels of his works, where he is so clearly discovered to us, we do not know him nor reverence him in them. So that, seeing, we do not see, and understanding, we do not understand, because we are content with seeing only the bark and appearance of things, without inquiring into their author. And because we do not take one step further, we cease to see the Creator who is just behind them. Therefore what shall I say of so much blindness as this? I shall say that we are like the children of Israel newly gone out from Egypt, to whom Moses said that, "having seen so many and so strange prodigies and miracles that God had worked for them, they had not

had eyes to see, nor ears to hear, nor heart to know how to esteem and thank what God had done for them," which appeared clearly, since a few days after the departure from Egypt they fabricated that calf, and adored it as God. Such it seems that we also are, since going surrounded on one part by so many benefits of God, and on another by so many testimonies of his goodness and providence, we are, among so many voices of his creatures, deaf and, among so many splendors of his glory, blind and, among so many motives of his praises (as many as are the creatures), mute.

What all of us know of these aforesaid birds, with other similar things of which here we have treated, make an argument that another thing no less admirable is true, which Francisco Patrizio of Siena refers in his book On the Republic. Where he says that on Mount Taurus many eagles are accustomed to go about. And because a band of geese, which are great

croakers, make their way through there at a certain time of the year, in order not to be sensed by the eagles, they provide themselves with remedy. But what remedy? Each one takes a stone in the mouth, and this necessitates them to keep silence all that road. This seems an incredible thing. But whoever remembers that the sea urchin does this same thing, when it divines the storm, as we said above, will also not cease to believe what these birds do.

Another thing I shall add here, I do not know if more admirable than the past ones, which Pliny refers. And the same Tully refers in the first book On the Nature of the Gods, in which he recounts many very notable things of this matter, intending by them to declare to us the highest wisdom of the Maker. These two distinguished authors say, then, that there is a manner of shell in the sea by name pina, in whose company there always goes a little fish that is called esquila, which fish and maintain themselves in a strange manner. For the shell opens its doors, into which enter the little fish that are beside it, and as it does not see nor make any movement, with this security their daring grows, and thus some and others enter in rivalry. Then the spy, which is that little fish that we said, softly bites the blind shell, giving it notice that the fishing is now secure. Immediately it closes and tightens its doors and with this kills the little fish that had entered, and shares the prey with the companion, and thus both maintain themselves. Therefore who will not praise here divine providence, which in this manner provided this shell with others' eyes, and this little fish with sustenance, it paying him the labor of his service more faithfully than the lords of now pay that of their servants? And who will not recognize here the infinite wisdom of the Creator, who knew how to invent so many and so strange manners of abilities to maintain his creatures, testifying to us by all of them the greatness of his glory, so that as such we might reverence and adore it?

I finish this chapter supplicating our Lord to give us that prudence of serpents that he commended to us in his Gospel, which, seeing themselves mistreated and wounded, hide the head with all the craftiness that they can, and offer the body to the blows, putting at danger what is less, in order to guard what is greater, and thus defend their life. O if men did the same, when profits of the body encounter harms of the soul, that they would wish to lose the less in order to guard the more, consenting rather to suffer detriment in the corruptible body, which they have common with the beasts, than in the immortal soul, which they have similar to the angels, and likewise, the occasion offering itself either to lose God or to lose property, they would prefer to lose whatever the world can give, than to lose Him who alone is worth more than all, and without whom all abundance is poverty, and all prosperity extreme misery!

Another craftiness also is recounted of this beast, and it is that, the Creator providing it each year with a new garment, and it being necessary to discharge the old one, it helps itself with this industry for it, that it slips through a narrow hole in order to discharge it from itself. In which also there is given to us a document that he who wishes to discharge from himself the old man, subject to the appetites of the flesh, should know that it is fitting for him to enter through the narrow door of the mortification of his passions, and embrace the cross of the harsh and laborious life, because depraved nature, chiefly if it is confirmed with the custom of many days, cannot be conquered except with great difficulty, that is, with fasts, prayers, vigils, holy readings,

silence, guard of the senses, and use of sacraments, and other such things. Which the holy Baptist accomplished

with many men, when coming out of the desert he astonished the world with the harshness of his life, and with the example of his virtues, and with the thunder of his preaching, as the Savior testified it when he said: "From the days of Saint John the Baptist, the kingdom of heaven suffers force, and the forceful are those who seize it."

Chapter XVII. Of the abilities and faculties that divine providence gave to all animals for the rearing of their children

The fourth thing that it is fitting for us to treat, according to the division that we proposed at the beginning, is of the abilities that the Creator gave to all animals for the rearing and defense of their children. In which divine providence shines forth no less, but much more, than in all that until here has been said of them. For the aforesaid abilities principally serve for the conservation of individuals, but what touches the rearing of children belongs to the conservation of the species that comprehends them, which is a greater good, since the common good precedes the particular, and divine providence shines forth more in the government of the greater things than of the lesser.

Therefore the first and principal thing that it provided for this was a great love that parents have for their children, because this makes them fast and labor for them, and offer themselves to any danger, and even to put themselves among lances to defend them. And this same love makes many birds, especially the hen, which always flees from man, consent to let him come near her when she is over the eggs, so as not to let them grow cold. It is true that in fish we do not find this love, because they have another manner of multiplying and conserving their species, which is spawning, for which they seek convenient places, where they may be able to do this more commodiously. With all this, Saint Ambrose makes mention of some fish that bear children, among which he refers a thing worthy to be noted, and it is that a certain fish of these, seeing its little children in some time, opens the mouth and encloses them within itself and, the danger past, returns them as whole and healthy as the whale that swallowed Jonah. Thus this love of which we speak has more place in animals, and even much more in birds, for the reason that above we touched.

With all this, as there is no rule without exception, of the ostrich the same Creator says, speaking with holy Job, that it lacks this love, by these words: "The feathers of the ostrich are similar to those of a hawk, for when this bird leaves its eggs on the earth, will you be powerful as I am to warm them in the dust and bring them to light? It gives nothing that the feet of the traveler tread them, or the beasts of the field break them. It hardens itself toward its children as if they were not its own, because God deprived this bird of wisdom, and did not give it intelligence. When there is need, it lifts the wings on high, and makes mockery of the horse and of the rider who goes upon it." This example the Creator alleged in order to declare more the care of his providence, because when the love and diligence of this bird is lacking, he takes it to his charge, and without the benefit and heat of the mother brings to light the children whom she abandoned.

Providence similar to this is that which he has for the children of the newly born ravens, because, as in this time the black feathers have not yet been born to them, the father holds them for adulterine, and thus does not wish to maintain them, because he does not recognize them for his own, until he sees them with feathers of his color. Therefore in this season divine providence supplies the office of father, and maintains them, which the Royal Prophet held for so great an argument of the glory of God, that he refers it among his other praises, saying that "he is the one who gives to the beasts their proper sustenance, and to the little young of the ravens that call upon him."

Nor is the providence that he shows us in the rearing of the children of the eagle less. Of which some recount that, wearied of the labor of rearing them, she dismisses one from the nest. But that Lord who fails nothing,

provided another bird, which takes charge of the rearing of that noble child, until it can fly and maintain itself by itself. It is true that Saint Ambrose does not wish to concede this lack of love in the eagle, since the Lord compares in Scripture the love that he has for his spiritual children with that which this bird has for its own; therefore he says that the cause of this rejection is another thing worthy of admiration, which is that she makes her little children look at the sun fixedly, and the one whom she finds so weak of sight that he does not suffer the force of these rays, she rejects from the nest as unfit and alien from the royal nobility of the eagle, the Creator teaching by this example noble parents the little account that they should make of the children who darken with their bad customs the nobility of their lineage.

Also notable is the manner that the hawk has of teaching its little children to hunt. After they are already more reared, and can make some use of the wings, they put before them a bird, its wings half plucked, and they, pressed by hunger, go after it and, this done some times, remain already enabled for the hunt, when they are dressed with their feathers.

I

And since we made mention of the hawk, I shall say of it no new thing, but a very known one, yet little weighed and esteemed by many. In the great and cold nights of winter it procures to hunt a bird, in order to have it all night in the claws and warm itself with it. Already this is one providence. Another is that, he dawning in the morning with great hunger because the night has been long, and both he and all birds of prey have great heat in the stomach, so that hunger may make them hunt, having the food in the claws, he does not touch it, but releases it so that it may go, because from it he had received that benefit. This is another providence. The third is that in the morning, when he goes to seek something on which to feed, he does not fly by the band by which the bird flew, so as not to meet with it, but by the contrary. From these nobilities was born the common proverb that says: "Noble as a hawk," and as such the royal laws free it from paying tribute or toll, both it and all its family, which are all the birds that come in its company, although it arrive already dead. I ask, then, now: what more would a noble, virtuous, and grateful man do in a similar matter? Therefore all this a hawk does, although not he, but the one who created him with such respects and nobilities, who, not content with

having taught us by his Scriptures the condition of true nobility, also wished to declare it to us by the example of this bird, which, suffering hunger, and having the food in the claws, in such manner cuts against itself that it does not wish to burden the little bird from whom it received that benefit. The nobility of Emperor Octavian did not arrive here, so renowned among all the Roman emperors, since, in order to take vengeance on his enemy, he granted the head of Marcus Tullius, from whom he had received all the authority and dignity that he had. Let those, then, now glory much who descend from caste of kings or emperors, because what beauty can there be in the branches of the tree, where the root is so damaged? And what clearness in the brooks, where the very fountain is so turbid? It remains then that true nobility is with the fear of God, because, where this dwells, stinginess nor vileness has place.

The doe-rabbit, when she is to give birth, makes the bed soft so that the tender children may not hurt themselves. For which, besides some little straws that she places beneath, she plucks the hairs of the belly to place above, therefore what greater maternal charity than this? And when she goes out to seek food, in such manner she leaves covered the mouth of the burrow, that it cannot easily be perceived. The wolf, though being insatiable, if the female dies, he rears the little young, drawing from the crop what he has eaten, and sharing it with them.

But returning to the purpose of the rearing of children, for this serves the fabric of the nests that they make to rear them, which is so measured and proportioned for this affection, that to Quintilian this appeared a species and image of reason, especially considering that soft little bed that they put above the nest so that the newly born and tender little young may not hurt themselves with the hardness of the nest." But Aristotle with much

reason is astonished at the fabric of the nest of a swallow. And what sufficed to put admiration in so great a philosopher, does not suffice to put it in us, either because we see this each day, or because we do not have eyes to know how to look at and weigh the works of God. For who could believe, if he did not see it, that so small a little bird makes a nest as of vault, leaning against a wall, with no more columns to sustain it in the air, and that she mixes straws with the mud so that the work may set, as the masons do when they coat a wall in order to whitewash it, and that, besides this, she seeks some little feathers, or other soft things, so that the little young may not hurt themselves? But I wish that the men who have reason tell me now, what means can this little bird have, when it happens to fabricate its nest in land where there is no mud nor any slime? For my part I confess that I could not invent it. But this little bird knew it, because another greater understanding governs her, which is that of the Creator, who gave her industry to make mud where there is none. For for this she wets the wings in the water, and rolls herself in the dust, and in this manner makes mud, and with many journeys of these comes little by little to give an end to her work, which, as wise, makes her nest within our houses, because (as Saint Ambrose says) in this place she has her children more secure from enemy birds, and pays us the rent of the houses with her music and with serving us as a clock to awaken in the morning. But both in this and in all the rest that here is treated, it is fitting to repeat that sentence of the Apostle: "Perchance does God have care of oxen and of swallows?" It is clear that all this is his wishing to give himself to be known to men, in order to be adored and reverenced by them. For whoever has eyes to note both the fabric of the bodies of all animals and the abilities that they have for their conservation, will see clearly that all of them preach his wisdom, and that, as many as are the creatures, so many are the witnesses of his glory.

II

Therefore the thing that Saint Basil and Saint Ambrose recount of a little bird that is called halcyon is not less admirable, in which the Creator wished to show us more clearly the perfection of his providence, and how in nothing it is lacking. For this he gave to this little bird an inclination to make its nest in the sand next to the sea, and this in the middle of winter. Therefore what remedy so that the waves of the sea do not drown it, when it goes altered? Someone might say that providence was careless in this, since it gave inclination to this bird to place the eggs where it could not conserve them. Therefore so that this could not be said, what remedy? He who could give it found it, who, as lord of the sea, placed commandment upon it that within fourteen days (that is to say, seven in which this bird warms the eggs, and another seven in which it rears them until they can fly) it should not be altered nor lift its waves, so that it could not with truth be said that a point was lacking in the providence of God. O admirable Lord in all your works! O how worthy you are to be recognized, and adored, and reverenced in all of them, and how much you desire that we know you, since such lessons you give us of your greatnesses and marvels! Who will not hope from you the remedy of all his necessities, since for some so small little birds you command that so furious and so great body of the Ocean sea that for all these days it be quiet? Which the sailors have noted, and they call these days halcyon days, and have pledges from this little bird that through all this space that she is rearing her little young, it secures them from storm.

Nor is it to be left unnoted how all birds keep an image of matrimony, and take turns and divide the labor in the rearing of the children, because while one is over the eggs, the other goes to seek food, and when this one returns, it does the same office, and the other also goes to seek its food. This we see each day in the wild pigeons that we rear in our houses, which, as Pliny says, are so fecund that they bear ten times in the year, and the little young (as he himself says) in the fifth month can be parents. And it happens many times that the little young are still in the nest, and together with them the eggs for another rearing. And he himself says that they always lay two eggs, of which one comes out male and the other female, and the male comes out first. In this marvelous fecundity is seen how he wished to provide man with sustenance, for which reason both to these birds, and to the partridges and rabbits, he gave so much multiplication of children, so that thus by this

means as by many others he might provide man with sustenance, and thus some by hunting might gain their life, and others might maintain themselves with the hunt.

The cows, when they sense danger from some wild beast, all make themselves into one millstone, and enclose within it the little calves, and they, turned with their haunches toward the children, and the horns outward, which are the arms that the Creator gave them, are at point of war to defend them. The same do the mares in similar danger, to defend their little colts, but these put the haunches outward, because they have their arms in the feet. For, as we already said, each animal knows its arms, and knows how to use them in any danger.

Let us come to the birth of animals. Before the birth their children are maintained in the wombs of the mothers by the little cord of the navel, as men are, and an instrument is not lacking to them to cut it when giving birth, because for this they serve themselves with the teeth, with which they cut it in order to discharge them from themselves, and with the tongue they lick and clean them of the uncleanness that they bring out from the womb, which the she-bear notably does, who bears the children

very misshapen and she, by force of licking them and licking them again, gives them the figure that they have.

Nor are deceits and adulteries and thefts lacking in birds as among men. For of the cuckoo it is said that it goes little by little eating the eggs of some other bird, and in place of them goes placing its own, from which with its craftiness it draws two profits: the one, to maintain itself from others' eggs, and the other to spare itself the labor of warming and rearing its own. Which redounds in two other harms of the robbed bird, which is to kill its children, and to load it with the rearing of others'. This is the condition of thieves and tyrants, which is always to seek their profit with the harm of another.

The partridge also suffers another wrong in the rearing of its children, not very different from the past one, and very similar to that of those two bad women who contended before King Solomon, one of whom stole the child from the other, saying that it was hers. For there is a partridge that steals the eggs of another partridge, and warms them and brings them out and rears them as its own. But here there intervenes so great a marvel that, if we did not find it in chapter 17 of Jeremiah, it would altogether seem incredible, although many are the authors who write it, as Saint Jerome refers upon this passage. Who says that the partridge steals its eggs from another, and warms and rears them. But as these, after already somewhat grown, hear the call of the true mother who laid the eggs, they leave the false one, and follow the true one. Who could believe this, if the very author of this marvel had not said it in his Scripture? Who wished here to represent to us the mystery and fruit of the Redemption of Christ, by whose merit men, who until the time of his coming served alien gods, when they heard the voice of their true father, by means of the preaching of the Gospel, left the false gods whom they adored, and came to serve and adore the true God and their creator.

In the pelican also he wished to represent to us the same mystery and benefit, because of it it is said that it draws the children from the eggs dead, and that, wounding its breast with its beak, it resurrects them, sprinkling them with the blood that it draws from it. For which King of Portugal Don John the Second, who was very valorous, took it for device, declaring to us by this example the difference that there is between the king and the tyrant, because this one maintains himself on the blood of his own, but that one gives his life and blood for them. What Aelian recounts of this bird is that it makes its nest on the earth. And for this the hunters use this art against it, that they encircle the nest with straw and set fire to it. Then the father comes with great haste to aid the children, intending to put out the flame with the movement of the wings, with which he not only does not put it out, but rather enkindles it more, and in this manner, the wings burned in defense of the children, he comes into the hands of the hunters, not considering strange to place his life for them. Which no less than the example of the partridge represents to us the immense charity of the son of God, who offered himself to death in order to redeem and repair the life of the children whom he created. But

now with the sweet memory of this highest benefit we shall give an end to this chapter. Whoever wishes to know more of these matters, let him read Aristotle in the books that he wrote on the nature of animals, and Pliny in the eighth, ninth, tenth, and eleventh books, and Aelian in the sixteen books that he wrote on this matter. But this little we have here treated in order to teach the Christian to philosophize in these matters, and by them to lift the spirit to the knowledge and love of his Creator, who, if he is so admirable in his creatures, how much

more will he be so in himself? And if our knowledge so much tastes of contemplating his works, how much more will it taste of contemplating the infinite wisdom of him who made them, who knows so much and can do so much that, in so great an infinity of creatures that lack reason, he impressed such inclinations, that they do their works as entirely as if they had reason?

Chapter XVIII. How the wisdom and providence of the Creator shines forth more in small things than in great

So many are the things in which that immense Majesty wished to give himself to be known to men, and his providence and wisdom shine forth in so many things, that not only in the greater animals, but also in the very vile and small, it is seen very clearly, which Saint Jerome says in the Epitaph of Nepotian by these words: "Not only do we marvel at the Creator in the fabric of heaven and of earth, of the sun, of the Ocean sea, of elephants, camels, horses, panthers, bears, and lions, but also in that of other small animals, as is the ant, the mosquito, the fly, and the little worms, and in all these genera of little animals, whose bodies we know more than their names, and no less in these things than in the other great ones do we venerate the wisdom and providence of him who made them." But to Saint Augustine the artifice of the Creator appears more admirable in these small things than in the great. And thus he says: "I am more astonished at the swiftness of the fly that flies, than at the greatness of the beast that walks, and I marvel more at the works of ants than at those of camels." And Aristotle says, in the first book On the Parts of Animals, that there is no little animal so vile and so despised, in which we do not find something and of great admiration. Of this Pliny puts a singular example, marveling more at the fabric of the mosquito than at that of the elephant. Because in large bodies, he says, there is enough matter so that the artificer can make what he wishes, but in these so small and so nothing, how great a concert, how great a force, and how much perfection he placed in them, where he seated so many senses in the mosquito, where he placed the eyes, where he applied taste, where he inserted the sense of smelling, where he seated that so fearful buzzing, and so great, according to the proportion of its body! With how much subtlety he joined the wings to it, and extended the feet, and formed the empty belly, where it receives the blood that it drinks, where he enkindled that so great thirst for blood, chiefly for the human! With what artifice he sharpened that little sting with which it wounds, and with how much subtlety, being so thin, he made it hollow, so that by it itself it may drink the blood that with it it draws! But men marvel at the bodies of elephants, which carry towers and castles upon themselves, and at other great and fierce animals, it being true that nature in no part is more entire and more all gathered together than in the small." Thus far are the words of Pliny, who with much reason is astonished at so many senses as a mosquito has.

But especially it causes more admiration to find eyes in it. For the anatomists are astonished at the artifice with which the Creator formed this so excellent sense, with which we know so many things. Therefore who does not marvel that that so artful and so delicate sense the Creator has formed in a head as small as that of the

mosquito and of the ant? It also has very lively the sense of smelling, which we experience each day at our cost. For a man being asleep in a large hall, part of his face covered with some linen for fear of it, it comes from the end of the hall very leisurely with its accustomed music and dulzaina, and hits upon settling upon the part of the face that is uncovered, which is not by sight, because the room is dark, but by smell alone,

which is so acute.

Therefore I shall say yet another ability of this little animal, which I experienced. One settled beside the nail of the thumb of my hand, and put itself in order, as it usually does, to wound the flesh. But as that part of the finger is a little harder, it could not penetrate it with that its little sting. I on purpose was looking at what this had to come to. Therefore what did it then do? It took the little sting between the two little front hands, and with great haste began to sharpen it and thin it with the one and with the other, as one does who sharpens a knife with another. And this done, it returned to try whether, this diligence done, it could do what before it could not. They say of the unicorn that, having to fight with the elephant, it sharpens the horn on a stone, and this same this little animal does in order to wound us, sharpening that its little sting with the little hands. All this, then, declares to us how admirable the Creator is, not only in great things, but much more even in small ones.

To this purpose serves what Hugh of Saint Victor says by these words: "By many ways things can be admirable, at times because great, at others because very small. Because great, we marvel at the things that exceed the quantity of the creatures of their genus. And thus we marvel at giants among men, and at whales among fish, and at the griffin among birds, and at the elephant among animals, and at the dragon among serpents. But because small, we marvel at those that among all the other animals are of very small bodies, as is the moth that gnaws clothing, the mosquito, and the little worms, and other animals of this quantity. Look then at what you ought to marvel more, at the teeth of the boar or of the moth, at the wings of the griffin or at those of the mosquito, at the head of the horse or of the locust, at the legs of the elephant or at those of the mosquito, at the lion or at the flea, at the tiger or at the freshwater turtle. In those things you marvel at the greatness, here at the smallness. To these small ones the Creator gave eyes, which our eyes can scarcely see, and he gave them all the other members and instruments that were necessary for their conservation, with such perfection, that nothing do we see in the large animals that we do not find in the small." What has been said is from Hugh. Supposed this foundation, we shall begin with one of the smallest animals, which is the ant, in which, being so small, we shall see things truly great.

I

Of The Ant

After that general loss and nakedness that came to us by that common sin, the principal remedy that remained to us was hope in divine mercy, as the Prophet signified it when he said: "In peace I shall sleep and rest secure, because you, Lord, singularly placed my remedy in your hope." To strengthen this virtue we have many and very great motives (of which it is not now time to treat), but among these I do not think that I shall lie if I say that this virtue is strengthened not a little with the consideration of the admirable abilities that the Creator gave to a little animal so despised, so vile, and so useless as a little ant, which, the smaller it is, so much the more declares the power of him who placed such abilities in so small a body. Because first, it being true that the other animals commonly have no more account than with the present, because they attain little of the future and of the past, as Tully says, but this little animal, at least by its work, feels so much of what is to come, that it provides itself in summer (as we see) for the time of

winter. Which would to God the providence of men imitated, making in this life provision of good works, in order to have of what to enjoy in the other, conformably to that counsel of Solomon, who admonishes us that we should do good works with all haste and urgency, because in the other life there is not the preparation that there is in this one to do them. And because men do not do this that ants do, they afterward come to experience that prophecy of the same Solomon, which says: "He who gathers in the time of summer is a wise son, but he who lies down to sleep in this time is a son of confusion, because such a one will find himself confounded and repentant at the time of giving the account." Thus those five foolish virgins of the Gospel found themselves confounded, because they did not provide their lamps with oil in time.

But returning to the purpose, this is the first ability of ants. The second is that, without more tool nor mason than their little mouth, they make a granary or silo beneath the earth, where they may dwell and where they may guard their sustenance. And even this granary they do not make straight, but with great turnings and returnings to one part and another, as is said of that labyrinth of Daedalus, so that, if some little enemy animal should enter by the door, it may not easily be able to find them nor despoil them of their treasures. And with the same little mouth with which they made the house, they draw the earth outside, and place it, as for an embankment, at the door of it.

When they go to the heaps to steal the wheat, the greater ones as captains climb to the height and lop the ears, and cast them where the lesser ones are, which, without more shovel nor threshing-sledge than their little mouths, clean and strip them both of the awns and of the husks where the grain is, and, thus clean and stripped, carry it to their granary, grasping it with the same mouth, and going backward, bracing themselves with the shoulders and with the feet to help carry the load. For which, as Pliny says, they have greater force, according to the quantity of their body, than all animals. For scarcely will a man be found who can walk one day carrying another man on his shoulders, and they carry a grain of wheat, which weighs more than four of them, and persevere in carrying this load, not only all the day, but also all the night. For they are such great workers that they join the day with the night, when the moon is full.

But what remedy so that the wheat, being beneath the earth, does not sprout, especially when it rains? What cut would a man of reason give in this, presupposed that the grain had to persevere in the same place? For my part I confess that I would not know how to give it; but the little ant knows it, taught by another better master. For it gnaws that point of the grain by which it has to sprout, and in this manner makes it sterile and unfruitful. That done, what remedy so that the moisture, which is mother of corruption, does not rot it, being beneath the wet earth? They also know their remedy for this, because they take care to draw their deposit out to the sun on serene days and, after it is dried, return it to their granary. And with this diligence many times repeated they conserve it the whole year. Another admirable diligence is written of them, because they are not maintained only on grain, but on many other things and, when these are large, they make them pieces, so that thus they can carry them.

Another thing is written of them admirable and it is that, when they go carrying their victuals from diverse places without knowing of one another, they have certain days that they recognize, in which they come to gather together as at a fair in order to recognize one another and to hold themselves all for members of one same republic and family, without admitting others. And thus they come with great

concourse from diverse parts to this gathering, to recognize themselves and take pleasure with their sisters and companions.

They are in great manner friends of sweet things, and have the sense of smelling so acute that wherever it may be, although it be a lance high, they smell it and seek it. For which they have another strange ability, that however whitewashed and however smooth a wall may be, they climb and go along it as along level ground.

And I will not fail to recount here another thing that I experienced, which put me in admiration. I had in the cell a little green pot with a little rose sugar, which, for fear of them, by whom I was there much troubled, I covered with a stiff paper and folded for more firmness, and tied it very well around, so that they should not find any entrance, which they know very well how to seek, however small it may be. After certain days they came to the odor of the sweet. For their smelling is so penetrating that, although the sweet thing be well covered, they smell it. They having come, then, to the odor of the sweet, and as, all the ways having been sought, they found no entrance, what did they do? They determined to give an assault, and break the wall, in order to enter within. And for this, some on one side of the little pot, and others on the contrary band, with their little mouths they made two little gates in the folded paper, which I had for a secure wall, and when I came to the preserve (it seeming to me that I had it in good custody) I found the little gates opened in it, and

untying it, I see within so great a swarm of them, that afterward the preserve served for no more than for them. So that we can say that they reached me in calculation, and knew more than I, since they conquered with their craftiness my providence.

Ants also have their lodging very clean, as bees do, as ahead we shall say. For which I shall say another thing no less admirable than the past one, and it is that they alone, among all the animals of the world, bury their dead. And for this, as Aelian writes, they fabricate in that their underground place three distinct places: one in which they dwell, and another that serves them as pantry, in which they guard the provision of their sustenance, and another that serves them as cemetery where they bury the dead. Who would believe this, if it had not been seen? So that, as Pliny refers, among as many animals as God created, only man and the ant bury the dead. Therefore I shall add to this another thing very consequent and proportioned with it, which Aelian refers, which whoever wishes may cease to believe, but I believe it, both because it is consequent to the past one and because God is the one who governs them and the one who wished to declare more in these little bodies the marvels of his providence. This author recounts, then, that, once an eminent philosopher by name Cleanthes being seated in the field, he saw some little ants going about near him, and as a philosopher and friend of understanding the secrets of nature, he set himself to consider what they were doing. And he saw that some ants were bringing a dead ant, and drawing near to the mouth

of an anthill that appeared there, they were a little while waiting with their dead one until one came out and saw them, and returned inside and, going and coming some times, finally others came, one of which carried in the mouth a little piece of worm, and they gave it to those that were bringing the dead ant, and they then, the fare of their journey having been received, returned, and the others, recognizing that the dead ant was their sister and of their company, received her and carried her with them to give her her accustomed burial in their house, guarding the faith owed to brothers in life and death. This case put so much admiration in this philosopher that he began to doubt whether the animals that did such things had reason and understanding. But in truth they have understanding, not their own, but of that sovereign providence that fails in nothing, and errs in none, and in all is admirable as it is in itself.

There is not in this little animal a thing that is not preaching to us the wisdom of him who in so small a body placed so many abilities. But I do not know if among these marvels the fabric of its eyes is greater. For all anatomists confess that in the whole fabric of the human body there is nothing more choice, nor more subtle, nor more admirable than the composition of the eyes, which is a most noble and much appreciated sense. Therefore if the fabric of the eyes in the body of a man is so great a marvel, what is that power and knowledge that could fabricate two eyes with so much artifice in so tiny a head as is that of an ant? This is a thing that surpasses all admiration. With this example the great Antony consoled blind Didymus, after having heard him treat the things of God with great wit. For asked by him whether he felt pain with the lack of sight, and he confessing that he did, the Saint said to him: "Why do you receive pain in lacking eyes that ants have, having on the other hand those eyes that angels have?"

Let us now join the end with the beginning of this chapter, since a Christian has here so great a motive to ask God for the remedy of all his necessities. With how much confidence he can say: Lord, who gave so many and so admirable abilities to an ant for the conservation of its life (in which so little is involved), how will you forget man, whom you created in your image and likeness, and made capable of your glory, and redeemed with the blood of your Son, if he does not unmerit this favor by being stuck in the mire of his sins? If you have so much care for the lesser things, how much greater will you have for the greater? What is involved in the ant living or ceasing to live? And how much more is involved in the creature living, to whom you gave life with your blood? Let man remove sins from between, because these are, as Isaiah says, "those that put a wall of division between God and him," and let him know certainly that God will have so much greater care for him than for the ant, as he is a more noble creature than it, because God is not (as they say) a gatherer of ash and scatterer of flour, especially if he considers that as much as this Lord does for the ant, it is

not for it, but to give to man to know his wisdom and providence, and to strengthen with this example his confidence, just as with that of the little birds, which neither sow nor reap, he encourages us in the Gospel to place this same confidence in him.

But although in all these things divine providence is admirable, much more is it in that there is nothing so small, so vile, and so despised, in which the care of this providence does not shine forth. What thing more vile than a little louse? Therefore to this one were given its

front and rear feet, and its mouth, with which it sucks the blood of our bodies, and maintains itself from it, and seeks the seams of the garment in order to be in them more hidden and sheltered. And what astonishes more is that this one also lays its eggs like any bird, which are the nits, which with the heat of our bodies come to be animated like the eggs of the other birds with the natural heat of the mothers, and at times with artificial heat. Who does not admire seeing that that sovereign Majesty, having charge to govern this so great machine of the world, does not forget to provide with all that is necessary a thing so vile and despised?

II

Of other little animals smaller than ants

And since here we intend to treat of small little animals, there are others smaller than ants, concerning which there is a great mystery to contemplate, because on the leaves of some herbs we see some little worms going about, some green, some white, of which there are some so small that with difficulty they are seen, which we discern more by the movement with which they move than by the quantity of their bodies, and also because there are others somewhat greater of the same species, and by the members that these greater ones have, we recognize those that the lesser ones have, because first they have six feet, each three on a side. And they have a mouth by which they are maintained, because every animal that lives, while it lives, eats and maintains itself and grows, because in another manner it would not grow. And for the most part it must also have eyes to see and seek its sustenance, which the mole has no need of, because it is maintained from earth, and this it always has at the mouth. If it has more organs or parts than these, I do not know, but these alone suffice to leave a man astonished, considering the omnipotence of that Lord, who in so small a body could place these and other senses or members that we do not know. For if all this little animal is scarcely discerned, how admirable a thing it was to form in so small a quantity so much variety of members and senses, especially eyes! Certainly, to many it will seem that this discovers no less the omnipotence and wisdom of the Creator than the fabric of the heavens. For just as these, the greater they are, the more they discover the omnipotence of him who formed them, so these, the smaller they are, testify to the wisdom of him who fabricated them. There the greatness astonishes us, here the smallness; there the beauty, here the subtlety; there the splendor of the light, here the delicacy of the fabric. And thus that Lord, who in all his works is admirable, also is so here, although by contrary ways.

Now let us come to the mystery. I ask, then: for what end did that sovereign artificer create a thing so subtle and so artful as this? For it is impossible to have made this in vain. Aristotle confessed that all these lower things were deputed for the service of man, and thus we see that each one in its manner serves him, either to maintain him, or to dress him, or to shoe him, or to cure him, or to recreate him, or to teach him with its example, or also to punish him when he should deserve it. We see, then, that these little animals serve for none of this, because just as the subtlety of their artifice declares that God made it, so their smallness testifies that he made them for none of these things. Therefore for what end did the Creator set himself to fabricate a thing of so great delicacy? It cannot be denied except that he made it for

what it represents to us, which is to declare the infinite power and knowledge of him who could make in so small a little body so admirable a fabric.

But here there is another thing of much consideration, and it is that both the heavens and all the other lower things (besides preaching the glory of the Maker, and giving us news of his greatness) also serve for the use and profit of human life. But these little animals, as we said, serve for none of that, except for what has been said, which is to give us those same news, wherefore one can say that between these two orders of creatures so unequal there is the difference that there is between the letters that a proper messenger brings us and those that a muleteer brings us, who principally comes to bring bread to the plaza, or some other thing, and on the way brings us a letter, because of those first ones much more account is made than of these. Therefore thus we say that the creatures that serve the profit of man also bring us letters, and give us news of the wisdom and providence of the Creator, but together with this they come to bring bread to the plaza, which is to provide sustenance and victuals for man. But these are like a proper messenger, which serve for no other thing except to give us news of the immense power and wisdom of him who could make such works. And in this same account and for this same end we place other infinite little worms, in whose little bodies this same aforesaid artifice and subtlety shines forth, which by their smallness serve for no use of our life except for this alone. And no less do the ants serve for this same end, with those so admirable abilities that we referred, since these also serve man for no use and profit. And the greater their abilities are, and the more useless they are, so much the more do they testify to having been created for this end alone. Therefore what shall I say of a mite, which is scarcely seen in the ray of the sun? Who was powerful to place in a body so invisible power to move and open a way between hide and flesh, and a mouth to gnaw and maintain itself from it? O great God, admirable in all his works, and much more in the small and despised ones than in the great!

Now let us see where this so long discourse comes to stop. What is inferred from all that has been said? One thing certainly of inestimable profit, which is that, if that sovereign artificer created all this infinity of little animals for this end alone, which is to show us here the immensity of his omnipotence, of his wisdom, and of his providence, since it serves for no other, it follows that the Creator wished to be known by men as such as he here appears. And if as such he wished to be known, as such he also wished to be esteemed and adored and reverenced, which is the sum of all religion. Let this consideration serve to stop the mouth of some witless philosophers who denied divine providence, and consequently religion and worship of God. For for what do I have to kill myself and labor in service of a God who is to have no more account of me than a god of stone or wood? And when against these we allege these same virtues and perfections of God, which shine forth in the other creatures that serve for the necessities and provision of man, they answer us that those already have their end, which is to provide man with what is necessary, and that for this alone they were created. And this provision ordered so that he and the animals might live, he wished to have no more account with man nor with his things. Therefore what will such men respond to the fabric and to the marvels that we see in infinite little creatures of this genus, which, the smaller they are, so much the more are they admirable and so much the more preach the glory of the Maker? Let us say, then, for what end these were created, since they do not

serve for the necessities of man. Here the mad philosophers who denied providence will be struck dumb, or they will confess that God formed things so admirable above as many as are created in vain and without purpose and without end. Which is very great madness and blasphemy.

Therefore in this it appears that we owe God no less for having formed creatures so small, than for the great ones, because the great ones serve to provide for our bodies, but the small ones to teach our souls. And although both the one and the others preach the glory and providence of the Creator, the small ones testify this more, since for no other end were they created. For to the argument of the others the philosophers found what to answer, although badly, but to that of these they have nothing to be able to say, except blaspheming and saying that God created things so admirable in vain.

III

Of The Spiders

In this same account and for this same end that we said, the spiders serve, since they do not serve for the use of human life, nor are the abilities that the Creator gave them for maintaining themselves small. Their sustenance is the blood of flies and, to seize them, they make a web more subtle than as many as are woven in the kingdom of Cambrai, without any other matter than that which they draw from their own belly, which, though being so small, suffices to give thread to so great a web as they at times make. Therefore with this web the spider surrounds the hole where it is hidden like a spy or like a highway robber that awaits the occasion to assault and rob. And when the fly, innocent of such arts, settles on that web, and entangles the little feet in it, the thief comes with great haste, and binds it on all sides in order to have it more secure. And this done, it leaps upon it, and sucks its blood, on which it maintains itself.

Others there are that make their webs in the air, casting the threads upon which they have to found it on the branches of some tree, and upon these they make a most perfect net with its meshes, like that of a fisherman or hunter, and placed in the midst, they await the occasion of the hunt, and run along those threads so thin as if they ran along some cable, and thus seize the prey. Where there is much to consider the place and station in which they place themselves, which is at the point or center of that circumference, where all the lines that it has cast around come to end and join. From which it comes to be that the fly can touch none of them, without it at that point feeling it and, running along the same line, seizing it. How many things there are here to consider and in which to see the artifice of divine providence! What a net so perfect! What threads so delicate! What a circle so proportioned! What a station so well chosen for the hunt! But all this is said to me, it speaks with me, because for the rest, the Creator would have made little account of the spiders.

Others there are that make their nest beneath the earth, which they hang round about with many webs, one over another, so that the earth that could crumble down may not blind their house and bury them alive. But another thing there is in them more to note, and it is that they make a cover with which they cover the mouth of this nest, which will be of the shape of a half pellet, and they make it of a little bit of earth, dressing it with so many webs or shirts around, that it comes to fit with the mouth of it so perfectly, that it is scarcely differentiated from the other neighboring earth.

And what is of more admiration and artifice: these shirts are fastened and continued on one part with the other webs with which all the nest is dressed, so that this fastener serves as a hinge, so that the web of this hatch may be continued on one part with those within.

Therefore who could teach this little animal to furnish and tapestry its house, and put its doors on it with so great delicacy, except he who could create it? Someone will say: very minute are these things that you treat, having taken charge to treat of the Creation of the world. To that Aristotle responds in his book on animals, saying that in the smallest of them there shines forth more a likeness of understanding than in the others. So that, the lesser and more vile they are, so much the more do they declare the omnipotence and wisdom of that Lord who in so small little bodies placed such strange abilities, and so much the more do they declare the riches of his providence, since it does not fail such vile and small creatures in all that is necessary for their conservation, from which we shall understand how much greater care he will have to provide for the greater things, who has so great a care for the lesser, and so much lesser.

And it is no less to be noted the manner in which some little spiders the size of flies hunt the very flies, without having wings like them. For when they are stopped, they attack them by treachery, drawing near to them little by little from behind, but with such warning, that when the fly moves, it steals its sight with great swiftness, and as many times as it moves, so many times does it do the same, but in such manner that it does in one way two errands, because it steals its sight, and always drawing near to it, until finally it comes to be so near, that with one leap it strikes it, and seizes and eats it. This is a thing that many are looking at, not without taste and admiration at the industry and art of the hunter, and even Saint Augustine recounts this of himself in his Confessions.

Chapter XIX. Of the fruit of bees and of the worm that makes silk

The Creator is so admirable in all his creatures that, if we knew how to contemplate the fabric of the body of each one of them, and the abilities that they have for their conservation and provision, we would not cease to marvel at the immense majesty and wisdom of him who formed them. The truth of this is seen in all the animals of which up to here we have treated, and in as many others as there are, if there were eyes to know how to look at them. But beyond all that has been said, two little animals that enter into the account of the smallest have advantage, which are the worm that spins silk, and the bee that makes honey, of which we shall treat here as of a thing more admirable than all those past. For beginning with the worm that spins silk, is it not a thing of great admiration that so small a little worm spins a thread so subtle and so fine, that all human arts and wits have never up to today been able to imitate it? Is it not a marvel that the Creator should have given faculty to this little animal to give matter to all the elegance of the world, which is to velvet, to taffeta, to damask, to high-low crimson, to clothe nobles, great lords, kings and emperors, and

to differentiate them with the beauty of this habit from the other small people? Is it not a thing of admiration that there is no land of blacks nor region so barbarous and so far apart, where kings do not seek to authorize themselves with the clothing that is made by the industry of these little worms? And not only the people of the world, but also the churches, and the altars, and the priests, and the feasts and divine offices are celebrated and authorized with this same ornament.

Then what shall I say of the bees, which, though having smaller bodies, provide all the world with a most sweet and very healthful liquor, which is honey, which serves to give flavor to all foods, for the provision of apothecaries, for remedy of weak stomachs, and for so many differences of conserves that are made with it? Then how profitable is also the wax that they fabricate together with the honey? With it the altars shine, with it processions are authorized, confraternities make use of it, with it burials are celebrated, and with it the tables of the great lords and of kings are adorned. And all this a little animal does, scarcely larger than a fly. Who would believe these two things, if he had never seen them, especially if they told him the concert that these little animals keep in their manner of republic and order of life? O great God, and how admirable you are, Lord, in all your works, as well in those of nature as in those of grace! And this is not to be wondered at, since the one and the others are yours, and both daughters of one same father, and for this reason the one resemble the others so much. We see in the works of grace that you choose the weakest instruments of the world to do admirable things. With twelve fishermen you converted the world, with the arm of a woman you destroyed all the power of the Assyrians, with the grooms of the princes of Israel you routed the army of the King of Syria, with a sling and a staff you made a little shepherd vanquish a giant armed with all arms, and with the jawbone of a beast you made Samson kill no fewer than a thousand Philistines. These are your works, these your marvels: to accomplish things so great with instruments so weak. And this same order that you keep in the works of grace you also keep in those of nature, since you ordained that, from these two so vile little animals, the one should provide kings and great lords with very rich garments, and the other with the sweetest of foods. For when these little animals are smaller and viler, and their fruit more excellent, so much the more do you discover to us the greatness of your glory.

Chapter XX. Of the republic and order of the bees

If the fruit of the bees puts us in admiration, much more admirable is the order and concert that they have in their dealings and manner of life. For whoever has knowledge of what very grave authors write of them will see a republic very well ordered, where there is a king, and nobles, and officers who occupy themselves in their offices, and vulgar and plebeian people who serve these, and where there are also arms for fighting, and chastisement and penalties for whoever does not do what he ought. He will likewise see in them the image of a family very well governed, where no one is idle, and each one is treated according to his merit. He will also see here the image of a congregation of religious of great observance. For first, the bees have their prelate or

president, whom they obey and follow. They live in common without

anything of their own, because all things among them are common. They also have their offices divided, in which they occupy themselves. They have their chastisements and penances for the guilty. They all eat together at one same hour, they make their signal at nightfall for silence, which they keep most strictly, without the buzzing of any one of them being heard. They make another signal in the morning to awaken to the common work, and they punish those that do not at once begin to work. They have their watchers, who keep watch by night, to guard the house and so that the drones may not eat their honey. They have their porters at the door to defend the entrance against those who would wish to rob. They also have their lay brothers, which are certain imperfect bees, which do not make wax or honey, but serve to carry provisions and water, and for other necessary and low offices. All this that sovereign artificer traced and ordered with so much order and providence, that it puts great admiration in whoever knows how to contemplate it. It is written of the queen of Sheba that, seeing the order and concert of the house of Solomon, her spirit fainted, seeing the things so well ordered by the head and plan of this great king. It is not much to marvel that a man who exceeded all men in wisdom should do things worthy of so great admiration, but that so small a little animal should do the same things so well ordered in its manner of life, that is a thing that surpasses all admiration, notwithstanding that the daily custom of seeing these things takes away from them a great part of it. Pliny writes that Aristomachus of Soli marveled and delighted so much in contemplating the properties of the bees, that for the space of fifty-eight years he did no other thing more principally than this. And of another distinguished man he writes that he dwelt in the fields near the hives, in order better to attain the properties and secrets of these little animals, both of whom wrote many things that this so long experience and diligences attained.

I shall here compile what two grave authors, Pliny and Aelian, write of this matter, in which there is nothing that is not admirable, and that is not giving testimony of the wisdom and providence of that sovereign artificer who made all this. And I ask the Christian reader not to hold as incredible the things that shall here be said, considering on the one hand the authority and experience of those who wrote them and, on the other, that it is not so much the bees that do this, as God, who wished to give himself to us to be known by working in them all these marvels. But the feeling of this I remit to the devotion and prudence of the reader, because, if with each of these things I had to join its exclamation, a very prolix treatise would be made. I shall only say that, man being created in the image of God, because he received in his soul that divine light of reason, with which he not only attains divine things, but also knows how to trace a very well ordered republic, with all the parts and offices that are required for it, this being so, he will see that all this that man attains with this divine light, this little animal traces and executes much more perfectly than that same man. Let this consideration serve for each one of the things that we shall here say, remembering (as I say) that God does all this so that we may recognize his greatness and providence, and according to this knowledge honor and venerate him.

I shall begin, then, with what we all know, that is: that the bees have their king, whom they obey and follow wherever he goes. And as kings among men have their royal insignia, which are crown and scepter, and other such things, with which they are differentiated from their vassals, so the Creator differentiated this king from his own, giving him a greater and more

beautiful and resplendent body than to them. So that what art invented there, here nature itself provided. From each swarm there are commonly born three or four kings (so that there may be no lack of a king, if one should be in danger), but they understand that no more than one single king is fitting for them, and for that reason they kill the others, although with much feeling of their own. But necessity and the love of peace conquer just sorrow, because they understand that this is fitting for them in order to excuse war and divisions. Aristotle, at the end of his Metaphysics, presupposing that the multitude of principalities is bad, concludes that in all this great republic of the world there is no more than one single prince, who is one single God. But the bees, without having learned this from Aristotle, understand the harm that follows from having many

princes, and for this reason, choosing one, they kill the others, although not without feeling and sorrow. Already in this we see a great discretion and marvel in so small a little animal.

Having chosen the king, they treat of building their houses, and first they give a bitumen to all the walls of the house, which is the hive, made of very bitter herbs, because, as they know that the work they have to make is much coveted by many little animals (as are wasps, spiders, frogs, swallows, serpents, and ants), they wish to set this offense before it, so that, exasperated by this first bitterness, they may desist from their theft. And for this same cause the first three orders of the little cells that are in the honeycombs nearest the mouth of the hive are empty of honey, so that the thief may not at once find at hand something on which he can feed. This too is another providence and discretion.

This repair being made, they make their houses. And first, for the king, they build a great and magnificent house, according to royal dignity, and they surround it with a fence, as with a wall for more authority and security. Then they build a house for themselves, which are those little cells that we see in the honeycombs, which serve them for their habitation, and for the raising of their children, and to keep in them as in vessels the provision of their honey, which cells they make so perfect and proportioned, each one with six sides, and so similar one to another as we see, for which they have need neither of rule, nor of plumb line, nor of other instruments more than their little mouth and their little feet so delicate, where you will not know at what you have more to marvel, either at the perfection of the work, or at the instruments with which it is made. Nor do they forget also to make houses for their servants, which are the drones, although smaller than their own, while they themselves are larger.

The house being made and its places and offices ordered, there follows the work and the distribution of the offices for the work in the following form: the oldest, and those that are already as retired and exempt from work, serve to accompany the king, so that he may be more authorized and honored with them. Those that in age follow after these, as more skillful and experienced than the newer ones, attend to making the honey. The others, newer and stronger, go out to the countryside to seek the materials from which both the honey and the wax have to be made. And each one brings with herself four loads. For with the front feet they load the plates of their little thighs, which plate is not smooth, but rough, so that they may not cast off from themselves the load that they put on it, and with the beak they load the front feet, and thus they return to the hive with these four loads that we say. Others attend, two by two, or three by three, to receiving these and unloading them when they come. Others carry these materials to those that make the honey, placing them at the foot of the work. Others serve to give a hand to

these officers so that they may make it. Others attend to polishing and burnishing the honeycombs, which is like whitewashing the house after it is made. Others occupy themselves in bringing provisions of certain things of which they eat. Others serve as water carriers, who bring water for those that reside within the house, which they bring in the mouth and in certain little hairs or down that they have over the body, with which, coming wet, they cool the thirst of those that are within working. And of this office of carrying water and of bringing provisions the drones principally serve. There are others that serve as sentinels and guards, who stand at the door, to defend the entrance against thieves. Over all this the king presides, and goes through his chambers, looking at the offices and labors of his vassals, and exhorting them to work with his sight and royal presence, without himself putting his hands to the work. For he was not born to serve, but to be served as king. And near him go other bees that serve to accompany him as king.

It is well seen by what has been said how admirable is the power and wisdom of the Creator in having placed such order and such distribution of offices to provide this suave and pleasing liquor for men, who give him so many displeasures with their evil works. But I shall add still other marvels to these, of which one is that within the hives they have their privies, as there are in monasteries, which is a separate place where all go to discharge the belly. For since the Creator deputed this liquor of honey for the maintenance of men, many of whom are very fastidious, for this reason he ordained that it should be most pure and very clean, as we see it.

And they have still another thing of signal providence, and it is that on the days when they do not go out to the field, because they are tempestuous, they have deputies to take these excrements out of the hive and throw them outside. For they do not wish to lose the working day by this occasion, nor do they wish to be idle on the day that is not so, keeping what matters more for the better time, and what matters less for that which is not such.

Another marvel and providence is written of them, no less than this, and it is that they know how to ballast themselves on windy days in order to resist the wind, because they take a little stone in their hands, in order to make with it the load of their little body heavier, and less subject to the impetus of the wind. Then who does not see in all these things the providence of that sovereign President, who could equal the prudence of these little animals with that of men? They have another thing also: that if perchance night overtakes them in the field, they sleep lying on their backs, so that their little wings may not be wetted with the dew of the morning, and they be left unable to fly. What more shall I say? They all eat at one hour, so that the time of refection and of work may be equal. And thus also they gather themselves to sleep at one same time, which is at nightfall, at which time there is great murmuring among them. And then the crier gives three or four great buzzings, which is to make a signal for sleep, and they are so observant and obedient, that then suddenly all are silent, keeping most perfectly the rule of silence. And when another day dawns, which is already time to work, this same bee gives three or four great buzzings so that they may awaken and go each one to attend to the office that falls to her, and the one that grows lazy and does not wish to go to work, they chastise with no lesser penalty than death. In the rigor of this penalty it is seen that the republic of the bees is better governed than ours, which is full of idlers and idle people, who are the pest of the republic, whose office is to gnaw at the lives of others, and to go about in dishonest dealings and to join, and to join passions and disturbances that follow from here, and other

similar vices that are born of idleness, of which those who have no more to attend to all day than their offices are free.

They also have by night their watches, which guard the house so that no one may enter to steal their treasures, especially the drones, who are thieves of the house, who, feeling that the bees sleep, rise up very quietly to eat of others' labors. But if the watches take them with the theft in their hands, they punish them gently, but they do not kill them, pardoning them that first fault, but they do not for that amend themselves, because by their nature they are gluttonous and idle, which are two evils not small. And for this reason, when the bees go out to the field, they stay hidden in the house (because the more cowardly and more unarmed they are, the more basenesses and tricks they use), and then they give themselves over to their pleasure in the honeycombs. And the bees returning, and seeing the havoc done in their house, no longer use clemency with them, but fall upon them with anger and fierceness, and kill them.

And just as with these thieves and idlers they keep rigor of justice, so they use great charity with their sick sisters, because they bring them out to the ray of the sun at the mouth of the hive, and bring them there to eat, and accompany them. And at night they put them inside so that the night air may not harm them. And while they are suffering, they do not consent that they work until they are restored to their first strength, and if they die, they accompany them and carry them outside to give them a place of burial. It will seem to someone that I recount fables here.

I recount nothing except things referred by very grave authors or, to speak better, I recount nothing except praises of that Lord who, as he could give food without bread to the children of Israel in the desert, so is powerful to make these little creatures that lack reason do all their things as perfectly as men who have it, and even go further, as we shall presently say.

When they have to move to another place, they must not take a step without their king. All take him in the midst so that he may not easily be seen, and all seek to draw nearer to him, and to show themselves more

serviceable to him. And if he is already old, so that he cannot fly thus, they take him upon their shoulders, and thus carry him. And where he settles, there all the army settles. And if by chance he disappears and strays from them, they seek him with great diligence, and find him by the smell, which they have very keen, and restore him to his vassals, because, lacking him, the whole army scatters and is lost. It has not been known until now whether he has a sting or not, but what is known is that, if he has it, he does not use it, because it is a thing unworthy of royal majesty to execute by his person the office of executioner, understanding the refinement that philosophers teach, saying that kings must do benefits by themselves, and by others execute punishments, and that nothing adorns the estate of kings more than clemency, and nothing makes them more lovable and secures more their estates and their lives. And by this virtue the bees are so friendly to their king, and so loyal that, if he dies, all surround and accompany him, and they neither wish to eat nor drink, and finally, if he is not taken away from before them, there they would let themselves die with him: so great is the faith and loyalty that they have with their king.

Nor did the Creator leave this little animal unarmed, rather, according to the quantity of its body, there are no arms stronger than its own, which is that sting with which they prick and wound

those who come to steal. For, since they have charge of so great a treasure, and coveted by so many, it was right that he who created them should give them competent arms to defend it. And for this same cause they have watches at the door, so that no one may enter to steal without being felt and resisted in the manner that is possible to them.

They do not go out to the field in all the times of the year, but when there are flowers in it, because they profit from every kind of flower for their office. But in time of cold and snows they are quiet in their house, maintaining themselves in winter from the labors of summer, as ants do. They do not stray more than sixty paces from the hive and, this space being exhausted, they send their spies ahead to reconnoiter the land and give them news of the pasture that there is. And because nothing should be lacking in which these animals should fail to imitate men, as well in the good as in the bad, one swarm also fights with another over the pasture, although the fight is more bloody when maintenance is lacking to them, because then they undertake to rob provisions from one another. And for this the captains go out with their armies, and some intending to rob and others to defend, a cruel battle is joined among them, in which many die: so powerful is necessity, which makes all the laws of humanity and justice be despised.

All that we have said here is a manifest imitation of the polity and prudence of humans. And if it puts us in admiration that these little animals do what men do, how much greater ought it to put us in to know that they know something of what God knows, because only he knows the things that are to come, and this too these little animals know in the things that pertain to their conservation; because they know when there is to be rain and storms before they come, and in these times they do not go far to graze, but go about with their buzzing around the hive. Which, seen by those who have charge of them, they are wont to give notice to the laborers of the change of weather, so that, according to it, they may repair and provide themselves. In which we already see how inferior the knowledge of men remains to that of the bees, since they attain what men do not attain. Then, who will hold it as an incredible thing that the bees imitate what men do, since there are things in which they pass beyond, knowing the future, which is proper to God?

But what makes me in this matter remain astonished is the fruit of the honey, to which all these aforesaid abilities are ordered, because we see how many diligences and instruments are required to make a conserve of citrons or of lemons, or any other, because for this fire is necessary, and one cooking, and another cooking, and vessels and instruments that serve for this, and officers skilled in this office. I ask, then, now: what instruments does this little animal so small have, except some little feet as thin as threads, and a little sting as thin as they? Then how with such weak instruments and without more cookings or fire do they make this so sweet conserve and this transformation of flowers into so suave a liquor of honey, at times yellow as wax, at times white as snow, and this not in small quantity (such as could be expected from so small a little

animal), but in as much quantity as is drawn in good time from a hive? Who taught this animal to make this alchemy, which is to convert one substance into another so different? Let as many confectioners as there are gather together, with all their art and tools and with all their cookings, and let them convert flowers into honey. Not only has human wit not reached here, but it has not even been able to attain how this so strange

change is made. And mad men wish to scrutinize the mysteries of heaven, when the whole capital of their wit does not reach to understanding what every day they see at the door of their house.

Nor is it lacking in admiration to see how, from that load that they bring on feet and hands, one part they spend in making wax, and another in honey. How do they make things so different from one same matter, as honey and wax are? And if there are in it different parts, who taught them this so secret difference that we do not see? Who showed them the more subtle for honey, the more gross for wax? What will he not be able to do who knew how to do this? Truly admirable is that sovereign Maker in all his works, and no less in the small than in the very great.

Then what remains here except to give thanks to the Creator, who provided all these so strange abilities to these little animals, not so much for them as for us, who enjoy the fruit of their labors? But men are of such quality, that they enjoy this fruit, but neither give thanks for it, nor in it contemplate the greatness of the power and wisdom of the Creator, who in so small a head placed so great art and knowledge. Which Ecclesiasticus did not keep silent when he said that, "though the bee is so small among the things that fly, the fruit of its labors is the beginning of all sweetness." And for that reason I said at the beginning that, while men go swimming among so many marvels of God, we have neither eyes to see them, nor ears to hear what in silence they preach to us, nor hearts to lift up our spirit to the knowledge of the Maker by the admirable artifice of his works.

Chapter XXI. Of the worms that spin silk

So admirable are the works of that sovereign artificer, that the one seem to compete with the others over which of them will be more admirable, because all of them, each one in its manner, are so, and in this account enters the worm that spins silk. Of its fruit we already said how all the elegance of the world and all the ornament of the churches is the work of this little animal, but of the artifice with which it spins it, Jerome Vida, most elegant poet, wrote two books in verse. The sum of what he says there I shall recount here: these worms are engendered from certain very small little eggs, which their female lays. Which, placed in the sun, or put in the breasts, with either of these heats, in less space than three days are animated and receive life with all the senses that are required for it, which Saint Basil alleges in order to make credible to us by this example the mystery of the general resurrection. For he who can give life to so small a seed in so brief a space, will also be able to give it to the dusts and bones of our bodies, wherever they may be. These little animals being born, they at once begin to eat with great hunger, and eating they grow and become larger. And having already eaten some days, they sleep, and after having slept their sleep, in which that sustenance is digested and converted into their substance, they awaken, and return to eating with the same hunger and agony. And the noise that they make when they eat, breaking the herb with their little teeth, is such that it resembles the noise that water makes when it rains on the rooftops. This they do three times, because so many times do they eat, and so many times do they sleep, until they become large. Having now become such, they cease to eat,

and begin to work and to pay their host the reckoning for the food. And for this they lift up their necks, seeking some branches where they can fasten the threads from one part to another, which they draw from their own substance. And the branch being occupied with this thread, they then begin to make in the midst of it their house, which is a cocoon. For joining some threads with others, and others over others, and these very stuck together among themselves, they come to make a wall as fixed and firm as if it were of parchment. And just as men, after the walls of a house have been fabricated, whitewash them, so that they may be smooth and

beautiful, so they, this dwelling having been fabricated, burnish it all within with the little snout that they have over the mouth, very smooth and very accommodated for this effect, with which the cocoon remains so taut that, throwing it into water, it goes swimming on top, without being penetrated by it. And this is a singular providence of the Creator, because, were it not so, all this work would be without fruit, because in this manner, the cocoon being whole and taut, throwing it into hot water, the thread can very well be gathered, one thread separating and unsticking itself from another with the heat. Which could not be done if the cocoon were penetrated by the water, and swelled with it. With this boiling water the officer who fabricated that house dies, and this is the payment that is given him for his work. But to the worms that they wish to keep for breed, they do not do this injury. But they, not suffering so narrow an enclosure, open with their little mouths a little gate by which they go out, and they go out already advanced and increased, because they go out with little horns and wings, made from worms into birds. There are among them males and females and, with all being so similar among themselves, the males know the females, and join themselves by the little tails with them, and persevere in this joining for the space of four days, in which it appears that they have in bodies so small their distinct sexes, as males and females. These days finished, the male dies, and the female gives birth to those little eggs that we said at the beginning and, this done, she also dies, leaving that seed with which afterward she may return to renew and resurrect her lineage. In which is seen how for this end alone divine providence created this little animal, since this office finished, without anyone killing them, they at once die, testifying with their natural and accelerated death that for this office alone they were created, which finished, they finish life together with it.

In this work it is clearly seen how that sovereign Lord created all things for man, since these animals so profitable for our service were not born nor lived for themselves, but for man, since this service finished, they finished life together with it. Where it seems that with their ending they are saying to man: I was not born nor did I live for myself, but for you, and for that reason, this service ended, I take leave of you. And this is seen still more clearly, because that house that these little animals fabricated with so much work does not serve for their habitation, but for man, since upon finishing making it, they at once breach it and forsake it, without using it any more, as a building that they did not fabricate for themselves, but for us. In which are seen the riches and the favor of divine providence, which, not content with having provided for our clothing the wool of sheep, and the hides of animals, with other such things, also wished to provide this so precious and so delicate clothing for whoever should have need of it.

And here it is much to consider that, the threads of this cocoon being thinner than hairs, and made of a matter so delicate and weak as is the humor and slime of these worms, they come to be so strong that they can easily be reeled anew, and wound, and woven, and pass through a thousand martyrdoms before silk is made from them, so that it may be seen how admirable and

how provident that heavenly Master is in all his works. And no less does he here declare the greatness of his power, since he gave ability to a little worm that is born in two days, and lives two months, to make a work so precious and so delicate, that all human wits would not succeed in making it.

But among these I shall not fail to refer here to Pliny, who, treating of these little animals, says that of the clothing that was made of silk, and of threads so thin, in ancient times women alone made use, and afterward men too came to use it, who were so unaccustomed to wearing mail-coats clothed, that they could not suffer these common garments, and for that reason came to take those of women.

Of Other Little Animals Small And Harmful To Man

At the end of this chapter, where we have treated of these small little animals, someone will ask for what cause he who created all things for the service and good of man created many of these little animals that not only serve man, but rather molest and maltreat him, as are flies, mosquitoes, fleas, and other similar ones, which often impede us from that little piece of the time of sleep (in which we rest from the cares and labors

of the day), and keep us awake and take from us this little repose. To that I respond that, just as the hardships and labors and fatigues of this life, together with death, came to us through the first sin, in which all the children of that first man were comprehended, so also the plagues of these little animals came to us through it, and very justly. For just as man (who compared with God is less than a little flea or a mosquito) rose up against God, and disobeyed, so he wished that the mosquito and the flea and other similar little animals should rise up against him, and molest and humble him, seeing that such vile creatures were powerful to disturb a creature so generous as man is, without his being party enough to defend himself from them. But in all things God is good, in all things merciful. For this penalty in such manner is penalty, that it is also medicine, because this as well as other infinite miseries and hardships of this life are like aloes, which our heavenly Father places on the breasts and milk of this world so that we may despise and abhor it, and draw near to the breasts of that Lord, which the Bride found sweeter than wine, that is, than all the delights of the world. Which is true to such a degree, that Eucherius could say that he did not know which was the greater motive to bring men to God, either the bitterness of the evils with which this world lays us waste, or the sweetness of the goods with which our heavenly Father invites us.

And since we have now declared in this chapter how admirable God is in the fabric of these little animals so small, it will be reason also to declare how much he is so in the fabric of the great ones, so that thus it may be seen how in all his works both great and small he is admirable, and it may be understood with how much reason that angel responded to him who asked him for his name, saying: "Why do you ask for my name, which is admirable?" For this I could bring here those two fierce beasts, whose greatness the Creator himself describes in chapters 40 and 41 of holy Job under these names, Behemoth and Leviathan. And likewise that of whales, which is very notorious. But leaving this apart, I shall recount here the strange greatness of a fish that in the year one thousand five hundred and seventy-five, on the twenty-second day of April, came to the beach of Peniche, which the sea cast on land already dead. This was

one of the great things that were seen, because it had forty cubits of length, and the hide along the back was black, and along the belly white, and the length of the tail from point to point was five cubits, and in breadth it had fifteen spans. It was so corpulent, that from one side to another two men of great stature could scarcely be seen. The eyes each had one cubit of length. And it is to be noted that the head it had raised four cubits high, and it did not have the mouth in the head, as the other fish, but in the belly. The tusks were each eight cubits. It also had in the mouth sixteen teeth on each side, and each tooth had half a cubit around, and from one tooth to another there was a span of breadth. I wished to put here the figure of it, which was brought to King Don Henry, who is in glory.

In the fabric of this fish the artifice of divine providence must be noted, because the head it raised on high so that the eyes might be in it as in a watchtower, to see the fish on which this beast had to maintain itself. And because the distance from the head to the water was great, he provided that the mouth should be in the low part, so as to be nearer and more at the point of fishing what the eyes from their watchtower might discover to it. I have also heard that this fish has in the belly a grease that is very medicinal and of great price.

Chapter XXII. Of other very notable properties of diverse animals

After these five chapters, in which some order was carried in treating this matter, I shall add this one, in which some extraordinary things of the animals will be recounted, so that as well in these as in those already said we may see the splendors and the wisdom of that powerful hand that filled all this world with marvels and with as many witnesses and preachers of his glory as there are creatures in it, because the insensibility of our heart had need of all these testimonies.

And let us begin first with a thing so rare and so extraordinary as is the Phoenix bird, whose nature Saint Ambrose describes by these words: "They say that this bird dwells in the region of Arabia, and that it reaches five hundred years of life, which, feeling that the end of its days approaches, makes a kind of sepulcher or ark

of incense and myrrh and other fragrant things, and enters into the midst of it, and there dies. And from the flesh of its dead body a worm is born, which little by little goes growing until it comes to have wings like the bird from whose flesh it was engendered, and thus comes to be renewed and to recover the same form and figure that it had in its origin. It confirms us in the faith of our resurrection, which divine providence wished us to hope for and believe. And for this it ordained that this bird should have this so new manner of restoring itself, to confirm us in this faith. So that this novelty is for us, and speaks with us, since man was not created for love of the birds, but the birds for love of man." Let this example serve us, then, so that we may understand that the Creator must not consent that his saints perish eternally, since he did not consent that, this bird dying, it should perish altogether. Then who, let us see, was he who denounced to this bird the day of its death so that it should make its sepulcher, and fill it with suave odors, and enter into it, and there end its life, where with the suavity of the good odors the bad odor of the rotted flesh should be taken away? What has been said is from Saint Ambrose.

Then by this example we shall understand how many and how different manners divine Wisdom has for conserving the species of its creatures, since here it uses this so new and so extraordinary manner, and this accompanied with such new circumstances as has been declared. And no less must it be noted here that, it being a natural thing for many worms to be bred in rotted flesh, from this one no more than one is born, so that the Phoenix bird may be one alone. And no hunter or crossbowman has succeeded in shooting this bird, nor will they ever succeed, because divine providence will here supply, so that the species that he created may never be lacking in the world, although there be in it no more than one single individual.

Let us pass from here to the animals that we know, in many of which divine Goodness, lover of virtue, gives us examples of many virtues, because to move us to love and succor our neighbors in their necessities, which pertains to the virtue of charity, Eusebius of Emesa alleges the example of the deer, which, in order to pass some great river by swimming, all place themselves in one row, and each one for relief of the work carries its head placed on the haunches of the one that goes ahead, and thus they help one another: only the one that guides the procession carries its head in the air, suffering this labor in order to relieve that of its companions. But after it is tired, from first it becomes last, and the one that was going after it succeeds in the office with the same charity. And if neighbors thus helped one another, how much more rested our life would be!

There is another example of charity similar to this, which Aristotle noted of the cranes, of which Tully makes much account. Who says that, when the cranes travel over the sea to seek warm places, flying they make the form of a triangle, with which they cut and divide the air that is contrary to them, helping themselves with their wings as with oars to pursue their way. And for greater rest, those that go behind incline their heads on the backs of those that go before. And because the one that goes in the front guiding them has no one on whom to recline its head, when it grows tired, it returns to the backs, and from first becomes last, so as to have something on which to rest, and the one that was beside it succeeds in the same charge.

Nor even do the wolves (though being animals so faithless) lack another similar industry, because that divine President provided for everything. For when they pass some impetuous river, so that the current may not carry them after itself, they seize strongly with the mouth upon the tails of one another, and thus, the forces of all joined as in a squadron, they resist the current and pass safely. This same example of charity we have in other animals, although fierce, which caress and lick one another's wounds, as oxen, dogs, cats, lions, and bears do. And likewise they scratch one another when they cannot do it by themselves. Concerning which I shall not fail to recount what I saw in two animals unworthy to be named here, of which the one with its tusks and teeth scratched all the body of the other from end to end. And the one that received this benefit seems to have had a great itch in one leg, which it stretched outward. And the benefactor, understanding what this signified, at once attended to this need, and scratched that leg for it. And this done, the benefactor, wishing to receive the same benefit, stretched himself out, placing his hands and snout on the ground, and then the one that had received it satisfied it with the same office, paying in the same coin the good work received. Then

what is this except a great example with which the Creator condemns the little charity and gratitude of men?

What is this except to open our mouths so that, considering how far his providence extends, we may say with the seraphim that heaven and earth are full of his glory?

Let us pass from charity to chastity, of which we have an example in other animals. Aelian writes that the king of the Scythians had a very beautiful mare and a very generous horse, her son. And since no horse so choice as this one was found to put to the mare, they agreed to cover the mother in such a way that the son would not know her, and thus generation might be had from her. This done, when they, the coverings removed, knew the incest committed, both threw themselves down and killed themselves. In which is seen how rooted the Creator wished the law of honesty to be in our hearts, since even in the brute animals he wished to imprint it. Queen Semiramis, mother of Ninus, king of Babylon, was not so chaste, but he gave her with death the payment that such a purpose and such wickedness deserved. Similar is the example that the same author recounts of a camel and its mother, because the shepherd who kept them covered the mother in such a manner that the son would not know her. But after, the covering removed, the son knew the incest committed, he grew fierce against the shepherd in such manner that he rushed at him, and with his teeth and with his feet tore him to pieces and he himself, also grown fierce against himself, killed himself and threw himself down. For it is a certain thing that the camel never joins itself in this manner with its mother. And still another honesty it has, according to the same author relates, that it never takes the female in the presence of anyone who sees it, but in secret, as the elephant also does. In which this animal shows more honesty and shame than the peoples of the Massagetae, who came to such an extreme of shamelessness that they publicly use their women. In which is seen that barbarous men and without knowledge of God come from cast to cast to destroy in such manner the gifts of nature, that they come to make themselves more bestial than the brute animals.

And no lesser example of chastity is that of the turtledove, which, after the husband is dead, remains in perpetual widowhood, without admitting another. Upon which Saint Ambrose says: "Learn from here, women, how great is the grace and honor of widowhood, which even in birds is praised. Then who (says this Saint) gave this law to the turtledoves? If I seek men, I do not find them, because no man gave this law to women, since not even Saint Paul dared to give it, rather he says: 'It is good for women to remain in chastity, but if they cannot do this, let them marry, because it is better that they marry than that they burn.' Saint Paul desires in women what perseveres in the turtledoves. And in another place he counsels women that they marry, if they cannot imitate the chastity that is found in these birds. Then according to this the Creator was he who imprinted in these birds this inclination and this effect of continence, who alone can make laws that all follow. The turtledove does not burn with the flower of its youth, but, tempted with the delights of marriage, does not break the faith given to the first husband, because it knows how to keep chastity." Thus far Ambrose. By what has been said it appears how much the Creator is a friend of every virtue, since he left us so many examples of it in all the animals. For the hawks teach us nobility, the lions generosity, the elephants subjection and obedience, the horses boldness and effort (as we shall presently see), dogs faith and loyalty toward their lords, deer charity, as we have already said, bees the concert and order of republic, ants providence, the children of storks respect and service of parents, and finally chastity this bird of which we treat.

But among so many differences and properties of animals, I cannot fail to make mention of the favor of divine providence in having created civet cats, which serves for the composition of all fragrant ointments, which without it would be imperfect. And besides this, because it is very hot, it is medicinal for many illnesses. It is, then, to be known that this animal has a pouch between the two places by which the belly is purged, divided into two hollows, and in them it discharges little by little this mass so esteemed, so that, every four days, it is necessary to discharge this pouch with a little ivory spoon, because when this is not done, it itself drags itself along the ground to cast off from itself this load, which gives it pain because it is

very hot. And in this manner every month an ounce of civet is drawn from it, which in this present age is worth ten and twelve ducats in Lisbon. And I shall add more here one thing that, if it were not so public, I would not dare to write it: which is that in this same city there is an entailed estate, which a father left to his son, of twenty-one civet cats, which, the cost of their maintenance being made, yield him every year six hundred thousand maravedis. And the institution of this entailed estate is with a clause that this number of cats always be whole, under penalty of three thousand ducats applied to the Hospital of Mercy. Then who does not see in this the perfection and favor of divine providence, which created so many things, not only for our profit, but also for our delight? And who does not see the diversity of the means that it invented for this? For who would think that from the sweat or from the excrements of this animal there could proceed a mass so precious as this, and that it should have its pouch in which it might be gathered so that it should not be wasted? But this benefit, who does not see it to be made more for the use of man, whom all things serve, than for the animal that gives it, which does not serve itself from it? But it is an ancient thing, and much used, for men to profit from the gifts of God without ever lifting their eyes to the giver, as if everything were owed to them by right and inheritance.

But let us leave the cats, and come to the dogs. For since the Creator formed these for the familiar service of man, who is a rational creature, he gave them inclinations so conformable to reason that, after the elephant (which in this part exceeds all), there is no animal that participates more in this ability. Aelian and Pliny write notable things of the faith and friendship of dogs. But among other abilities of theirs, this alone I shall recount, which Aelian tells. A servant of a merchant was going to do business at a fair, and, drawing apart from the road to purge the belly, a purse that he carried with his money fell from him, without his noticing this. And he continuing his way, the dog that he carried with him stayed in guard of the purse. But having arrived to do business at the fair, when he found himself without money, he returned by the same steps that he had traveled, and found the money, and the dog in guard of it, so wasted already with hunger, that when the young man had finished arriving, it died. In which is seen how firm and constant are the inclinations that the Creator gave to the animals for the offices to which he deputed them. But what shame in men being conquered in this faith that the animals keep toward their lords!

I

We placed at the beginning as foundation of this matter that the Creator, in place of the reason that man alone has, provided all the animals with inclinations for what was fitting for them, equivalent to reason. And according to this Aristotle said, as above

we touched, that the works of the animals were very similar to those of men. To this we now add more: that not only in works, but also in the affections and movements of the heart they resemble men, which is seen not only in the wrath and love and hatred that we see in them every hour, which are lower and more material affections, but in others more generous and more spiritual, such as are those that I shall here recount. The purebred greyhound knows its generosity and nobility, and going through a street, and as many curs as there are coming out to bark at it and molest it, it neither stops, nor defends itself, nor barks, as an animal that feels its generosity and that it does not suit it to take up with people so low, nor to make account of them, teaching in this magnanimous and valiant men that they should make no account of the voices of the barbarous and bestial vulgar, nor desist because of them from their good purposes and designs. And to this purpose I shall recount what they tell of that valiant captain Fabius Maximus, whom the common crowd of the soldiers called cowardly, because he delayed, not wishing to give battle to Hannibal. But the good captain made no account of these voices, because he knew well what he was doing. And to such men he responded that he who did not have spirit to despise the voices of the vulgar, would also not have it to face the enemy. In consequence of this, I shall recount a thing that a person worthy of faith told me, which he saw not without much admiration: a beautiful greyhound being near the shore of the sea, a cur came up to it, and began to bark at it, and surround it, and attack it on all sides. And during all this time the greyhound made no change.

But so great was the importunity of the cur, that the patience of the greyhound was conquered, and thus it determined to take vengeance on it. But in what manner? It did not wish to bloody its arms in so low a race, but took it by the skin and put it under the water, and held it thus so long until it drowned. These and other such marvels are expected from that highest providence and wisdom.

The horse also recognizes its generosity, and when it is a choice horse and well cared for, and comes out rested from the stable, it scarcely fits in an entire street, sidling now to one side, now to another, and attempting to want to run or leap, putting the head into the breast in order to appear better bridled and beautiful. And what is more: it also feels the beauty of the trappings, when they are such, and with them shows more spirit and elegance. At least of Bucephalus, horse of Alexander the Great, Aelian writes that, being harnessed, he did not suffer anyone to ride on him except Alexander alone, and at the time of mounting he lowered himself, so that he might more easily climb upon him, but the trappings removed, he suffered any stable boy. God created this animal more for war than for work, although it serves for everything. And for this reason he gave it all the properties that were required for this. For it is an animal proud, spirited, daring, faithful, warlike, and strenuous. In which properties the artifice of divine wisdom shines forth so much, that the Lord himself who created it sets himself to describe them very deliberately, speaking with holy Job, by these words: "Will you perhaps be powerful to give the horse the fortitude that I gave it? With its feet it digs the earth, it rejoices with its boldness and effort, and goes out to the encounter against armed men. It makes no account of dangers, nor turns back with fear of the sword. Upon it the quiver will sound, the lance and the shield will brandish. Boiling and foaming it swallows the earth, and makes no account of the sound of the trumpet. It rejoices when it hears the horn, and from afar it scents the war, and the exhortation of the captains, and the shouting of the army." All these are words of God, who so deliberately writes the properties of this animal, which, besides what has been said, is very loyal, is apt to do, if there is someone to teach it. It also learns to

silence, when they go by night to make some raid, as the frontiersmen of Africa recount.

And besides this it is the most showy and beautiful of all the animals of great bodies, and of most beautiful and different colors. For some there are from the point of the foot to the head as white as snow, others are painted with diverse colors, others bay of the color of gold, and others of diverse colors. They have their gallant manes, which serve them as natural plumes. And what is more: though being a great animal, and so fierce and so proud, it is at times as tamable and as gentle as a sheep, and thus lets itself be subjected by man, and obeys, turning and returning, running, walking, and stopping as its owner wishes. Then how just it would be that man should learn from his horse to obey his Creator, since the horse, thus in all and through all, obeys him! How just it would be that, since this animal by divine providence serves him for roads, for labors and for dangers, and to honor and authorize the one who goes on it, he should give thanks to the one who created it for all these services of man! Our heart stops at the gifts, and forgets the giver, they having been created so that we might go to him. We detain ourselves so much on the road, that we never arrive at the end of it. And what is worse: we take occasion from the beauty of a horse to go very vain and mad upon it.

The lion too is a generous animal, and knows and prizes its effort so much that, as Aelian relates, when they pursue it, it does not turn its back in flight, but goes step by step slowly looking face to face at its pursuers, threatening them with its fierce roars.

But when it passes behind some hill, where those who pursue it do not see it, it flees very swiftly, seeming to it that in this case it does not lose reputation because it is not seen. It also has another greatness, which is not to eat of the hunt that was left over from the past day, and another greater one, which is to use clemency with the prostrate (which is proper virtue of generous hearts, which are not, like women, vengeful) and likewise, as Solinus says, it is more pious with women than with men, and much more with children, whom it does not touch, except when it suffers great hunger. For necessity conquers all laws.

II

Of The Peacock

Among these generous animals, the one that most clearly seems to know its beauty is the peacock, since we see that it itself makes a display of its beautiful feathers, with that wheel so showy, that however many times we may see it, we always rejoice to see it and to feel the pride with which it extends those feathers, prizing itself on its gentility and making this demonstration of it. Which it does most often when it has the female present, in order to make her more fond with this. And when it already wishes to undo the wheel, it makes a great clamor with the wings, to show at once valor with the beauty. In all which we see an imitation of the things that pass in human life.

The beauty of this bird is worthy of great admiration, but daily custom takes from great things their due admiration, because men of little knowledge do not marvel at great things, but at new and rare ones, as we have already said. And even this is proved with the example of this same bird, which, brought from the Indies to Greece (where it had never been seen), caused so much admiration that, as Aelian relates, the man who brought it went about earning money by showing it. And of a principal man the same author says that he gave a thousand drachmas, which is a great sum of money, for a pair of them, male and female, in order to make breed. And Alexander the Great commanded that no one should be so bold as to kill this bird: so sacred a thing did that so new and so extraordinary beauty seem to him. Then since it is true that in the most excellent things the wisdom of that sovereign artificer shines forth more, it will not be outside the purpose to detain myself a little in describing the condition and beauty of this bird.

And treating first of the end that he who created it had, it appears that, just as in the fabric of those very small little animals that we said, he wished to show us the subtlety and greatness of his power and wisdom (which in so small a matter could form so many things), so in the beauty of this bird he wished to give us a small sample or shadow of his infinite beauty. The reason that moves me to this is to see that this plumage so great, which is a vara and a half long, serves neither to cover the body of this bird, since it exceeds the measure of it so much, nor does it help to fly, because rather it impedes with its excessive load. And since we must assign in this work some end, I see no other except the one that has been said. For, since the principal thing that God asks of man is love, and beauty is so powerful to enamor hearts, from here is born his having created in this world many very beautiful things, so that through them (as the Wise Man says) we might in some manner trace the beauty of the Maker, as further on we shall declare. And because in no kind of things should there be lacking some shadow or trace of his beauty, he also created for this many birds very well painted with diverse colors, among which this one has the first place, which we said to have been created for this end alone.

And to say something of it, it will be necessary, for those who do not know philosophy, to presuppose two sentences that serve for this. The first is that all corporeal things are composed of matter and form, which are the essential parts of them, and the matter is the subject that receives the form, but the form is the principle and the cause of all the accidents and properties and works that each thing has. But in the creatures that have soul, the soul is the form, and the body is the matter. And thus we see that in man the soul is the principle and cause of all the properties and works that there are in him, and for that reason at the point when it is lacking, all is lacking. The second: it is fitting to presuppose that this soul is the one that digests the food that animals eat, and converts it into their substance. But from the excrements of this food, which are like the remnants and leavings of it, it profits itself to produce in birds the feathers, and in the other animals the hairs or the wool with which they are clothed, and in man the hair, the nails, and the hairs of the beard and, according as these excrements are few or many, so are more or fewer the hairs that from here are engendered. And thus it is written of that glorious Saint John of Egypt that he had very few hairs in the beard, because as his abstinence was very great, almost nothing was left over from what he ate to produce them.

Then coming to our purpose, the soul of the peacock is its form, and it is the one by whose virtue, by means of the instruments that it has for this, it converts the food into the flesh and substance of the peacock, and what is left over from this food, which are the excrements and superfluities that we said, it employs in all that plumage so beautiful that we see, especially in the feathers of the neck and of the tail: but the marvel of this is that in such manner does the soul divide these excrements, that although they are of one same substance, it makes them take such diverse colors and figures in diverse parts of the feathers, and these not confused, like those that we see in jasper, but ordered and proportioned to paint those figures shaded with every diversity of such fine and beautiful colors, that they put in admiration whoever sees them. Where it is also to be noted the likeness that all the feathers of the tail have among themselves, in which it appears that these colors are not divided by chance as they happen to fall, but that they have a fixed and permanent cause that distributes and divides them with this conformity, so that those figures may result from them.

And leaving those branches or hairs that go accompanying the shaft of the feathers of the tail until their end, which are all variegated and of beautiful colors, let us come to that eye that is at the end of them, formed with so much variety of colors, and these so fine and so showy, that no kind of the dyes that men have invented will be able to equal the luster and fineness of these. For in the midst of this eye there is an oval figure of a very clear green, and within it there is another almost of the same figure and of a most fine purple color, and these are surrounded by other most beautiful circles, which have great likeness with the colors and figures of the bow that is made in the clouds of heaven, to which there succeeds around the beautiful hair, also of diverse colors, in which the feather is finished. And in this eye or circle that we say there is another thing no less admirable, and it is that the hairs or branches of which this figure is composed are so stuck one with another, and so even and equal in their composition, that it does not seem that that figure is composed of diverse threads, but that it is like a piece of continued silk that is there.

Then what shall I say of the beauty of the neck that rises from the breast to the head, and of that green color that surpasses the fineness of all the greenness of the world? And what puts more admiration is that all those little feathers that clothe this neck are so even and so equal among themselves, that not even one alone is disordered in being greater or less than another, from which results that that greenness appears more a piece of green silk (as we said) than composed of all these little feathers. Nothing was lacking here except a royal crown for the head of this bird, but in place of it it has those three little feathers that make a kind of diadem, and are the finish of the beauty of this bird. And since these three little feathers have so much grace, and serve for nothing more than for its beauty, it is clearly seen that the Creator set himself on purpose to painting this bird so beautiful. What has been said here will be understood better by whoever sets his eyes on one of these feathers, because sight serves more for this than words. And it must not be cast into oblivion that the beauty and colors of all this plumage is not like that of flowers, which in brief withers, but is perpetual and stable, and for that reason serves for other things that are made from them.

Let this suffice of the beauty of this bird, but of its properties this alone I shall say: that the peacock is very fond of the company of the female, for which reason, if he finds the eggs upon

which she wishes to sit, he breaks them, because by this occasion he may not lack her company. But divine providence, which in nothing is lacking, also provided here a remedy, where we shall note that in many things it consented that there should be some necessities, so that in the remedy of them the provision of its providence might be seen more clearly, as is seen in this case. For the female seeks some very hidden place, where she lays the eggs, so that the father may not find them. And even to deceive him, she uses a marvelous artifice, and it is that, when she wishes to go out to eat, she gives a flight as far as she can from the nest, and this she does silently. But when she returns to the nest, she returns crying, so that the husband may believe that there is the nest from which she departed, and thus she mocks and bewilders him so that he may not find the nest. Then who will not see here the inventions that that sovereign Lord seeks so that we may recognize and adore his wisdom and providence, and turn to him in all our necessities, trusting that he will not fail man,

who does not fail the things that he created for the service of man?

But returning to the beauty of this bird, we said above that the Creator fabricated it so beautiful so that by it we might lift up our spirit to the contemplation of the beauty of him who created it for this end. We also said that the principal thing that God asks of man is love, and that beauty moves much more to this love, not only corporeal beauty, but much more the spiritual, such as is that of the angels and of the souls that are in grace. For just as the will is moved by the representation of the good, so love by beauty. For which reason the Creator, who so much desires to be loved by his creatures, wished that in all of them, beginning from heaven to the entrails of the earth, there should be some trace or shadow of his infinite beauty. Which first shines forth in the starry heaven on a serene night, where we see all that great cape and vault of heaven shine with so great a number of lights clearer than all diamonds and precious stones, and these in so great a number, that only he who created them can count them. It also shines forth in the two principal stars Sun and Moon, of whose virtue and beauty we already treated. It also shines forth in the greenness of the fields, in the freshness of the fountains, in the diversity of flowers that beautify the green meadows, in which you will not know at what you marvel more, whether at the diversity of the colors, or at the very fine works with which they are wrought. Then what shall I say of the beauty of the pearls and most precious stones, of so many colors and virtues and of so great value? What of the metals, and especially of silver and gold, which in all nations, however barbarous they may be, is so prized for its great splendor and beauty? What of the beauty of human bodies, and especially of some, such as were those that holy Scripture refers, as were Joseph, Absalom, Tamar, Judith, and Esther? For I do not wish to make mention here of Queen Helen, for whom Troy was lost. In which it appears that in all the species of creatures the Creator wished that a spark of his beauty should be seen, since even in the gold and precious stones that are bred in the entrails of the earth, he wished traces of it to be found. But above all this, what shall I say of the beauty of the souls that are in grace? What of that of those sovereign spirits, in whom the beauty of the Creator shines forth so much, since the sight and splendor of one alone made the prophet Daniel fall to earth from fright alone, who are more in number than the stars of heaven?"

Then all these beauties that we see, and other innumerable ones that we do not see, are in the Creator in a much more excellent manner. For, just as the master has in his understanding the science that he teaches to his disciples more perfectly than they, so he who gave his beauty to all visible and invisible creatures must necessarily have in himself in a more excellent manner what he gave to them, since no one gives what he does not have. And according to this, what will be the blessedness of those who see all these beauties in the face of God, with other infinite ones that are proper to him, which were communicated to no creature? And if the apostle Saint Peter remained so alienated and so outside himself when he saw one single spark of this beauty in the transfiguration of the Lord, that, carried away and as if made drunk with the greatness of that joy, he did not know what he was saying, what will those glorious souls feel when they enter into the joy of their Lord, and drink from that stream so swollen with his delights? And if the beauty of some creature, which is no more than a little white or colored skin that appears on the outside, often suffices to overturn the sense of a man, and to make him fall into bed, and at times lose life, what do you think the sight of that infinite Beauty of which all these enjoy will work in those glorious souls? Happy indeed are those who shall arrive here, since they will enjoy such goods, that neither eyes have seen, nor ears heard, nor human understanding can comprehend.

Chapter XXIII. Prologue on the fabric and principal parts of the lesser world, which is man

Having now treated of this greater world and of its principal parts, it follows that we now treat of the fabric of the lesser world and of its parts, which is man, which serves no less for the knowledge of our Lord God than the past one. For which first we must presuppose that the beginning and foundation of all our goods is

this knowledge. And since there are many things that we can know of him, the one that most matters for our salvation and consolation is the knowledge of his providence, which (as has already been said) includes those three signal perfections of his, which are goodness, wisdom, and omnipotence. Then all that up to here has been said of the fabric of this greater world gives us clear testimony of this providence and of these divine perfections that go in its company, and no less serves for this what is said of the fabric of the lesser world, which is man. For which Theodoret, in twelve sermons that he wrote On Divine Providence, makes use of the admirable artifice of the parts of our bodies to prove this providence. And the reason why man is called the lesser world is because all that there is in the greater world is found in him, although in briefer form. For in him is found being as in the elements, and life as in the plants, and sense as in the animals, and understanding and free will as in the angels. For which Saint Gregory calls him "every creature," because the nature and properties of all creatures are found in him. And for that reason God created him on the sixth day, after they had been created, wishing to make in him a summary of all that he had fabricated, as those do who give or take accounts in writing, who at the end of them summarize in one line the sum of all of them, so that that single line comprehends all that is explained in many leaves. And the same in its manner the Creator seems to have done in the formation of man, in whom he recapitulated and summed all that he had created. From here

it is that with greater ease we know by this way the divine perfections than if we extended our eyes through all the world, which is a thing that asks a very long term. And for this cause the cosmographers make a map, in which they paint all the principal parts and nations of the world, so that with one brief view there may be seen drawn what in its own nature could not be seen in many years. Then thus we can say that man is like a brief map that that sovereign artificer traced, where not by figures, but by the very truth he represented to us as much as there was in the world. And the more this map is smaller and more familiar and more known to us, since it goes in our company, so much the clearer knowledge it gives us of the Creator.

We place further on, among the marvels and works of God, the virtue that he placed in the seeds of the plants, because in a small pip of an orange he placed virtue so that from it an orange tree might be born, and in a little pine nut, so that from it a great pine might be born. But this is very little in comparison with the virtue that he placed in the matter of which the human body is formed, because from one of these seeds no more is fabricated than the roots and the trunk and branches of the tree, with its leaves and fruit. But from the matter of which the human body is forged, although it is a simple substance, there comes to be formed so great a variety of members, of bones, of veins, of arteries, of nerves, and of other innumerable organs, and these so accommodated to the use of life, that if some wit should come to know all the particularities and minute things and providences that there are in this, a thousand times it would remain astonished and frightened at the wisdom and providence of the Creator, who from so simple a matter could and knew how to form so many and so different things. For there is none that is not crying out and saying: who could do this except God? who could, within the entrails of a woman, without placing in her anything of his industry, fabricate a house for the soul with so many chambers and inner chambers, with so many halls and retreats, and with so many offices and officers, except God? Which manifestly declares this to be a work traced by an infinite wisdom, which in nothing fails nor errs. Which the physicians and philosophers prove by this demonstration. They say that in all the body of man there are more than three hundred bones between great and small. And thus on each side there are more than one hundred and fifty bones, and each one of them has ten properties (which the anatomists call "scopos"), namely: such figure, such site, such connection, such roughness, such softness, and other similar ones. So that multiplying these ten properties, and attributing them to each one of the one hundred and fifty bones, there result one thousand five hundred properties in the bones of one side, and as many more in the other.

Then in these bones there are three works and marvels of God to contemplate. The first is the fitting and linking of the bones one with another, with their cords and ligaments, as perfectly made as we already said.

The second is the likeness that the bones of the one side have with those of the other, not only in size, but also in these ten properties that we here said, so that, when the bones grow with age (I put for example) of one hand, with that same compass and measure those of the other grow, and with those same properties that they have, without there being difference from one part to another. And the same is understood of the ribs, and of the shanks of the arms, and of the legs of the one side and of the other. The third marvel, which frightens me more than the aforesaid ones, is to see the making and the properties that each of these bones has for the place where it is, and for the office that it exercises. Let us declare this with an example from artificial things, so that by

it we may come into knowledge of natural works through those of art, which seeks to imitate them, because these are better known. We see, then, that in the house of a carpenter there is a saw for sawing, and an adze for rough-hewing, and a plane for smoothing, and a jointer for leveling, and a compass for measuring and compassing, and other such instruments. And we see how proportioned they are, and how well fabricated these instruments are for their offices. Then this same we find fabricated with greater perfection in these three hundred bones of our body, each one of which has all those ten properties that we said, so proportioned and so accommodated to the places where they are, and to the offices that they have to exercise, that all the understandings of men and angels could not form them with greater perfection than they have. And if the Creator himself, as a manner of speaking, were a thousand years thinking on the fabric of each one of these bones for the aforesaid end, he would not make them in another manner than they are.

And the marvel does not end here, because all that we have here said of the proportion and likeness of the bones of one side with those of the other, that same is in the cartilages, and in the ligaments and bindings of the bones, in the little muscles, and in the nerves and veins and arteries of the one side in relation to those of the other. And all these are instruments necessary for the conservation of our life, which come so accommodated to the offices for which they are deputed, that neither a ring for the finger, nor a sheath for its sword comes so measured nor so compassed as each one of these parts for the office that it serves. Then what thing declares to us more the wisdom of that sovereign artificer, who fabricated so great a number of instruments with so great perfection and artifice for their offices, that not even in one single hair did he swerve or disagree from what was fitting for this end?

In which is seen how bestial was that Epicurus, who said that our bodies had been fabricated by chance. For things that are made by chance seldom succeed in coming out well and, at most, this could be in three or four things. But to succeed in so many thousand parts, and all so perfectly fabricated, that they surpass all the faculty of human understandings, it is not possible to be made by chance, but by a sovereign understanding. For I ask now: what so great madness would it be to say that, throwing a great mass of iron into a blacksmith's forge, by chance a clock should come out concerted with all its wheels, or some very well made braided harness? Then much greater madness without comparison is it to say that the human body was made by chance from that matter of which it is fabricated in the entrails of the mother, as well because the number of the bones and of the other parts of which they are composed is much greater, as because all of them are more perfectly fabricated than those of a clock or harness. For if this artifice were found in one hundred or two hundred parts of our body, it would not be so much: but to be found in so great a number of parts, and all of them so perfectly fabricated for their offices, this is a thing that surpasses all admiration and that singularly declares to us the wisdom and omnipotence of him who could give so great efficacy to the formative virtue of our bodies.

Then for this cause the students of this science of anatomy say very well that it is to us a most certain guide and teacher to lead us to the knowledge of our Maker and of those so principal perfections of his that here we go tracing by means of his creatures. For which with much reason some call this science, and the very fabric of our body, "book of God," because in each little part of it, however

small it may be, the highest artifice and wisdom of God is read and seen. And although the fabric and the things of the greater world help us to this same knowledge, as is already declared, yet these we see at intervals in some rare and extraordinary things, which give us clearer testimony of him: but in this lesser world, which is man, and particularly in the house of him, which is the body, there is nothing so minute, there is no vein, nor artery, nor little bone so small, that it is not with voices preaching the refinement and artifice of him who fabricated it.

Then what shall I say of the greater parts? What things the anatomists say of the fabric of our eyes! What of the frame, and bones, and little bones, and brains, and admirable net of our brain! What of the artifice and fabric of our hands, from which another new artificial world has proceeded, where there is found almost as much variety and multitude of things as in the natural world that God created! For which I hold in part as happy those who have given themselves to this part of philosophy that treats of the composition of our bodies, because if they wish to lift their eyes a little to God, and look in his work at the wisdom and omnipotence of the Maker, they will not be able to fail to remain a thousand times amazed at seeing so many subtleties and providences and marvels. David says that "those who descend to the sea in their ships see the greatness of the works of God, and the marvels that he does in the deep." Then no less, I say, those who enter within themselves, and know how to contemplate what the Maker worked in them, will see just as many marvels, with which he provided man with all the instruments necessary for the conservation of his life, and this with so much perfection, that there is in him no superfluous thing, nor is the necessary lacking.

Nor is it a less admirable thing to see the site and the places of the body in which all these parts of it are situated with so much perfection. For no other can be imagined either more beautiful, or more fitting, or more proportioned for the end and office for which it was made. The ancients said of Plato's eloquence that if some wise man should remove one word of his, and with much study put another in its place, he would take away from its elegance; and whoever should do this in the orations of a great orator by the name Lysias, would take away from the sentence, wishing by this to praise the elegance of the one and the propriety of the words of the other. Then thus we can say to this purpose (although the comparison be humble, comparing the things of human understanding with those of the divine) that if all the wise men of the world wished to trace the smallest part, or member, or sense of the human body, and form it in another manner, or set it in another place, they would take away not only the office and use of it, but also all its grace and beauty. For which Galen, disputing with that bestial philosopher Epicurus (who, denying divine providence, said that the fabric of our body had been made by chance and without counsel, as we already said), comes out with him to this bargain, that he will give him one hundred years of space so that he may change the figure or site of some one of these parts of our body, and fabricate and set it in another mode than it is, and he will clearly see how it is not possible for it to be disposed nor traced better than as it is fabricated and set. At which Solomon marveled, and seeing how low human understanding remained for understanding the refinement and subtlety of this divine artifice, he said: "Just as you do not know what the way of the air may be, and in what manner the members are fabricated in the womb of the pregnant woman, so you do not know the works of God, who is the Maker of all things."

The holy king David knew the artifice of this work, not by study of human philosophy, which he did not learn, but by special revelation of God. And thus in Psalm 138, which all treats of the wisdom of God (which says that all things past and future are present to him, and that darkness is clearer than light before him), he comes to treat very particularly of this fabric of our bodies, where (according to the translation of other interpreters, which serves to understand ours) in sentence he says thus: "I shall praise you, Lord, because terribly you have magnified and declared the greatness of your wisdom in the fabric of my body. Marvelous are your works, and my soul knows it much. None of my bones was hidden from your eyes, when my body was being formed in the secret of the womb of my mother, and when they with marvelous artifice were being woven and linked in it. And even while I was there imperfect and yet to finish being organized, your eyes

saw me, and all my members were written in the book of your wisdom, which little by little, as the days proceeded, were being fabricated, and there was none among them that was not known by you, even before it was formed. How precious are your thoughts and counsels to me, Lord, and how great is the number of them, which if I wished to count, I shall find that they surpass the sands of the sea!" Then in these words the Prophet declares the admirable wisdom of God, which shines forth in the fabric and singular artifice of our bodies. Among which it is much to note that word (terribly you have enlarged yourself) because this word, "terrible," seemed more proper to magnify the works of divine justice than those of his wisdom, of which the Prophet is here speaking. But the reason is because, after he considered the depth of divine wisdom that was discovered in this work of so much variety and the greatness of the power that from a matter so simple could fabricate so many differences of members and organs (as we said), the Prophet remained so frightened and put in fear at the majesty and greatness of God that he saw in this work, that he came to use that word, "terribly." Where it seems to have happened to him what is wont to happen to a man who is climbed upon some great cliff, or upon some very high tower, that if he looks downward, and sees that so great depth, it seems that his head grows faint, and he fears, although he is in a safe place. Then in this manner this Saint feared, knowing by the greatness of this work that of the artificer who made it.

But what great thing is it that a prophet full of God should marvel so much at this work, and be moved to praise him and honor him for it, since part of this we find in a gentile philosopher? For Galen, prince of the physicians, who wrote eighteen books on this admirable fabric of the human body, seeing how much the wisdom of God shone forth in it, says that this writing of his was a hymn and praise that he composed for the glory and honor of God. For his honor does not consist (he says) in our offering him incense and other similar fragrant species, nor in our offering him sacrifices of one hundred oxen, but in that, by the admirable artifice of this fabric, we know the greatness of the wisdom that knew how to trace such things, and the power that could execute all this, and the goodness that so fully provided creatures with all that was necessary for their conservation, without having envy of anything. All this is from Galen, who, convinced and taught by the admirable artifice of this work, attained this so high theology. For this was to say what God said by the prophet Hosea: "Knowledge of God I desire, more than sacrifice," because this knowledge is beginning and foundation of all the virtues, as has already been said.

Then since this matter is so profitable for lifting our understandings to the knowledge of our Creator, it will not be outside the intent that we follow in this First Part, to treat a little of this work, so that by it we may see at least something of what this gentile philosopher saw, although this will not be by pursuing this matter at length, because this would be an infinite thing and foreign to our profession. It will suffice us to point out the most common things and the easiest to understand, and those in which the wisdom of this divine artifice shines forth most.

Chapter XXIV. Of the fabric and frame of the human body upon the bones

The order of proceeding required that we should treat first of the fabric and frame of the human body, which consists in the seat and order of the bones of which it is composed, but there are in this matter so many subtleties and secrets and so many marvels, that neither would I know how to declare them, nor could the reader understand them. For even those themselves who study this faculty on purpose are not content with what doctrine teaches them, but they also make use of figures and images that represent it. And not even this suffices them, but they pass on to make anatomy in human bodies newly dead, so that not only the understanding, but also the eyes, may be witnesses and judges of the doctrine. Where it must be noted that the ancient physicians held it as a thing of great horror to make this experience in human bodies, and for this reason they did it in the animals that were found most similar to them. And so that the pride and vanity of gentle men and women may be lowered, and they may see of what they vaunt themselves, let them know that the bodies that the ancients found most similar to ours, although it is shame to say it, were those of apes and

pigs. And thus Galen, who treated this matter more divinely and at length, ruled himself in all that he wrote by the fabric of the bodies of apes. And for this reason he is now corrected by the new anatomists, who found by experience that in some things our bodies differ from those of these animals.

Thus, because this matter is so various and of so much subtlety, I ought not to intermeddle in it, notwithstanding that there is no bone in it, great nor small, that is not preaching the wisdom and providence of the Creator who traced this. I shall only say that the frame of the human body is composed of many pieces, and is all as if made of hinges, so that thus man may be able to play with all his members, and move them without difficulty. And let no one think that these pieces are few, because (as above we touched) these bones are many, which all are linked one into another with certain fittings so adjusted and proportioned and so perfectly compassed, that none of as many carvers as there are in the world could make them with so much compass and perfection.

And so that the bones should not be disjointed, the Creator provided cords so firm and such ligaments around these joints, that it is not possible for one bone to be disjointed from another, except with some great violence. Then all these fittings, with their cords and ligaments, together with the figure of the same bones so proportioned and measured for the consistency and service of the human body, are voices that are preaching the wisdom

of that sovereign artificer who, without compass and without rule, and without any other instrument, traced all this in the entrails of a woman, without her putting hand to this work.

And if there is some example with which we can understand something of the artifice of this work, it is the one that we already put of the fabric of a braided harness, which, accommodating itself to the members of the human body, covers them from feet to head, and thus also is composed of diverse pieces with their joints, so that the armed man may be able to lower himself, and rise, and move and bend the arms, and grip the lance and the sword in the hand. In all which art imitates nature, insofar as it is possible to it, because in everything it cannot, which, other advantages left aside, is known by seeing how heavily and with difficulty an armed man commands his members, and with how much ease the members of the human body are moved (as is seen in those who run, and turn somersaults, and dance), the number of the bones and joints of our body being much greater than the pieces of any harness.

This fabric can also be compared with that of a high house, framed upon two columns, because the legs serve here as columns that sustain all this building, whose bases are the feet, upon which they are sustained. And the rest is the building of the house, which goes fastened and linked, with the bones of the spine that go up along the back to the last part of the head, all made of diverse pieces, like a chain of diverse links, with their marvelous fittings, from which the ribs proceed, just as in the high part of the building there is a principal beam that takes from wall to wall, from which proceed the side-beams, or those that they call rafters, which sustain the planking with which the building is covered and finished. Then upon this frame of bones the Creator extended the flesh and the skin for beauty of the human body, just as, after the walls of a house have been raised, we whitewash and adorn it, so that it may appear more beautiful. For he who traced all this fabric was so wise, that he joined in one the two things of greatest perfection and most difficult to join of as many as there are, which are profit and beauty, and this with such refinement and artifice, that the most profitable is most beautiful, and the most beautiful most profitable, as is seen in the fabric and site of all the senses and parts that we see in human faces, which, neither for their offices nor for beauty, could have either another figure or another site than the one they have. This frame of bones also serves, not only for the firmness and stature of the body, but also to shelter the weak with the strong, as further on we shall see, which is also another providence of this supreme artificer, teaching us in this that the great and powerful in the republic must be not flayers, but defenders of those who can do little. Let this suffice for what touches the frame and fabric of the building of our bodies; now we shall begin to treat of the work of nutrition with which they are sustained.

Chapter XXV. Of some general notices that it is fitting to presuppose in order to treat of the first faculty of our soul, which pertains to the nutrition and sustentation of the body

Before we begin to treat of the faculty of the vegetative soul, it is fitting to presuppose some general notices and instructions that serve for the understanding of this faculty. It is,

then, now to be known that in our soul there are three powers or faculties, of which the first is vegetative, whose office is to nourish and maintain the body, and another that they call sensitive, which is that which gives us sense and movement, and the third is the intellective, which differentiates us from the brutes, and makes us similar to the angels. These three faculties the Creator gave to one simple substance, which is our soul, which is as great a marvel as if he made a creature that were at once angel and horse, since our soul exercises in us the offices of these two so different creatures, since it understands like an angel, and eats and engenders like a horse. For which, some philosophers did not admit this, rather they said that these three faculties of our soul were three souls, which they placed in diverse places of our body, that is to say, the vegetative in the liver, and the sensitive in the heart, and the intellective in the head, and this last Plato said was man, not consenting that a thing so low as our body should be an essential part of man, but a house where the soul dwelt, or a candlestick where the lighted candle of our understanding was placed.

Then according to this aforesaid division, we shall treat first of the faculty of the vegetative soul that we have in common with plants, which also live and maintain themselves as we do, and afterward we shall treat of the other two faculties of the soul, which are the sensitive and intellective. Let this be the first presupposition.

Let the second be what we all know, which is that ordinary maintenance is necessary to conserve life. The reason for this is because the heat of our bodies, by means of which we live, is also no less cause of our death than of our life. For with its efficacy it consumes the substance and the flesh of man, as we see in the sick who through disgust or through diet do not eat, whom after some days we see thin and fleshless. The example of this we see in the lamp that we wish always to burn, where the ardor of the flame little by little goes consuming the oil that sustains it. For which reason it is necessary always to feed it, so that what is always spent may always be repaired. Then the natural heat in our bodies does the same as the flame in the lamp, which always spends and consumes our radical humor, and for this reason it is fitting to restore what is thus spent, with the food that is eaten. Where it must be noted that from this food the body takes for sustaining itself the fatness and oily part that there is in it, so that, if you eat a camuesa apple, nature serves itself from the oily part of it to restore what was lost. And because what is restored is never so perfect as what there was before, from here the radical humor comes little by little to lose of its vigor and virtue and, when this is altogether diminished, life comes to be finished together with it, if some sickness or violence did not anticipate to give it an earlier end.

The third presupposition is that, since the whole body with all its parts has to maintain itself, and it is fitting that maintenance run to all, it is necessary that in all of it there be roads by which the maintenance, and the spirits, and the heat may run to all parts, and thus the Creator traced it full of veins and arteries and nerves, some of them larger and some of them smaller for this effect. So that it is like a city that is all full of streets and of little streets for the passage and service of those who inhabit it. Although I do not know if the example of a very fine net is more accommodated, because thus all our body is interwoven and full, not of one, but of four kinds of nets, as further on we shall declare. Which appears more

clearly in the leaves of trees, especially when they are large, in which we see so many little threads, some larger and others thinner than hairs, which are the weaving with which the leaf is sustained and maintained. And not content with this, the Creator ordained that the whole body should be, as the physicians call it, transpirable, which is to be all full of pores so that there may be communication from some members to others.

Let the fourth be that that most wise artificer placed three necessary faculties in all the members for their maintenance, which they call attractive, conversive, and expulsive. For each member attracts from the veins, which are carriers of the maintenance, what is necessary for its nutrition, and afterward converts it into its substance and, if it has some superfluity that is not fitting for it, it casts it away from itself. But among these three faculties the first is more admirable, which is the attractive. For since in that mass of the blood there go the four humors of which our bodies are composed, which are blood, phlegm, choler, and melancholy, each member, as if it had judgment and sense, takes what is fitting to its nature, and does not touch the rest. And according to this, the bone, which is hard and solid, which also maintains itself and grows like the other members, as we see in the bones of children that go growing with age, takes from that mass the cold and dry humor, because this is more natural and more proportioned to its substance. And so do all the others, each one in its manner. For this is placed the example of the magnet stone, which, having near itself diverse metals, only attracts iron to itself, the others left aside. Then he who gave such virtue to this stone, also gave it to the members, so that each one should take for itself from that mass what was more conformable to its substance. The same we see in the choice of foods that animals make, because, if you should put together a piece of meat, and a little wheat, and another of grass, the sheep will attend to the grass, and the dog to the meat, and the hen to the wheat. Then he who gave to the animals this natural knowledge of the food that is fitting for them, also gave to the members this same instinct and nature, so that each one should take from that mass what was most fitting for it.

Let the fifth be that in this our body there is that brotherhood that the Apostle so many times commends to us, because all the members and senses serve one another, and all serve the common good, which is the conservation of the whole, but this with such order, that the less noble serve the more noble, and thus the first digestion of the food, which is made in the teeth, serves the second, which is made in the stomach, and this one the intestines, and these the liver, and the liver the heart and all the body, and the heart the brain, which is the most noble member (where the senate and the consuls reside, which are the exterior and interior senses) and thus it also provides sense to all the members, so that by this example it may be seen how the preeminence and dignity of the greater ones must be employed in the government and profit of the lesser ones.

There is also here another providence of the Creator, who does not consent that in this his house there be anything wasted and without profit, just as he did not wish that there be in the world an empty place, nor did he consent that the pieces of bread that had remained from the miracle of the five loaves be lost. Then for this reason he traced the government of our body in such manner that what in one part was left over as superfluous, in another should be necessary, as we see in the melancholy that the liver rejects, which serves as maintenance for the spleen, which

is a less noble member; as we see in the houses of the rich, where the servants maintain themselves from what is left over from the tables of their lords. And the same we see in the other superfluities that the liver, and the stomach, cast away from themselves.

Over all that has been said, another thing must be adverted to that no less declares the counsel of divine providence, and it is that, as Aristotle says, nature (that is, the author of it) does not make its works similar to a knife that there was on the island of Delos, which served for many offices and instruments, but for each office it ordered its own instrument, the eyes for seeing alone, the ears for hearing, the noses for smelling, etc. In which is seen the royalty of this house of our body, which the Creator fabricated for the dwelling of our soul, as for a thing created to his image and likeness. For we see that in a house of a squire or of some poor hidalgo many times there are no more than one or two servants who serve in all the offices of the house, but in the house of a king we see that there is a great number of offices and of officers, each one deputed for his office, because as the king is rich and powerful, he has the faculty and wealth to sustain all this number of officers. Then applying this to our purpose, there has been no royal house in the world (although it were that

of Solomon, which put so great fright in the queen of Sheba) that had as many officers as the royal house of our body has, which the Creator fabricated (according as has been said) for the dwelling of our soul, in which, the offices being so many and so various, there will not be found one officer that has two offices joined together, but each one his own. And if any one seems to have more than one, it is by reason of the diversity of parts that there is in it. This is seen not only in the five exterior senses, but much more in the interior members. And thus he fabricated the stomach to cook the food, the guts to receive it and purge it, the liver to make the mass of the blood, the heart to create the spirits of life, the brains of the brain to create the animal spirits, the veins to distribute the blood, the arteries to carry the vital spirits, and the nerves to distribute the animal ones, and thus many others that we could here recount. All of which serves not only to declare the order of divine providence, but also for instruction and foundation of medicine. For, the quality and condition of the parts of the body being understood, and the dependence that they have one on another, the physicians know where they must apply the medicines, and in what place they must command the bleedings to be made, and where they must give the cautery of fire, with the rest. For we have already seen a very grave pain of sciatica that was in the hip of the thigh cured by giving a cautery in the ear, by the dependence that there is from this superior part to the other inferior one.

These general instructions now proposed, then, we shall descend to treat of the use and office of the principal parts of our body, so that we may see how perfectly they serve the faculty of the vegetative soul, which is to the sustentation of our life. And in the accommodation and proportion of these parts for this end we shall clearly see the artifice and wisdom of divine providence that traced and ordered this.

Chapter XXVI. Of the members necessary for the digestion and purification of food

Then, since maintenance is necessary for the conservation of our life, divine Wisdom provided many and diverse officers for this kind of alchemy (if it can be so called), because for so great a change as is to make from bread, or from any other food, human flesh, many officers and many cookings and alterations of the food were necessary, so that, its own form left behind, it might be changed into our substance.

Then the first digestion, and the first officer that must make it, is the mouth, which digestion is so necessary that, as the physicians say, the error of the first digestion is not corrected in the second. For all the members have their limited offices, and are so courteous among themselves, that none wishes to usurp the office of the other. The instruments with which the mouth makes this first digestion are the teeth, in whose fabric the artifice of divine providence already begins to be discovered, because those that are in the middle are sharp to cut the food, and the last ones on one side and the other are flat like the stones of a mill, to grind and break small what the others shall have cut. And there is still another particularity in them, which must not be cast into oblivion, and it is that, just as the millers pick the stones so that they may better cut the grain, in place of this picking the Creator formed our molars not smooth nor altogether flat, but with some inequality, which serves as picking, and this so firm, that always grinding the food, it remains and lasts almost all life, without having need to be renewed every day like the other. And because there are some foods hard and difficult to cut, for this he formed the eyeteeth, which are stronger, to conquer this hardness and difficulty. And because greater firmness was required for this, he provided that each one should have three roots with which it would be incarnated in the gums, however much the front teeth, which are for less work, have no more than two, so that by this it may be seen how divine providence was lacking to nothing, however minute it may be. The tongue also serves for this digestion as the paddle of an oven, shoveling the food from below upward, so that on all sides it may remain ground and broken small.

From the mouth there follows through the throat a strainer or gullet, because thus we shall call it from here on, which draws to itself the food already ground, and carries it to the stomach, which is the general cook of all the members. But before we pass on, it will be necessary to advert that, from the part of our mouth nearest

the throat, two channels proceed: the one is this gullet that we say, by which eating and drinking go to the stomach, which is always closed so that air nor cold may enter through it, which would impede the cooking of digestion, but it opens and dilates with the food itself, which the stomach draws to itself. But the other channel goes to stop at the lung, which is that by which we breathe and speak, and this is always open, so that we may always breathe through it. And for this reason the Creator made it ringed, because it is composed of certain circles like rings, although not all of it, but two thirds of it, so that thus it may always be taut and open for the aforesaid office. But with all this at the mouth of this entrance there is a little tongue so delicate and set with such refinement that the very air with which we breathe opens and closes it, as the water of the tide does in the gate of the mills of the sea, when it rises and when it falls. And this little tongue serves so that no dust or ill-tempered air may enter through the tube of the lung that could do some harm.

But someone will ask: for what reason are the two thirds of this channel ringed, and the other third not, but rather of a soft and flexible matter? Here already begins to be discovered the artifice of divine providence, which forgot nothing, because if all this channel were ringed and were taut without bending, a man could choke with a large mouthful, but since one third is soft, on the part that joins with the strainer that we say, it dilates and gives love of itself, so that the mouthful may pass without this danger.

But there is here another more admirable providence, because someone will ask: if the channel that goes to stop at the lung has to be open, the food or the drink will be able to enter through it, and the man will choke. For by experience it is seen that, if a single drop of water enters through it, we find ourselves in distress, and all goes from us in coughing in order to cast outside what entered that way. Then what remedy for this? That infinite Wisdom found it.

For which we must presuppose that this channel is on the superior part continued with the strainer, from which it comes to be that when the stomach draws to itself the mouthful already chewed downward, this strainer lowers itself together with it, and the more this lowers itself, so much the more the channel of the lung rises upward, just as happens when two buckets of water are tied over a well, where we see that the more you pull the one downward, so much the more the other rises upward. And this one rising to the high part makes that none of the things either of what is eaten or drunk enters through it, which the prudent reader can experience, when he shall arrive at this passage, by placing the hand on the Adam's apple that we have in the throat, and swallowing the saliva, because he will then see how this bone lifts itself and rises to the high part together with the channel that is attached to it. This is one of the singular works of this sovereign artificer, who found a way for what our wit could not attain, tracing these two channels in such manner, that this strainer, by one way, should do two errands, carrying the mouthful downward, and making that the head of the channel of the lung should rise upward, so that in this manner neither what is eaten nor what is drunk should enter through it and choke the man. For which also serves that little tongue that we said was at the mouth of this tube, so that nothing of this may enter through it.

But let us now return to the stomach, which then begins to alter the food that it receives, and to give it another form, and here the second digestion is made. And because this cannot be made without heat and without fire, first the heart serves for this, which is its neighbor, and is a very hot member, and thus it influences heat into this pot of the stomach. And another neighbor also serves, which is the liver, which likewise is a hot member. And what is more admirable: the choler also serves, which is like fire for this, because from the little bladder where it is, a vein goes by which this choler travels, to give heat to the stomach, which is composed of two tunics.

And this choler enters by that vein between the one tunic and the other, and thus like a lighted log is placed beneath the floor of this pot to give it heat. Then who does not adore here the author of this singular providence? The members also, as if they had sense to know that the stomach prepares food for all of them, thus help this cooking with their own heat. And from here it is that, having finished eating, our feet and hands grow cold, because the heat of these members goes to help the cooking of the food with which they have to

maintain themselves. And this is done by means of a faculty that the physicians call the regitive or ruling virtue of the whole body, which is like the chief steward of this royal house where our soul dwells. And this is the one that makes these applications and other similar works that are required for the conservation of our life.

From this second ventricle of the stomach the food then goes to the intestines, which are the guts. And from these there comes out a great multitude of very thin veins, which go widening and branching in such manner that they come to stop in a trunk, which is the vein that they call porta, which comes to end in the lower part of the liver, so that it has the same figure as a tree, except that the difference is that in the tree the humor rises from the roots and trunk to the branches, but here, on the contrary, the liquor of the food rises from the branches to the trunk, which the nearer they are to the intestines, so much the thinner they are. The cause is so that no gross thing may enter nor go through them to the liver, where the third digestion is made, but a very liquid thing. And drinking serves for this, to make the food more liquid and rare, so that thus it may be strained through these so delicate veins.

I

Then returning to the purpose, by these so thin veins that are born from the intestines, especially from those nearest the stomach, the liver draws to itself the food already digested and cooked, leaving in the intestines the less pure and thicker part to maintain them. For as we already said, nothing is wasted in this house of God, and thus what is superfluous for one member, is necessary for another. And so that this may be better done, that sovereign artificer ordained that these intestines should have so many turns and returns (because they have more than sixty spans in length), so that in so long a stretch there may be time for the liver to draw to itself all that shall be of profit, besides this being necessary for the political life of man, because if there were no more than one short intestine, neither could the liver make good use of the food (and thus man would always suffer hunger) and at every step he would have need to purge the belly. But the Creator provided for these inconveniences in the manner that has been said.

After the intestines have served this office, the dregs that are no longer of profit they send away by their drain, which is in the most secret and hidden part of our body, which Tully notes and enhances, saying that, "just as those who build a house hide these places of our purgation from the sight of the eyes because they may not be offended by a thing so ugly and of bad odor, so that sovereign artificer of this house of our bodies, where the souls dwell, removed from the sight of our eyes what could cause us discontent and bad odor, if it were in another part." But here Theodoret found matter to exclaim and glorify God, for having taken so much account of what was fitting for man, that, he being the fountain of all purity, he did not disdain to incline his eyes to our vilenesses, and to put his divine hands in what we hold as a thing unworthy of our eyes, so that by this it may be seen that in all things he is admirable.

Nor must the favor of divine providence toward our guts be dissembled here, because since they are of weak and perishable substance (although very vile according to the office that they have), he did not for this reason despise them, rather he provided them with a very soft web,

full of fatness, which is like a quilt that embraces and shelters them so that they may be more guarded.

Now let us return to the liver, where the third digestion and alteration of the food is made, which draws to itself the most liquid part of it by those thin veins (that we said) and receives it in the hollows and pores of which it is full. And as it is of the color of blood, thus from white it changes it into its same color. And not content with the first purgings, in which the impure was separated from the more pure, it adds another more perfect one, cooking more with its natural heat the food that it receives, and sending away from itself the less pure, as we see that the pot of meat placed on the fire does, when it boils. And as in the food that it receives within itself there are all the four humors, which are phlegm, blood, choler, and melancholy, what is left over of the melancholy it sends to the spleen, which by its conduits and ways draws it to itself, and maintains itself

from it, but the excessive part of the choler it sends to the little bladder of the gall, which is attached to the same liver, which draws to itself this humor, with which it maintains itself. For which it also has its veins and ways, and if these by some bad disposition come to be stopped up, this choleric humor is poured through all the body, and thus the man comes to be made jaundiced. But because, as it is said that in the house of the wise man there is no idle thing, these two aforesaid excrements, which are choler and melancholy, also serve after being rejected for other effects, because the choler has certain ways, by which it descends to the intestines, and biting them with the liveliness of its heat and activity, makes the excrements go down to purge the belly. For the intestines have no virtue nor vigor for this expulsion, but the melancholy that is in the spleen serves to cause hunger and desire to eat, without which the animal would perish, if it did not have this awakener that solicited it. And this it does by rising and making a corrugation in the walls of the stomach, with which hunger is caused. In which we see two marvels: the one is the choler descending, which naturally rises to the high part, because it is of the nature of fire, and the other, the melancholy rising, its nature being to descend to the low part, because it is of the condition of the earth, at which Avicenna, a great philosopher, although a Moor, marveled, and could not contain himself from praising divine providence, which does these two marvels for the sustentation of our life, which are to lower fire and to raise earth. And if a Moor does this, what will it be reason that a Christian should do, as well for these as for other similar marvels?

There remains to us now another excrement, besides the two already said, which is the wateriness of what is drunk, which we said principally served so that the food and the blood could more easily penetrate and travel through all the veins of the body, of which many are very thin. It is, then, to be known that, after this office has been done, the members send this humor away from themselves as a load now useless, and part of it is resolved into sweat, when there is exercise, and part returns by the same steps to the trunk of the great vein that proceeds from the liver, by which it came out, beneath which are the kidneys, and these have within themselves their concavities and hollows, where the urine comes to stop, which they draw to themselves by a vein that they call the sucking one, deputed for this office. And because they cannot retain so great an abundance of humor in themselves, the Creator provided a receptacle, which is the bladder, in which this humor might be gathered. But the manner in which the urine enters into this pond is a thing so admirable, that by it Galen, a gentile philosopher, invites us to look in this at the artifice of divine providence. For from these two kidneys are born two veins,

which are called ureters, which, one on one side and another on the other, go to stop at this pond. And because they are very subtle and delicate, they are cause of great pain to those who suffer illness of stone, because through them the stone descends to the bladder, and thus the pains of such men are similar to the pains of childbirth. But let us now see the door by which both the stone and the humor enter. Then for this it is to be known that this bladder has two tunics or shirts, the one joined with the other, and those veins that we call ureters come to end, each one on its part, in the first of these tunics by a subtle little hole that they have for this, and in the other interior tunic there is another, but not opposite this first one, but lower down, and by these veins that we said, which make certain turns on the way, the urine goes between both tunics, until it reaches the other hole of the interior tunic, by which it enters into the bladder, and after it has entered it cannot return backward, because the one tunic is very joined with the other. This we see in a wind ball, in which the same wind closes the mouth by which it entered, with a little piece of leather that is beside it. Then in this manner, the urine entering by the first little hole of the first tunic, and walking between both to the second of the second, which is (as we said) deviated from the first, upon entering into the bladder by it, it cannot turn to go out, because this second little hole is covered with the first tunic, which is so attached to the second, that it covers that little hole in such manner, that neither can the urine return backward, nor can even air enter through it. This we see every day by experience, because boys take the bladder of an animal and, blowing through its pipe, fill it with wind and, this mouth tied, it remains full of air without any little point of it being able to go out. Then in this case those who know this ask those who do not know it, by what way the urine entered, and also the stone when there is one, into the bladder, since it is on all sides so closed, that not

even a breath of air enters nor goes out through it? The cause is the one that has been said, which declares to us the trace and admirable artifice of that infinite Wisdom that knew how to order it thus. In which we also see that, just as he provided such long intestines to retain the excrements of the already digested food, so that man would not be at every step purging the belly, so he provided this pond, so that he would not always go about urinating. And at the mouth of this pond the Creator put its lock, which is a little nerve, which has that door pressed and closed as if with two fingers you pressed the neck of a wineskin, so that what is within it should not be poured out. And this is a thing in which divine providence shines forth no less than in the past one, which in such manner subjected this little nerve so small to the empire of our will, that when it wishes it to open to evacuate the humor, it opens, and when it wishes to retain it, it closes and presses, for all which blessed be the worker of so many marvels and providences.

II

Of The Office Of The Liver

Now let us return to the liver, already purified of these aforesaid excrements, and to the distribution of the blood that was engendered in it. For this it must be presupposed that the liver is like the steward of the house of a great lord, who distributes his rations and gives food to all those of his house, so that, as the stomach is the cook, so the liver is the distributor and steward. Then it makes from this mass of the blood two principal parts: the one is for maintenance of all the members and bones, which blood

is distributed by the veins of the whole body, which have their beginning and roots in the liver. From which is born a trunk, which is a great vein, which is called the vena cava, and this, in the manner of the branches of a tree, goes branching into diverse veins, some larger and others smaller, as we see in the branches of any tree, and even in each one of its leaves. These, then, extended through all the body, carry the blood mixed with the other humors and distribute it through all the members without leaving high or low part without its ration, which the same members call and draw to themselves with that attractive virtue that we said, and each member draws to itself from all that mass what is conformable to its nature. And thus the bones, which are hard, draw to themselves from the four humors that which is cold and dry, because these two humors are proportioned to the hard nature that they have, where another marvel intervenes, that with the blood being a heavy body and one that naturally runs downward, it no less rises from the liver to the head to maintain it, together with all the bones and hard skull that there is in it. And from this mass superfluities and excrements also result, but not even these did the Creator wish to be useless, because from them the hairs and the hairs of the beard are bred in men.

This is, then, that in which the greater part of the blood is spent. But another part of it goes straight to the heart, which, as it has two ventricles or distinct hollows, receives this blood in the first of them, and there with the great heat of it, it is again refined and purified, sending away by the channel of the lung all the smokiness and soot that it has. And from this first hollow it goes to the second, where it is made still finer, and from venal blood it becomes arterial, which is a most pure and very hot blood, which serves to engender the spirits that they call vital, because they are those that give heat and life to our members. In this manner, that infinite wisdom and providence disposes all things suavely, giving order how imperfect and gross things go in such manner perfecting and thinning themselves, and (if it can be said) spiritualizing themselves, with which they may have greater virtue for higher and more important offices, as we shall presently say. And for this it deputes its vessels and hollows with special properties and virtues, so that this may conveniently be done, as we see in these two hollows of the heart and in all that we shall presently say proceeds from it. Which well considered, will oblige us to exclaim many times with the Royal Prophet, saying: "How enlarged are your works, Lord! All are made with highest wisdom, and the earth is full of your riches and marvels!"

For after this there then follow the arteries, which proceed from the same heart, which carry within themselves the blood that they call arterial, and the vital spirits through all the body, just as from the liver are

born the veins, which carry the nutrimental blood with which we maintain ourselves, and thus these arteries are distributed and branch through all the body as the same veins. But this with such order, that the arteries always go walking beneath the veins, which the master builder of this fabric so disposed, the one because the arteries, which are of greater dignity, may have this covering so that they may be guarded, and the other, because placed beneath the veins, they give heat to the blood, without which it would freeze and curdle, because the arterial blood that proceeds from the heart is very hot, because such is the fountain from which it is born. And because this blood is very living and very active, the Creator fortified these arteries with two tunics as strong as if they were of parchment, so that this blood could not burst and come out of its place. This arterial blood comes out by the trunk of a great artery that proceeds from the heart, which trunk is divided into the arms, which afterward go

branching and extending through all the body, just as the veins, until they become very thin, and one of these arms descends to all the members that are beneath the heart down to the feet, and the other rises to those that are above it up to the head, not only to give heat and life to these higher parts, but so that from it may be engendered the spirits that they call animal, of which we shall presently treat.

III

Of The Heart

And inasmuch as this blood is engendered in the heart, it will be necessary then to treat of it. It is, then, like a king in the midst of our breast, surrounded by other principal members, which serve the government of the body. It is a very hot member, because such it was fitting that the one should be that had to influence heat of life into all the members. Its heat is so great that if, having finished killing a large animal, such as an ox, you were to put your hand into it, you would not be able to suffer it. It has within itself two hollows or little bellies, one on the right side and another on the left, divided by a little wall that is in the midst of both, made of the same substance of the heart, which is a hard flesh, because the Creator made it such, in order to have within itself a blood so hot and so living that is engendered in it, so that it should not ooze through the walls of it. From the first of these hollows the blood goes to the second to refine itself more, as we said, in which is seen another providence of that sovereign artificer, which are the holes by which both the one blood and the other makes these its entrances and exits, in which the Creator put his drawbridges, which are certain thin webs, similar to the gates of the mills of the sea, of which above we made mention, which the same sea, when it rises or descends, opens and closes. For thus here the same blood, when it enters, opens and closes them, so that after it has entered it cannot go out.

IV

Of The Lungs Or Lights

Because the heart is very hot, as has been said, that most wise Master provided it, as a king, with a continual refresher that is always making air for it so that it may not choke with its excessive heat, which office it always exercises, as well when we sleep as when we keep watch, because in both times we breathe. And for that reason the Creator formed the substance of the lung spongy and light, from which came to it the name of lights, so that it can easily move, extend, and draw itself together. So that this member, in the manner of bellows, is always opening and closing and, opening itself, receives the fresh air with which it refrigerates the heart and, closing itself, sends away the hot air that proceeds from it. And in gratification of this continual service, the heart maintains it and gives it to eat from its royal table, because while all the other members are sustained with the blood of the veins, which is like household bread common to all, this one alone eats from the table of its lord, because it maintains itself from the arterial blood that is forged in the same heart, which is most pure and most fine.

The lung also serves for the voice, because the air that it sends away from itself coming out with some impetus, and touching the uvula or little bell that we have at its entrance, the voice is formed, wherefore if this little bell is swollen with some gross humor, we can scarcely hear the voice of those who suffer this, and much less that of those who have it eaten and spent. But here it is to be noted that the mouth of the tube of this lung is neither large nor round, rather it is slit like the opening of a money box, which serves to form the voice, because in this mode the mouths of flutes and shawms are fabricated, because in this manner, the strained air entering through them, the voice is caused. Where we see the conformity of art with nature that God created, although nature was before art.

But here it is a thing worthy of much consideration to see the omnipotence and wisdom of the Creator, who could form a kind of flute of flesh, which serves for singing, because to make a flute or trumpet of solid matter, as is of wood or of some metal, is not much, because the hardness of the matter serves for the resonance of the voice. But to make this of flesh, such as is the tube of the lung, and that in it there be formed some voices of women and of men so suave, that they seem more of angels than of men, and these with so much variety of notes, without having the holes of flutes, which serve for this variety, this is a thing that declares the power and the wisdom of that sovereign artificer, who in such manner forged the flesh of this tube that in it there could be formed a voice sweeter and more suave than that of all the flutes and instruments that human industry has invented. And even the variety that there is in this for the service of concordant music is not lacking in admiration, because there are some thin channels, in which the trebles are formed, and others in which voices so full and so resonant are formed, that they seem to thunder through a whole church, without which there could not be perfect music, all of which that divine President traced and ordered thus, so that with this suavity and melody the divine offices and his praises might be celebrated, with which the devotion of the faithful might be awakened.

But here it is to be noted that when to the voice that comes out by here the instrument of the tongue is added, we come to articulate and distinguish that voice, and thus speech is formed, serving ourselves from this instrument, and striking with it sometimes on the teeth, other times on the interior of our mouth, in which we see how art imitates nature in the instruments that it has invented, as appears in flutes and in organs, because in organs, putting example in them, there are certain bellows that send air to the pipes, and afterward, the player touching diverse keys, makes diverse sounds. Then thus the lung, opening and closing, serves as bellows, which closing sends by its own channel this air that it casts from itself, and afterward the tongue, striking on the aforesaid parts of the mouth as on certain keys, comes to articulate the voice, and thus diverse words are formed, with which man, as a political animal, treats and declares his thoughts and concepts with other men. The same example we can put in a flute, through whose pipe, as through the tube of our lung, runs the air that proceeds from it, and the touching of its diverse holes is like touching with the tongue diverse parts of the interior of our mouth and, just as the flute makes diverse sounds by touching diverse holes, so the tongue, touching diverse parts of our mouth, forms diverse words. In this manner the Creator gave us faculty to speak and communicate our thoughts and concepts to other men, which, just as it is proper to man among all animals, so it is a singular

benefit of the Creator, of which the mute are lacking. In which also his providence shines forth, since from the hot air that the heart sends away from itself because it is harmful to it, he serves himself for a thing so profitable as is the voice and speech of man. For he wishes nothing of his works to be so useless and despised, that if it does not serve for one thing, it should fail to serve and profit for another, as has been said.

The lung also has another faculty and virtue, which is to dispose the air that enters through it, so that from it those vital spirits that we said may be engendered, which are formed from the vapors of the arterial blood, together with a part of air, which, distributing itself through all the hollows and substance of the lung, receives virtue from it for this. Which spirits, besides giving us life, serve another office no less important, which is: to be matter from which other more noble spirits are engendered, which are those that are called

animal, by means of which we feel and move ourselves, as we shall presently say.

V

Consideration On What Has Been Said

Now it will be reason to philosophize a little over what we have treated up to here, where we shall see how divine Wisdom orders and disposes all things, as we say, suavely, which is by proceeding through the causes to their effects, and proportioning the causes with the dignity of the effects that it wishes to produce, in such manner that, the more noble the form is that it wishes to introduce, so much the more perfectly it disposes the matter in which it has to be received, so that there may be no disproportion between the causes and their effects and between the matter and the form that has to proceed from it. And beginning with the first cause of our nutrition and maintenance, we see that the food is chewed, and disposed in the mouth to go broken small and ground to the stomach, where it takes another form, which the physicians call chyle, with which, purified from the dregs that are sent away by the intestines, it is disposed to go to the liver, in which it receives another more perfect form, which is of blood. And this now purified, and the choler and melancholy sent away with the superfluity of what we drink, it is disposed to go to the right hollow of the heart. And in this it is refined and purified more to go to the left hollow or ventricle, where the vital spirits are formed, and those thus disposed come to be matter from which the other more noble spirits are engendered, which are those that we said are called animal.

By what has been said the prudent reader will see what we have just said, which is the order that divine Wisdom has in the procreation of things, ordering that the matter be disposed according to the dignity of the form that it has to receive, in such mode that, when the form shall be more noble, so much more perfect may be the disposition that is prepared for it. Then applying this same order to spiritual things, we shall understand that, according to the state or to the grace that we wish to attain, so it is fitting for us to dispose and prepare ourselves. And according to this, the penitent who desires to attain the fruit and effect of confession must go disposed and prepared with sorrow and repentance for sins and with the examination of his conscience. Likewise, to receive the fruit of the Sacrament of the altar, it is fitting that he go with another perfect disposition, because this sacrament is higher and more divine, for which he must go with actual devotion, and not only free of sins, but also of all

thoughts that can distract and lessen his devotion. And not only for the sacraments, but for all graces and spiritual gifts, fitting preparations and dispositions for them must precede. And according to this, he who desires to enjoy the suavity and consolations of the Holy Spirit must send away from himself the tastes and consolations of the world, as David did, when he said: "My soul rejected the consolations of the earth, I placed my memory in God, and in him I delighted."

Likewise he who should wish to aspire to the perfection of the love of God must send away from himself all the disordered loves of the world. And if he should desire to draw near to God in such manner, that he comes to be made one spirit with him, which is to become a spiritual and divine man, he must mortify as much as possible all that is carnal and earthly, when it is an impediment to the divine. And if he should desire to make himself similar to that Lord who is unique and highest good, by the part that he is good he must depart from evil things, and by that by which he is highest, he must not occupy himself in low things, although they be not evil, and by that by which he is unique, he must not intermeddle in many things, although they be good, if they are excessive and such that with their excessive occupation they choke the spirit of devotion. And if to attain this he desires to give himself to the contemplative life, and to have, when he thinks on God, the imagination quiet and free of other thoughts, he must be, as the saints say: deaf, blind, and mute to the things of the world, and thus he will have the house of his soul more unencumbered and pure, and more free from the noise of thoughts. But if he does the contrary he will not be able to fail to be molested by them. And finally, he who desires to find God in truth, let him know that he must seek him in truth, and he who wishes

to attain great gifts from him, must conform the work and the diligence and the vigilance according to the dignity of them, just as he who wishes to be a great learned man must be very diligent in study.

This Solomon teaches us when he says that, if we desire to attain true wisdom, we seek it with the ardor with which men work for money, and with the covetousness of those who dig seeking treasures beneath the earth. And according to the same Moses says that we shall find God if we seek him with our heart and with all the affection of our spirits.

This, then, is the common and ordinary style with which our Lord communicates his gifts and graces to creatures, first disposing and preparing them for them. It is true that, since he is not a natural agent, he is not subject to these laws that he ordinarily keeps, for many times, without any disposition preceding by space of time, he makes great and sudden mercies to whom it pleases him, for manifestation of his liberality and magnificence, as we see in the vocation of Saint Paul, of Saint Matthew and of Saint John and James, who, being mending their nets, were called to the dignity of the apostolate. And with this we shall give an end to the treatise of the vegetative soul, which serves to sustain life.

Chapter XXVII. Introduction for treating of the sensitive soul and of the animal spirits

At the beginning of this treatise on the fabric of our body, we said how the philosophers placed three differences of souls, one that they call vegetative, which the plants have, another sensitive, which the brutes have, and another intellective, which men have, but in such manner that this our soul, though being one simple and spiritual substance, has these three faculties. For it is the one that, by means of the instruments that have been said, sustains our bodies, and the one that is cause of all our senses, and movements, and also is so of the discourses of our understanding. Then having treated up to here the lowest faculty, which is of the vegetative faculty that plants have, we shall now rise to treat of the one that it has to give us sensitive life, as the brutes have it, in which the divine Wisdom shines forth so much the more, as this faculty is more noble than the past one.

Then for this it is to be known that all that has up to here been said serves no more than to maintain and give life to our bodies. But because with this, man, not being able to move from one place, nor to see the diversity of the things that in this world are created (without the notice of which it would naturally have been impossible for him to be able to come into knowledge of the Creator), the fabric remained imperfect, our Maker did not wish to be less liberal with men in this than in all the rest, rather he created in them a third principle, besides the liver and heart, in which as in a forge the spirits are forged, by means of which we see, hear, taste, touch, and move ourselves, called for this reason by the Latins, animal, which are engendered from the spirits of life, which we said are made in the heart. This third principle we call the brains, whose seat is in the highest part of the body, not because for them this seat was safer or better, but because they should be near the eyes, which could by no way be in another part, having to be (as they are) watchtowers of the fortress of our body. But our Maker supplied very well the lack that there was in the site, covering them with hair and hide and with a very hard and strong skull, which like a sallet or helmet guards that they may not easily be wounded, and afterward with two webs, one thicker, called dura mater, and another thinner, called pia mater, which wrap the brains and the exits from them, and all the nerves. And because I said, and exits, it is to be known that the brains have an exit like a tail, which we commonly call the marrow of the spine, which is born from the lowest part behind the brains, and coming out through the greater hole that is made in the bone of the occiput, descends through the spine to the end of the great bone, always becoming somewhat thinner.

But inasmuch as we have to treat here of these animal spirits that are engendered in the brains of the head, and we have just treated of the vital ones that are forged in the heart, it will be reason to give the cause why

all physicians and philosophers posit these spirits. For this, then, we must bring to memory what we said a little while ago, which is that the Creator disposes and orders all things suavely, proportioning the causes with the dignity of their effects, and disposing the matter according to the condition of the form (as we saw in what is past), and likewise proportioning the instrument with the principal agent that has to use it, as now we shall declare. According to this, one kind of sword we give to a boy of little age, and another greater one to a perfect and robust man, and another to a giant, like the one that that Philistine bore, who made field with David. In this same manner, to make very fine works very fine and delicate instruments are necessary, and for

gross ones, gross ones suffice. And applying this same to natural causes, from here it is that the intelligences that by means of the movement of the heavens govern this lower world, which are most noble and incorruptible substances, make use of most noble and incorruptible instruments, which are these same celestial bodies, with all their stars and planets, with whose influences they govern it all. Then coming to our purpose, it is clear that the soul that we have in our bodies is first principle and cause of the life that we live, and of the senses and movements that we have, which is clearly seen, since the soul being lacking, all these offices and movements are lacking, the members and senses of which it served itself not being lacking, since in appearance there remains the same figure and matter of the eyes, of the ears, and of all the other organs and senses, without doing their offices.

Then since our soul is spirit, as the angels are, it was necessary that its proximate and immediate instruments should resemble and be proportioned with it, and either be purely spiritual, or at least draw very near to the condition and nobility of them, such as are the spirits of which the soul serves itself to give us life, and much more the animal ones, which are like certain rays of light by means of which it gives us sense and movement, because otherwise, it would be great disproportion that a purely spiritual substance, such as a soul is, should have for proximate and immediate instrument a piece of our flesh, or some great bone. This, then, is the cause why we posit this kind of spirits, which are nearer and more proportioned to the dignity and nature of our soul, which (as we said) is a spiritual substance.

Of The Dignity And Efficacy Of Spirits And Of All Spiritual Things

But here it is to be noted that since all our knowledge proceeds from the exterior senses (which is, from the corporeal things that we see, hear, and touch, etc.) and the spiritual things we neither see, nor taste, nor touch, from here it is that many men, especially those who are of gross understandings, either do not believe that they exist, or do not know the virtue and efficacy that they have for working. And such was that sect of the Sadducees, of which mention is made in the Acts of the Apostles, who were so gross of understanding that they did not believe there were angels nor spirits, and there are many now who, although they have faith in this, do not understand how what has no body can have being. And from here they come not to understand the dignity and excellence and faculty of their souls, imagining that they are like a little air, or a similar thing. Then such as these I now wish to lead by the hand, and little by little go declaring to them the dignity and efficacy of these spirits, and by this they will rise to understand that of their souls.

Then for this it is to be known that all corporeal things as many as there are in this lower world are composed of four elements, although this does not appear, because of the diversity of the mixtures and composition of them. Among which elements, the lowest and grossest and most material is earth, considering what it has of its own harvest. After this element, water has the second place in dignity, which is what makes the earth fructify, which earth, as much as is of its nature, is like lime, which is sterile, and dry like it. But more perfect than water is the air with which we live and breathe, and the one that carries those same waters from the sea to the earth, and does us many other

benefits, according as above we declared. But of the subtlety and efficacy of fire, which we all experience, there is nothing to say.

It is, then, now to be known that, since corporeal things are composed of these four elements, the less they participate in the matter of the earth and in the heaviness of it, so much the more noble they are and of more virtue and efficacy for working. Let us put first an example in those same elements. The earth has no virtue to do anything, but to suffer and receive as from alms what the other elements or natural causes give it, in such a way that not even to sustain our bodies would it serve, if it did not receive the hardness that it has from the other elements, as above we declared. Then there follow the other three elements, among which the superior ones are more spiritual and more active, as are water and air, and much more fire, which is the least material and most active of all.

This we see also in waters, which we are wont to weigh, and we reject the heavier ones as more terrestrial, and we choose those that weigh less for drinking. We see it also in wines, among which the cloudy and thick are more vile, and the more delicate and more youthful are more precious. This same we see in meats, and especially in bread, because that which is made from the flower of the flour is more delicate, and thus serves the table of the lords: but the brown bread, which is made from whole flour, is for the servants. The same we see in metals, whereby blacksmiths purge the iron in the forge, and send away and cast outside the more terrestrial part, which they call the blacksmith's snots, and serve themselves from what is now more purged from these dregs of the earth. And this is also seen in precious stones, among which the most pure and transparent, which have less earth, we hold in great esteem, and we enamel them in rings and in other things, but the other grosser and more terrestrial ones serve for the fabric of buildings. And above all these things a very grave argument is that of the light that comes to us from heaven, which is the most delicate and spiritual thing that there is among corporeal things, since we see that it enters through a window, through which neither air nor fire enters, and with all that it is of so admirable virtue and efficacy, that by means of it the heavens work all things as many as there are in the sea and on the earth and beneath the earth, where by its virtue gold and silver, and all the other metals are engendered.

And I add to this that not only for profiting, but also for harming, things are so much the more powerful, as they are more spiritual, I mean less material and visible. For which it suffices to bring as example the catarrhs that ran almost through all Europe in the year one thousand five hundred and eighty. In which year, the heaven and the air being, as it appeared from the outside, with the same serenity and purity as always, an evil quality that there was in it, which was neither seen nor touched, was cause of so many deaths and of so great destruction of many peoples. And the same example can be put in the corrupted air of the plague, which without being a thing that is touched and seen, is common calamity and destruction of the human race. Then if already we treat of purely spiritual substances, such as angels and demons are, clearly it is seen how powerful the one are to profit, and the others to harm, since one of them, whether it was good, or whether it was bad, sufficed to kill in one night one hundred and eighty-five thousand men in the army of the Assyrians, which had surrounded Jerusalem.

Then all that has been said will serve so that, proceeding by these degrees of advantages that there are in things, we may understand that, when they are heavier and more material and participate more in the earth, so much the more vile they are and of lesser efficacy, and the more they draw near in their manner to the condition of spiritual things, so much the more noble they are and more efficacious for working. And by this we shall understand in some manner the dignity of our souls, which are purely spiritual substances, like the angels, and for that reason we shall not be frightened to see how much variety and multitude of offices they exercise in our bodies, as further on we shall touch. For what God works in this greater world our soul works in the lesser, which is man, whose immediate instruments are these spirits, as well the vital as the animal, because they are more spiritual and more similar to it.

Chapter XXVIII. Of the animal spirits that are engendered in the head

Then beginning to treat of these animal spirits, it is to be known that, just as the vital ones are engendered in the heart, so the animal ones are engendered in the brains of the head, which as it is the most noble part of our body, thus serves to form these spirits so noble, which raise our life above that of the plants, which also live as we do. And just as in the heart there are two hollows or little bellies in which the vital spirits are forged, so in the brains there are two others, in which the animal spirits are forged. But in what manner these are made, is a thing that exceeds the faculty of human understandings. From here proceeds that men much given to the speculation of sciences or to the contemplation of divine things are very weak. For since the vital spirits, as servants and inferiors, serve as matter from which the animal ones are formed, which are superior, and these are resolved and spent with the heat and labor of the interior exercise, the body remains very impoverished of the vital spirits, which give it heat and life and with this it is debilitated and weakened, and thus phlegms and undigested superfluities are bred in it, which cause this weakness, with other indispositions.

But here it is to be noted that, of these spirits, some are to give movement to the members, and others to give sense. For which the Creator provided the roads by which they might run and be distributed through the whole body, which are two differences of nerves, some so that they may carry the spirits that cause movement, and others those that give sense. Which difference is clearly seen in some paralytics, who because they have the nerves that are cause of movement stopped up, cannot move the part of the body that is paralytic, and with all this they feel, if you touch and prick them, because the nerves that cause feeling are not closed. This is a thing at which Tully greatly marvels in the second book On the Nature of the Gods, marveling at the wisdom and artifice of the Maker, who sowed the whole body with so many differences of ways and channels, branched through all the parts of it, such as are the veins that carry the blood, and the arteries that carry the spirits of life, and one kind of nerves that cause movement, and others that are cause of sense. Then, what net can be fabricated in the world that has so many meshes, one over another, divided and sown through all our body?

And because the place where these animal spirits are fabricated is that mass of the brains, this mass runs through the whole spine surrounded by very hard bones that defend it, as the skull does those of the head, and likewise it also goes wrapped with those two tunics or shirts that we said the brains have, which are the dura mater and the pia mater that is next to it. For so delicate and so precious a thing as it, the Creator ordained should be not only defended and sheltered with the bones, but also favored and sheltered with these two aforesaid shirts. And I say so precious, because from the white mass that goes through this channel, which we call the marrow of the spine, twenty-four pairs of nerves are born, of which the twelve serve to give these animal spirits to the part of our body that rises from the waist upward, and the others to that which remains from the waist downward to the feet, distributed in such manner that the twelve serve one side of the body, and the other twelve for the other. And because nothing should be lacking to this work, that sovereign artificer provided that in all these bones of the spine there should be some very subtle little holes by which these nerves come out to do these aforesaid offices. And he provided even another more subtle thing, which is a most delicate web that divides the two parts of this spinal marrow, and from the one side of this web proceed the nerves of one side, and from the other those of the other, without the nerves of the one part injuring the mass from which those of the other proceed. Then who will not glorify here that most wise artificer who, from one simple substance of which our bodies are formed, fabricated so much diversity of parts, some of them hard and some of them soft, and all of them so perfectly accommodated to the offices for which they were made?

But if anyone should wish to understand what these spirits are that can do so much, I say that they are like certain most subtle rays of light that run through the pores of these nerves, and by means of them are distributed through all the body. For which it is brought as argument that if they strike us with a stick on the head, with which the nerves of it are compressed and pressed, we are wont to say that the light leaped from

our eyes, which light is no other thing than these same spirits, which as they are most subtle leap outside through this more delicate and transparent part of our eyes, in which we see the proportion and admirable order of the traces of the Creator, because just as the heavens are cause of as many movements and alterations as there are in this lower world, by means of the light of the sun and of the planets, so the brains, which are the highest part of our body and like the heaven of this lesser world, are cause, by means of the rays of this light, of all the movements and senses of our body. And in this manner that sovereign artificer who, as we said, orders all things suavely, wished to proportion the government of this lesser world with that of the greater, as to this part.

Chapter XXIX. Of the interior senses that are in the head

And since we have said that the animal spirits are not only cause of movement, but also of sense, it will be necessary here to treat of the senses, of which some are particular and others common, some exterior, which are seen from outside, and others interior,

which are not seen. And because the virtue of the exterior ones depends on the interior ones, we shall treat first of these. The exterior and particular ones are the five that we all know, which go to end in a common sense that we have in the first part of the brains. For from here are born the nerves, through which pass the spirits that give virtue of sensing to these five senses, and by these same nerves they send the species and images of the things that they sensed to this common sense, and give it news of what they perceived, and in this coin they pay the benefit received, serving as servants and messengers to their lord, giving him account of what passes outside. And this is, as the philosophers say, the beginning of all our knowledge, which begins from these senses.

After this common sense, a little farther on there is another hollow, which we call the imagination, which receives all these same images, and retains and keeps them faithfully, because the common sense is in a very tender part of the brains, and for that reason is disposed so that these images may be impressed in it, but it is not so for retaining and conserving them because of its much softness. And for this reason the Creator provided another little ventricle in another part of the brains more hard, which follows after this, which receives all these images and keeps them, and for that reason is called imaginative. With which power, because it is organic and corporeal, our adversary many times makes cruel war on us, painting things to us sometimes most beautiful, and sometimes most ugly, as fulfills his malice, and the one and the other we see in Amnon, son of David, toward his sister Tamar.

After this power there is a little farther on, in the same brains, another little ventricle, which in the brutes is called estimative, and in men, because this faculty is more excellent in them, is called cogitative, which is a power more spiritual than the past ones, and for that reason can conceive things that have neither figure nor body. And thus the sheep, seeing the wolf, conceives enmity, and on the contrary friendship seeing the mastiff. And the weak and unarmed birds do the same, when they see the birds of prey, because friendship or enmity are things that have neither figure nor body, and of this faculty the Creator provided all birds and animals for their conservation and defense.

Lastly, in the last part of the brains that are in the occiput, he placed the memory, which is more proper to man than to the brutes, although some participate in it, as we see in the dog, which hides the bread, and afterward remembers where it put it, and returns for it; and the fox does the same, which after it has fed itself on the blood of the hens that it killed, makes a hole in the earth, and hides them there, and returns to eat of them. Also of the lion it is written that it has memory of benefits and gratifies them, and also of injuries received, and avenges them. But in man this memory is more perfect and more universal, as we shall presently declare, if first we put a palpable example, so that the origin of the knowledge of these four interior senses may be understood. I say, then, that just as the Creator placed in the tongue this faculty of feeling the flavors of foods, and distinguishing between the sweet and the bitter and between the savory and the insipid

(which no other parts of all our body feel), so the same artificer, with the omnipotence of his virtue, could impress and did impress these aforesaid faculties in these four parts alone of our brains, and not in others.

But let us return to the memory, which is a singular benefit of God, and even a great miracle of nature. And I say benefit, because it is depositary of the sciences, since only that which we remember do we know. It is faithful helper of prudence, which by the memory of past things understands the stopping place and success of present and future things. It is conserver of experiences, which serve no less for science than for prudence. It is mother of eloquence, and the one that teaches us to speak, keeping within itself the words of things with which we explain our concepts and give ourselves to be understood, wherefore the teachers of speaking, who are the rhetoricians, put memory as the fifth part of their office. It itself enables us for all the arts and for all the sciences, keeping and retaining in itself the rules and precepts of them, without which reading books or attending schools would be to gather water, as they say, in a sieve, without which arts and disciplines human life would be life of barbarians or of fierce beasts. And over all this it serves to make men grateful to God, bringing to their memory the benefits received, to give him thanks for them. Then by all this is seen what we owe to the Creator for this singular benefit.

But the miracle of this power is no less than the benefit, because for men to remember a history, where the things go chained and have dependence one on another, is not much, but to see that a boy takes by heart one hundred Greek or Latin words, whose signification he does not understand, and which have no dependence one on another and that, repeating them in the memory seven or eight times, in such manner they settle and remain in it that, if it comes to hand, they are there kept until old age, and that every time he should wish to repeat them they come out from that hollow where they were, and the memory faithfully returns the deposit that was entrusted to it, is this not a thing of great admiration? Then what shall I say of those who know the four languages: Latin, Greek, Hebrew, and Chaldean, where it is necessary that he who has to understand and speak them have in the memory so much infinity of words as there is in all these languages, and that all of them serve him the times he should wish to speak in them? But what shall we say of some admirable memories, such as was that of the blessed pontiff, Saint Anthony, of whom it is written that, being of the age of fifteen years, he took into memory the whole Decretum in the space of one year? What of the memory of Mithridates, king of Pontus, of whom it is written that he knew twenty-two languages? Then who was powerful to impress in that so small little cell of the brains such ability, such capacity, and so great a space, where so many differences of words could distinctly know without the one being confused with the others? Who was powerful for this, except that Lord who thus in this as in other infinite things wished to show us the greatness of his omnipotence and magnificence? And with all this we men are such, that we neither know how to esteem this miracle, nor to give thanks to the Creator for this benefit.

Chapter XXX. Of the five exterior senses, and first of the eyes

David had much reason to exclaim and confess so many times that God was admirable in all his works, however small they may appear. I say this because we now leave one

marvel, and enter into another no lesser one, which is the fabric of our eyes, which the professors of this science confess to be the most artful, most subtle, and most admirable thing of as many as the Creator formed in our bodies, in which, just as in the past one, the benefit is no less than the marvel of the work. For what thing is sadder than a man without sight?, since holy Tobias, who with so much patience suffered the lack of it, when the angel greeted him, and said to him that God should give him joy, responded: "What joy can I have, living in darkness and not seeing the light of heaven?" Then, having now treated of the parts of our body that are hidden within the veil of our flesh, now it will be reason to treat of the exterior senses and members of our body, which are on the frontier of our house in view of all, and we shall begin with the most excellent of the exterior senses, which are the eyes, and thus the artifice and fabric of them surpasses that of all the other members and senses.

And the first thing that ought to put us in admiration is the species and images of things that are required in order to see them. For which it is to be known that all visible things, which are those that have color or light, produce from themselves in the air their images and figures, which the philosophers call species, which very properly represent the same things whose images they are. The reason for this is because, according to rules of philosophy, the causes that produce some effect must touch one another, either by their own substance, or by some virtue or influence of theirs. And since here we treat of this effect, which is to see things, and they are apart from our sight, it is necessary that they touch and join by some third thing. And for this the Creator provided a thing worthy of admiration, which is that all visible things produce in the air these images and species that reach our eyes, and represent the same things that have to be seen. Which is seen in a mirror, which receiving in itself these species and images, and they not being able to pass onward because this mirror is not transparent, stop there, and it represents to us most perfectly all that they have before them. And thus in them we see mountains, and valleys, and fields, and trees, and entire armies, with all the rest that they have present, and if there were a thousand mirrors divided through all the air, in all of them the same thing would be represented. And not only in the air, but also in the heaven, what has been said has place, because we could not see the stars being so apart from our sight, if they did not impress their species and images in our eyes, so that by means of them they might be seen. Then what thing is more admirable than that, seeing how a painter spends many days finishing an image, each one of these visible things should be powerful to produce without brush and without ink and without space of time such infinity of images with all transparent bodies, as are the air and the heaven? Who does not see here the omnipotence of him who could give such virtue to all visible things so that they could be seen?

But treating of the organ of sight, it is to be known that from that front part of our brains, where we said the common sense was, two nerves are born, one on one side, and another on the other, through which those spirits that we call animal descend to the eyes, and these give them virtue to see, being first themselves informed with those species and images of things that we said. But of the fabric of these eyes there are written things so delicate and admirable that I do not attain them, and still less will I be able to write them. But the one that seems to me most admirable of all is that, with there being so many and so admirable things that are required for this fabric of the eyes, that sovereign Artificer was powerful to

place them in the head of the ants. Then how much greater marvel is this than to have placed the eyes in the head of man or of some elephant?

But while keeping silent about other more subtle things I shall not fail to say that in the composition of the eye there enter three differences of humors, which are divided among themselves with three most delicate webs. And the first of them they call crystalline, because it is solid and transparent as crystal is. And after this there follows another red humor, which is shelter and boundary of the crystalline, and after this there follows another blue one. And this color serves so that, by virtue of it, those species and images that we said may be gathered and fortified in the pupil of the eye, which would be offended by much brightness, as it is offended when we look at the sun.

Then through these glass-panes of the aforesaid humors, if they can be so called, the species and images of things enter, and rise by the aforesaid nerves to the common sense that we said, from which they are born. So that through them descend the animal spirits that make us see, and through these same ones the images of things ascend to this aforesaid little ventricle of the common sense, and from there they travel to the other interiors. And according to this we can say that the whole visible world, as great as it is, enters into our soul by this door of the eyes. And this is the cause, as Aristotle says, of this sense being so prized, because as man, being a rational creature, naturally desires to know, and this sense of sight discovers to him infinite differences of things, from here comes to him prizing this sense much. But it has another thing more excellent, which is to see by it the marvels of the works of God, whereby our spirit rises to the knowledge of him. Thus David shows it when he says: "I shall see, Lord, your heavens, which are works of your hands, and

the moon and the stars that you founded." This holy man employed the benefit of sight better than those who use it for offense of him who gave it to them, making matter of sin what ought to have been of his praises, and making war against the giver with the same gift that he gave them, and more such a gift as this is. For if a man should lose this, what would he do? Where would he not go to seek the remedy? And what thanks would he give to whoever should give it to him? And with this being so, and men knowing that God is the one who gave them sight, and the one who conserves it for them, it does not pass through their thought to give him thanks for it.

Let us pass from the sense of seeing to that of hearing, which is also a noble sense, and no less helps wisdom, of which we have example in Didymus, who was born blind, and did not for that reason fail to be a great theologian. Then of this sense two nerves are cause, which proceed from the common sense, one on one side and another on the other, which carry with themselves the animal spirits that give us virtue to hear. But within the ears there is a little bladder that they call myringa, full of air, which is like a little drum, and the sound of the voice, or of any other thing, arriving there, strikes this organ, and with this hearing is caused. But if this little bladder by some occasion is broken and the air goes out from it, hearing is then lost, and for this cause the Creator formed the ears, just as the eyelids in the eyes, for guard of this sense.

The same origin has the sense of smelling, to which descend two other nerves that proceed from the same fountain of the common sense and arrive at the noses, which have within themselves two little nipples of very soft and spongy flesh wrapped in some delicate webs, where the aforesaid nerves come to stop, and the air arriving here that carries with itself the species of fragrant things, smelling them is caused.

And for guard of this sense the Creator provided the noses, which also serve for beauty of the face, because what would a man without noses seem? Where it is much to note the infinite wisdom of the Creator, who joined in the fabric of all our senses and members two things most difficult to couple in one, which are utility and beauty, tracing things in such manner that the most profitable for life should also be most beautiful for sight.

The noses also serve, with the two holes that they have, so that not only by the mouth, but also by them, the phlegm that is bred in the brain may be purged, because as the vapors of our body rise to the high part of the head, as those of the earth rise to the high part of the air, the Creator provided these two drains, by which this evil humor might be purged. And still another thing intervenes here more admirable, because in the lowest part of the head there is a funnel that nature fabricated, which has the cup wide and round, and comes to finish in a narrow pipe, and this funnel gathers the phlegms that are distilled from the whole head, and by this narrow pipe they come to stop at these two aforesaid drains, so that, just as in the courtyards of great houses there is a sink, to which the waters run when it rains, so the Creator provided in this our house this sink, by which the phlegms are sent away, so that they may not do us harm. In which we see how in nothing did the Creator neglect what was fitting for our health and life.

From here let us descend a little lower to the sense of taste, with which we taste flavors, the sweet and the bitter, the savory and the insipid. And the cause of this feeling is two nerves that are in the middle of the tongue, and branch and extend through all of it, which the Creator provided should be moist, and full of pores, and empty of every kind of flavors. And the cause of its being full of pores is so that the species of flavors may be able to enter through it, and arrive at these aforesaid nerves, which are the cause of this taste. It was also fitting that it should be moist, to moisten the foods, because it could not feel the flavor of them without the moisture of the saliva. And it was no less fitting that it should lack all flavor, just as the organ of hearing lacks all sound, so that it could perceive all the differences of flavors. For if it had some within itself, it would feel only this, and not the others, as happens to him who has choleric fevers, to whom all things taste bitter by reason of the choleric humor with which the tongue is infected, which of itself is bitter. But here it is to be noted a difference that there is between this sense and the others, which is that the species of things that have to be seen, heard, and smelled have to pass through some transparent body, as is the air, but neither in

this sense nor in the one that follows does this have place, because what has to be tasted or touched has to be joined with our flesh, so that the savory thing has to join itself with our tongue so that its flavor may be felt. In which is seen how brief this delight is, since as a doctor says, the delight of gluttony in space of time is scarcely of four moments, and in space of place is not even of four fingers and, this being so, we see how many rents and patrimonies are spent in serving this delight. For which Seneca exclaimed, saying: "O good God, how many kinds of officers and of offices one single belly keeps occupied!"

The last sense is touch, with which we feel the four first qualities of the elements, which are cold and heat, moisture and dryness, and we also feel the hard and the soft, the rough and the smooth. This sense does not have a marked place in our body where it is situated, because it is extended through all of it, because it is thus necessary so that the animal may feel the harmful and the profitable, and thus flee the one, and seek the other. And the cause of this feeling is another lineage of nerves that are poured through all the body, and are cause of sense, just as there are others that are so of movement, according as has already been declared. To this that up to here has been said, I shall add what Tully says on this matter.

Chapter XXXI. What tully says of the exterior senses of our body

For conclusion of this matter I wish to refer here what Tully says of the fittingness and beauty of the exterior senses and parts of our body, with which he proves that all this has been fabricated by a highest provident Wisdom for the use and profit of our life. He says, then, that this divine providence "raised men from the earth, and made them high and upright, so that looking at the heaven they might come into knowledge of God. For men are made from the earth, not as tenants and dwellers of it, but as contemplators of celestial and sovereign things, whose contemplation and sight belongs to no other animal, but to man alone, which providence marvelously formed and set the senses (which are the interpreters and messengers of things) in the head as in a high tower for the necessary use of life. For the eyes, which are like watchtowers of this body, are in the highest place, so that they may better exercise their office, seeing from there many differences of things.

Also the ears (which have to perceive sound), were conveniently placed in this high part, because sound always rises to the high part. And for this same cause also the sense of smelling is in the high part, because also the vapors, which carry with themselves the species of fragrant things, naturally rise to the high part. And no less artfully was this sense placed next to the mouth, because the smell of what is eaten and drunk is much part of judging whether it is good or bad. Then already the sense of taste, which has to feel the differences of the things with which we maintain ourselves, was conveniently placed in that part of our mouth, through which what is eaten and drunk necessarily passes.

But the sense of touching equally extends through the whole body, so that thus we might be able to feel all the blows and all the great colds and heats that could harm us."

Where it is much to note that, just as wise men put more protection in precious things than in vile ones, so this divine artificer put greater guard and protection in the eyes than in the other senses, because they are, as we all see, very prized. "For first he clothed and surrounded them with certain very delicate webs, which he made transparent, so that through them we might be able to see, and on the other hand strong so that they could remain. He also made the eyes easy to move from one part to another,

so that thus they might turn away from what could harm them, and easily turn them to what they wished to see. And the sharpness of sight, which is in the pupil of the eye (by means of which we see) is very small, so that thus it may be safer from what could harm it. Likewise the eyelids, with which the eyes are covered, he made very soft, so that they should not exasperate this pupil, and very easy to open and close with all lightness, so that nothing should fall into the eyes that would be contrary to them. Which eyelids are armed and furnished with the eyelashes, which are like a palisade so that, although the eyes were open, they might

send away anything that fell upon them. In this manner the eyes are gathered and hidden, surrounded on the higher parts with the eyebrows, which are above them, which impede that the sweat that runs from the head and from the forehead should not fall upon them. And on the lower part they are sheltered with the cheeks, which are like a fence that defends them. But the noses are so set that they come to be like a wall placed before the eyes.

But the ears are always open, because we have need of them, even in the time when we sleep, so that with the sound that this sense receives, we may awaken. And the way to it has many turns, because if it were straight and simple, a thing could enter through it that would harm it. Remedy was also provided so that, if some little animal should wish to enter into it, it should be encumbered in the wax of the ears as in birdlime. And the ears that are at the door were made to cover and guard this sense, and so that the voices should not be scattered before they reached it. And the entrances to it he made hard and as of horn, and with turns and returns because with this artifice the sound is made greater. Likewise the noses, which always have to be open to do their offices, have the entrances narrower, because a thing that could harm them may not enter through them, and they have a little bit of humor, which serves to send away from themselves the dust and other such things. Then the sense of tasting is very well surrounded, because it is within the mouth, to do its office conveniently, and to be more guarded.

It is also to be noted that these senses in men are more perfect than in the brute animals. For first the eyes by the movement of bodies and by the gesture of persons understand many things, and thus also they know the beauty and the order and decency of colors and figures, and other greater things. For they also know something of the vices and virtues of persons, because they feel when the man is wrathful or placated, joyful or sad, and they also know the strong and the weak, the daring and the cowardly.

The ears also have another admirable and artful judgment, with which they understand, as well in voices as in instruments of music, the variety of sounds, the intervals and distinctions of them, and the differences of voices, some soft and others harsh, some grave and others acute, some flexible and broken and others hard, which differences only the ears of men know. Also the sense of the noses and of taste and of touch has its judgments to feel the things that belong to them, for whose recreation and delight more arts have been invented than I would wish, because you already see how far the composition of fragrant ointments has reached, and the artifice of so many stews, and the favor of precious garments." All the aforesaid is from Tully, and all of it represents to us the highest wisdom and counsel of him who so perfectly fabricated and furnished all these senses for the offices and use of our life, without neglecting

anything, however small it might be, since his providence reached to a thing so small as is the wax of the ears, for the office that is here said. Then what care will he have of the greater things who had such particular care of the lesser ones?

Chapter XXXII. Of the fittingness of the other exterior parts of our body

No less does the beauty of divine providence shine forth in the fabric and fittingness of the other parts of the body, than in that of these five aforesaid senses. For, first, to the whole body from feet to head the Creator provided its garments, and these doubled, the first of which is a very delicate little skin, which many times we flay without feeling it, as happens to those who have scabies or smallpox. After this there is another stronger skin, which in some parts is thicker, as on the head for defense of it, and on the soles of the feet for those who go barefoot; in others it is thinner, as it is on the face. And not content with having given us this garment of the skin, he also provided much fatness, which is like a quilt that shelters all the flesh of our body, which is seen not only in some animals in which this fatness abounds, but also in any human body, if it is not very thin.

And descending in particular to treat of all the members, and beginning with the head, the hairs first offer themselves, which serve for shelter and defense of it, and in women for honesty and beauty, since, as the Apostle says, the hairs were given to her as a veil to cover herself. But how to the purpose the hairs of the beard were given to men, and taken away from women! For in them they would be great ugliness, being on the contrary in men part of beauty and authority. And no less do they serve for the distinction between male and female, for guard of chastity, because to how many bad arrangements and deceits would a door be opened, if men lacked this sign.

There follows after the beard the neck, which is like a beautiful column, although composed of diverse pieces as of hinges in order to bend to one part and another, which serves not only for beauty, but also for two other signal offices, because by it go two channels, one by which goes the maintenance with which we live, and another by which goes the air with which we breathe. Lower down are the breasts, composed of hard bones for guard of the heart, because, just as the Creator provided the hard skull, which is like a helmet, for guard of the brains of the head, so he provided these bones of the breast, which are like certain cuirasses for guard of the heart. In which is seen how divine providence has greater care of the greater things than of the lesser ones, providing these two manners of defensive arms for guard of these two so principal members. But in the breasts of women, besides this defensive, he placed two fountains of milk to raise the children that might be born. And he placed two, because when it should happen to give birth to two, there might be ration for both, although, in this city of Lisbon, a few days ago a married woman gave birth to three, two boys and one girl, and all lived. And it is a thing of admiration that the blood that went to sustain the child when it was in the entrails of its mother, then attends as if it had judgment and discretion to these two breasts, made now from blood into milk, which is a food

most suave and most delicate, already cooked in the breasts of the mother, and proportioned to the delicate stomach of the newborn child, which now maintains itself by the mouth, having before maintained itself by the little navel. And the same providence that placed here two fountains of milk, placed many in the animals that give birth to many children, as are: dogs, cats, and rabbits, and other similar ones, whose children upon finishing being born, still having the little eyes closed, without another teacher more than the Creator, then hit upon the place where the fountains of the milk are, to maintain themselves. But in the belly that is below the breasts, he did not place this frame of bones, because as the guts that occupy this place are of a soft flesh, they would receive harm from the neighborhood of the hard bones, if they were placed here.

Then what shall I say of the hands, which are the ministers of reason and of wisdom? Which that sovereign Artificer made a little concave, to embrace and retain what they wished, and he also increased them with the fingers, in which you will not know how to determine which is greater, their utility, or their beauty, for their number is perfect, and the order and dignity very decent, and likewise the flexibility of the joints and the form of the nails round and firm, for beauty and furnishing of the fingers and so that the tenderness of the flesh should not receive detriment in using them. But no less admirable and profitable is the use of the thumb, which apart from the others, comes out to receive them, giving them faculty to embrace and receive things as rector and governor of them.

And descending lower than the hands, Theodoret does not wish that the providence of the Creator be passed over in silence in having provided us with two natural cushions to be seated without labor. For if these were lacking, man would receive molestation, being seated upon the fleshless and hard bones. And no less do the calves of the legs serve for riding, especially for those who go seated, besides the grace and beauty that they have, because in all the parts of our body the Creator joined utility and beauty, as above we said. And this same is seen in the fabric of the feet, which are finished in their toes furnished with their nails, upon which men rest, and with the help of them, when it is necessary, they climb up a lance, and at times walk upon a rope.

Chapter XXXIII. Of the affective part of the sensitive soul, that is: of the passions and affections that are in our heart

The interior as well as exterior senses having now been spoken of, which are proper to the sensitive soul and serve to know the things that are profitable or harmful to the animal, it follows that we treat of the affective part, which belongs to that same sensitive soul, where the natural affections and passions are, which serve to desire and procure profitable things and to flee harmful ones, which are no less necessary for the conservation of our life and of any animal. And among these affections and passions there are two principal ones, which are roots and foundation of all the others, which are love and hatred, namely: love of the particular good that can profit us, and hatred and abhorrence of what can harm us, so that thus the animal should procure what is good and fitting for its

conservation, and flee the evil from which its destruction could follow. For these two concepts being lacking, the animal would remain either like a bird without wings, or a galley without oars, unable to seek what was profitable to it, and to flee the contrary. For which the Stoic philosophers said very well, as Seneca relates, that these two affections were like a tutor that divine providence had given to man, because just as the tutor who has charge of a child procures every good for him and turns him away from every evil, so these two affections do, when they are well ruled.

But here it is to be noted that, from these two affections, as from two principal roots, others are born. For from the good that we love, when it is absent, desire is born, and when it is present, joy. Likewise from the evil that we abhor, when it is absent, flight is born, which is desire to avoid it, and when it is present, sadness. And these six passions, which are love and hatred, desire and flight, joy and sadness, the philosophers call the concupiscible part of our soul, because it has for office to covet these sensible goods.

But if this good to which we are affected is difficult to attain, the desire of it makes us have hope that we shall attain it, because men easily hope for what they desire. But if the difficulties are such that they conquer our hope, then from here another contrary affection is born, which is distrust. Other times, if the desire is very great, it causes in our hearts another passion, which is spiritedness and daring to break through whatever difficulties may impede us from this good that we desire, such as was that which those strenuous knights of David had, who crossed through the midst of the camp of the enemies, to bring him the water that he desired. But if the difficulties are so many that they do not dare them, from here another passion contrary to the past one is born, which is fear, which also serves the guard of the animal, so that it may not dare what it cannot do, and so that it may seek its remedy either by hiding, or by fleeing. But if besides this someone crosses our path who totally impedes us from what many of us desire, or takes from our hands what we already possess, here wrath bristles up and grows fierce, which is said to be the avenger of the grievances and impediments that our concupiscence receives, so that it is like a sword that sets itself to defend this passion that it has for sister. These five natural affections and passions are also necessary for the conservation of our life, because if our soul had no more than an appetite for the things that are fitting for its conservation, and did not have courage and spirit to conquer the difficulties with which many times they are accompanied, it would not attain them, and thus it would lack what was necessary for it to live. Therefore that divine president, who in nothing is lacking, provided these five passions, which are hope and distrust, daring and fear, and wrath, which serve (each one in its manner) either to conquer this difficulty when they can, or to fear the danger and the labor, and to distrust the victory, when they cannot.

But it will not be reason to pass by here without profiting from this example for a very necessary instruction of the spiritual life, which we already treated in another place. For by this those who have good desires will understand that this does not suffice to attain the virtues that they desire, if they are not accompanied with a great fortitude to conquer the difficulties that in the execution of those good desires offer themselves. For it is a known thing that all virtues are surrounded and accompanied with difficulty, because where there is no

difficulty, there is no virtue. And for this reason, when with the desire of the virtues there is not this aforesaid spirit and effort

to undertake them, the man will remain sterile and without fruit with all his good desires. For which it is said that hell is full of these good desires, but paradise of good works. It is true that, when the desires are great, they bring with themselves this spirit and fortitude.

But returning to the purpose, here it must be noted that these affections not only serve for the conservation as well of life as of the human species, but also help us for the exercise of some virtues. For wrath is said to be awakener of vindicative justice, which is the one that has for office to punish crimes. For with the wrath and indignation that is conceived against them, judges are moved to punish them, notwithstanding that what Aristotle wisely says is true, that "wrath is good for a soldier, but not for a captain." Likewise, from the desire that we have for what we judge as good, two affections are born, which being well ruled, serve to procure virtues and abhor vices, which are love of honor and shame of vice. For that divine President seeing how friendly political and noble men are to honor, and desiring on the other hand that they should also be so to virtue, what did he do for this? He placed honor in virtue, so that at least for this cause they might be affected to it, since in it alone is true honor. And this was like sugaring virtue, and putting on it this bait to enamor men of it, notwithstanding that it is not true virtue that is procured for this cause alone. And from this root were born virtues and heroic deeds of the Romans, who undertook things so great for this honor. For this Scipio and other Roman captains did not receive the most beautiful maidens that were presented to them, but rather honoring them much, returned them to their fathers or husbands.

And just as love of honor affects the heart to virtue, so shame, which is another affection brother to this one, draws it back from vices because of the diminishment and dishonor that they bring with themselves. Which that most wise Governor and lover of all purity especially impressed in the hearts of women, and much more in maidens, which is like a natural wall of chastity. For thus it was fitting that that most wise artificer should put more protection in what mattered more and was more desired by many. And for this reason, besides the virginal seal, he provided this natural shame, which is like a bridle of this vice. Which is seen even in women little honest. And thus Ovid paints one of them, who, writing a letter to a youth whom she loved much, says in it that three times she had undertaken to speak to him, and as many times had grown mute, and her tongue had stuck to the palate. But that noble poet Virgil paints Queen Dido with so much great shame and honesty that, desiring after the death of the first husband to marry Aeneas, she says these words: "May it please God that first the earth open down to the abysses, and swallow me, and the almighty Father hurl upon me a thunderbolt, that he sink me together with the dark shades and profound night of hell, before I commit a thing against my honesty and shame." And for confirmation of this I shall add here a notable thing that Plutarch relates. He writes that in a city of Greece there reigned so strange a humor of melancholy, that every day many maidens killed themselves, and no cure nor remedy was found for this evil. But a wise man, profiting from this natural affection that the Creator impressed in the hearts of women, gave order how a public edict should be placed, where it should be commanded that all the maidens who thus killed themselves, they should carry them to bury publicly naked in sight of all the people. With which natural shame and the fear of this so shameful penalty worked so much

in those maidens, that what no medicines nor remedy could finish, this natural affection of shame finished, and thus from then on this plague ceased.

It must also here be adverted that although some of these natural affections and passions that we have here recounted have names of vices or of virtues, they are not the one nor the other, but natural passions that are indifferent for good and for evil, according as we shall use them well or badly. For when these passions that are in the lower part of our soul follow the dictate of the superior part of it, where the understanding and the will are, embracing what reason places before them, then we use them well, which is serving ourselves from them for that for which they were given to us. And this movement Aristotle says is similar to the movement

of the lower heavens, which move according to the movement of the superior heaven, which they call the first movable, which moves from East to West, giving a turn to the world in one natural day. For just as it is a fitting thing that the lower heavens should follow the movement of the superior, so it is that these passions of the lower part of our soul should follow the governance and empire of the superior part of it.

But when they follow another north, which is when, reason left aside, they move by the imagination and apprehension of sensual things, which is a very blind guide, then they go astray, because they follow this so blind leader. And this movement the same philosopher compares with the contrary movement of the planets, which move from West to East, giving to understand that it is not a decent thing that the inferiors should not conform with their greater ones.

But to understand this lineage of spiritual monarchy, it must be presupposed that in this kingdom of our soul the will is like the king who commands all the members and faculties that there are in man, and the understanding, when it is not depraved, is his faithful counselor, who represents to him the dignity and excellence of spiritual things so that he may love them, and the ugliness of vices so that he may abhor them. It also has its servants, which are all the members of the body, which move according to the empire of the will, without any resistance, and obey what is commanded them. There are also in this kingdom, as in all the rest, its flatterers, who counsel the king what is not fitting for him, which are these aforesaid passions, which, being affected to sensual and delectable goods, counsel the king that he too should be affected to them, although the understanding protests, saying that such goods and delights are harmful and poisonous, when they are contrary to reason. But when the passions and appetites are vehement, they blind reason, and overturn the will, and carry it after themselves. The example of this we see in a dropsical man, who knowing how much evil drinking does to him, still this appetite can do so much that it carries the will after itself, which makes the understanding approve this and give sentence that thus it must for then be done, and thus the members execute it.

And although we go out here a little from the principal matter, I shall not fail to say that the part of our soul where the malice of original sin is most discovered is this where our appetites and passions reside, which in our first creation were bridled and obedient to reason with the gift of original justice. But this gift lost

by sin, they then became unbridled and rebelled against it, and give it well enough to attend to. And from here proceeds that, as well the world as the demon, make very cruel war on us by this part. For since our flesh with these its appetites is naturally inclined and affected to the things of flesh, which are according to its nature, the enemy attends here, and stirs up these passions and desires, and thus disorders them and makes them exceed the limits and measure of reason. For this it is written of him in Job that with his breath he makes the coals burn, which coals are our passions and appetites, so that with this breath they pass the marks and the measure of temperance. So that, just as in the beginning of the world he undertook man by the woman, which is the strong part by the weak (the same those do who have placed siege upon a city), so this enemy commonly makes war on us by this weak part, because it is naturally inclined to the things of the earth. And thus he has this for his partisan and abettor, since it desires the same that he wishes, which are these sensual and earthly goods. But he with his suggestions in such manner kindles these desires, that what, if moderately procured and desired, would serve for conservation of life (for which these passions were given), desiring it disorderly, comes to be ruin and corruption of it. For from here is born the disordered love and desire of honor, from which ambition flows, and of money, whence avarice proceeds, and of sensual delights, whence gluttony is born with other dishonest desires. Likewise from here is occasioned hatred and immoderate wrath against whoever impedes this lineage of goods for us, and likewise envy of those whom we see advantaged in the things that we desire. And finally, all the other swarm of vices proceeds from these roots, stirred up by the demon.

And for this reason, just as the defenders of a city besieged by enemies put all their force in the weakest part, by which the enemies wish to enter it, so the true servant of God must understand that the Christian life is a

perpetual battle and (as is written in Job) a perpetual militia or temptation upon the earth, which lasts almost all life, and that his profession is that of a man of war, and that in this weakest part of his appetites and passions he must put greater protection so that they do not go out of command, because here there is greater danger.

At the end it must be adverted that, just as the exterior and interior senses, which serve to know things, are in the head, some within and others outside it, as we already saw, so these aforesaid affections that are ordered to desire or flee them, have their seat and natural place in the heart. So that these two principal offices of the sensitive soul, which serve the one for knowledge and the other for appetite of things, that sovereign artificer divided with such order that he placed them in the two most principal members of the human body, which are the head and the heart, because in this one we place these eleven aforesaid natural affections and passions. Which we experience every day, because manifestly we feel the blood of the heart being kindled with wrath, and being pressed with sadness, and being dilated with joy, which two affections can grow so much, that they temper the heart in such manner, that they take life from us, as many times happens. Let this suffice, summarily said, for what touches the faculties of the sensitive soul, which man has in common with all animals.

[Supplied Missing Source: Chapter XXXIV]

Chapter XXXIV. Of the intellective soul and of its offices

Up to here we have treated of the two lowest faculties of our soul, which are of the soul that they call vegetative, which has for office to maintain and sustain our bodies, and of the one that they call sensitive, whence proceed the five exterior senses of our body and the four interior ones of our soul. Now it will be reason to treat of the highest part of the soul, which is the one that they call intellective, which is spiritual substance like the angels, and for this reason is not affixed in any bodily organ as all the other senses are, both exterior and interior.

And to treat of this soul, and of the variety and multitude of its offices and faculties, it will be necessary to bring to memory what above we said, treating of the virtue and subtlety of the animal spirits, where, proceeding by a discourse both of the elements and of all the other things that are composed of them, we came to conclude that, the more things depart from the heaviness and matter of the earth, and the more they are thinned and draw near to the condition of spiritual things, so much the more perfect they are and so much the greater virtue and efficacy they have for working. Then according to this, since our soul passes beyond these things, and is a spiritual substance, it follows that it must be more perfect than they, and have greater power and efficacy for working.

And beginning to treat of the dignity and offices of this intellective soul, we say first that it is the one that differentiates us from the brute animals, and makes us similar to God and to his holy angels, which the Maker himself testified when at the beginning of creation he said: "Let us make man to our image and likeness," which likeness we say that he has by reason of this intellective soul.

Where first it must be noted with how much authority the Creator began to treat of the creation of man, because in that of the other things he did no more than say: "Let this be made," and then it was made, and thus he said: "Let light be made," and then light was made, and: "Let lights be made in the heaven," and then the sun and the moon came out to light together with all the stars. But having to create man, he used this new language, saying: "Let us make," etc. Which are words not of one divine person alone, but of many, which is of all the Most Holy Trinity, which understood in the fabric of this noble creature. But another greater one is discovered to us in saying: "To our image and likeness." For to be image of God belongs to man alone and to the angel. For the other creatures (although they be sun and moon, and stars with all the rest) are not called images, but footprints or tracks of God, for the little that they represent of his greatness. But because man and

the angel represent much more of that highest nature, they are called images of God. And even this is conformed by another particularity that intervened in the formation of man, because God having formed his body from the mud of the earth, when he created the soul Scripture says that God breathed into him spirit of life. And because the breath proceeds from the interior part of the one who breathes, he wished to give us to understand in this that the soul is a divine thing, as a thing that came out from the breast of God, not because it is a particle of that divine substance, as some heretics said, but because it participates in many things in the condition and properties of God, as we shall presently see.

But here it is much to note that one of the created things in which, with the greatest admiration of all the wise, the greatness of the power of God shines forth, is the virtue that he placed in our soul. For although this power shines forth much in the angels, yet they are simple and purely spiritual substances. But our soul on the one hand is spiritual substance (as the angels), and on the other is form of this material body that sustains it and gives it life, as the soul of any brute animal does. And because the distance that there is from purely spiritual things to those that are purely material is so great, and the disproportion that there is for the one to be adjoined with the other is so great, it is held as one of the great marvels of God to have given such virtue and faculty to our soul that on the one hand it should understand things like an angel, and on the other engender like a horse, because it is the one that gives faculty for this generation. So that this is as if God made a creature that was at once horse and angel, since this soul has in itself the faculty and power of these two creatures so different, whereby with much reason Saint Augustine could say that, among as many marvels as God made for man, the greatest was man himself, as above we said.

Chapter XXXV. For how many reasons man is said to be made to the Image and Likeness of God

Now it will be well to examine for how many reasons man is said to be made to the image and likeness of God, because, this understood, he will know the height of his dignity, so that he may be ashamed and embarrassed to make ugly this divine image by lowering himself to the vilenesses of the flesh. And by this he will also see what he owes to the Creator, who gave him such a jewel. Then first man is said to be image of God, because he has free will and understanding like God and like his angels; because none of all the other creatures has this liberty, for all are natural agents that cannot fail to do that for which they have faculty. And thus fire cannot fail to burn, nor the sun to give light, etc. But man is free and lord of his works, and thus he can do and leave undone what he should wish. In which it appears that man alone is lord, and that all the other creatures are like captives and servants, since he alone is free of his works, and they are not.

But not only the liberty of the will, but also the faculty of the understanding differentiates us from the beasts and makes us similar to God, since he too is an intellectual substance, although by another higher manner. This likeness of understandings is seen in the likeness of the works that proceed from them, whereby it is said that art imitates nature as much as it can, which in clearer terms is to say that man imitates God in the manner of working. Whereby, just as the author of nature in all his works always disposes and proportions the means with the ends that he intends (as the teeth to cut and grind the food, and the hands to work, and the feet to walk, and the shanks of the bones to sustain the load of the body), so art keeps this same proportion in all its works, as we see in the clothing that it cuts to dress, and in the hose and shoes that it makes to put on, and in the houses that it builds to dwell in, and in the ships that it fabricates to navigate, etc., where we see how proportioned each one of these things comes for the end that is intended.

Item, just as the author of nature seeks in all his works to join in one utility and beauty (as we see in the face of man, that is, in the site and seat of the mouth, of the noses, of the ears, of the eyes and of the eyebrows and brows that accompany them, all of which no less serves for the beauty of the face than for the good execution of the office of each one of these parts, because anything of these that should be changed would impede the one and the other), so art, as much as it can, imitates the same, seeking to make all artificial things not only

profitable, but also beautiful, as is seen in all the furnishings of rich men and great lords, who seek that all things deputed for their service be fabricated in such manner, that they may serve not only necessity, but also beauty.

Item, just as the works of nature are almost infinite, so too in their manner are those of art. Which he will be able to note who should circle with his eyes some great city, such as Venice or Lisbon. For walking through all the streets of these cities, he will see them populated with a thousand differences of offices and mechanical officers, and if he should go to the marine, he will see the trade of the sea and so many differences of ships great and small, with all their rigging

fabricated very to the purpose for the office of navigation. And if from there he should enter into the storehouse of munitions, there he will see so many manners of arms, some defensive and others offensive, some for fighting from afar and others from near, that he will not be able to fail to marvel how a rational animal, whom nature created naked and unarmed for peace and company and political life of men, had heart and wit to invent so many differences of equipment and artillery shots for the destruction of the human race. And if from there he should pass to the bookshops and general schools, he will find a thousand manners of books and of arts and natural and supernatural sciences, invented by human understanding. And if at last he should enter on a solemn day into a cathedral church beautifully fabricated and ornamented, there he will find in what to pasture the eyes with the beauty of the building and ornament of the altars, and in what to recreate the ears with the suavity of the voices and musical instruments that there sweetly resound. And if over all this he should find himself at a general fair, such as that of Medina del Campo, or another similar one, there he will see so great a variety and multitude of artificial things that it will seem to him that art competes with nature, not only in the fabric and beauty of things (as has been said), but also in the variety and multitude of them. And just as God created this world full of natural works, so art has made almost another new world of artificial things.

For all of which it serves itself from the hands, which the Creator fabricated with marvelous abilities and artifice, so that they should be a most fitting and general instrument of the most principal parts of our soul, which are the will and reason. For by them reason works all these aforesaid things and many others more, for they (as Tully says) "serve us to till the fields, to build the houses, to weave and sew garments, and for the fabric of the things that are made of iron or of metal. With the hands also we build cities, walls, and temples. And by them also we provide ourselves with diverse and abundant fruits for our maintenance, for by them we sow the fields, which give us diverse fruits, some that are eaten at once, and others that are gathered and kept for later. By them also we maintain ourselves from animals, as well from those that walk on the earth, as from those that swim in the water, as from those that fly through the air, not only hunting them, but also raising them in our houses. With them also we tame the beasts, which carrying and bringing loads serve us, also giving us force and lightness for walking. We also with the hands place yokes on them, and likewise we use the most acute sense of the elephants, and the sagacity of dogs for our profit. We also with them draw iron from the entrails of the earth, a thing greatly necessary for the labor of the fields, and likewise we discover the hidden veins of steel, of silver, and of gold, from which things we serve ourselves as well for the use of life as for the beauty and ornament of it. We profit also from every kind of trees, both fruitful and wild, part to warm ourselves and prepare foods, and part to build, with which we defend ourselves from excessive colds and heats. And the same matter serves to fabricate ships, by whose means abundant provision comes to us from all parts for the necessities of life. And thus by the art of navigating we come to make ourselves lords of the two most violent things that there are in nature, which are the sea and the winds, and by this means we enjoy many things that are brought by the sea. Likewise ours is the lordship and use of all the fruits and conveniences of the earth, because we enjoy the fields and the mountains, ours are the rivers and the lakes, we sow the crops

and the trees, we with artificial irrigations make the lands fertile, we dam and straighten the rivers, and guide them through the parts that can profit us, and finally using the industry of the hands in the things of nature, we have come to fabricate another new nature." The aforesaid is from Tully.

Then all this declares to us the dignity and likeness that our soul has with its Creator, since it has so much likeness in the manner of working with him. For Saint Dionysius places three things both in the Creator and in his creatures, which are being, power, and working, in which there is such order and proportion that, as the being is, such is the power, and as the power, such the works. And thus by the works we know the power, and by the power the being. And since, as has been said, we see so much conformity between the works of man and those of God, by this we can trace the likeness and kinship that there is between him and God, and we shall understand with how much reason it is said that man was created to the image and likeness of God, which is an incomparable dignity.

I

It is also a singular property of God to be present in every place, in the world and outside the world. And our intellective soul also runs through all the places of the world, when it wishes. Now (says Saint Ambrose) we are in Italy, and we think on the things of East and West, and we converse with those of Persia and with those of Africa, and there we treat with friends, we walk with those who walk, we draw near to pilgrims, we join ourselves with the absent, we speak with those who are apart from us, and even the dead we resurrect, and embrace and converse with them as if they were alive. Then by this it is understood that that bodily part that there is in us was not made to the image of God, but that one which with the sharpness of its sight sees the absent, and passes to the other side of the sea, and runs with sight through all things, scrutinizes the hidden, and in one moment circles its senses through all the ends of the world, and joins itself with Christ, and descends to hell, and rises to heaven, and freely walks through it, as he did who says: "Our conversation is in the heavens."

But there is another thing more admirable, in which our soul imitates the virtue and power of God, in which it surpasses even the angels. For although in them the image of God shines forth more perfectly, because they are purely spiritual substances, apart from all matter, yet our soul, besides being spiritual substance, represents this image by another way, which is with the variety of the offices that it exercises in the bodies where it dwells. For what God works in this greater world, that our soul works in the lesser world, which is in man. We see, then, in the greater world how much infinity of creatures and of natural works there is, and in all of them God works, conserving them in the being that they have, and giving them virtue and faculty for all the works that they do, because the first cause concurs with all the other inferior ones, without whose virtue and influence they could not work. Then in this manner our soul has so full jurisdiction and lordship within this territory of its body, that no work is done in it of which it is not principle and cause. Which appears by the lack that it makes when by death it is lacking, since then all these works cease. So that though being one simple and spiritual substance, it is

principle of all the offices of life. For it is the one that sees in the eyes, hears in the ears, smells in the noses, tastes in the tongue, touches with all the other members, cooks the food in the stomach, converts it into blood in the liver, and distributes it through the veins in all the body, creates the spirits of life in the heart, and the animal ones in the brain, and distributes the one through the arteries, and the others through the nerves in all the members of the body. It paints the things that it saw in the imagination, and remembers infinite words and things with the memory, and discourses and disputes with the understanding, and loves or abhors with the will. And finally, there is nothing so minute in our body of which it is not principle and principal cause. So that what the weights are in the clock, that is the soul in our body, and thus as these weights removed, all these wheels of the clock stop, so the soul being lacking to our body, all the officers and offices of our life are lacking.

This is a thing at which the prophet David greatly marvels when he says: "Marvelous is your wisdom, Lord, which I know by what I see in myself, and so high is it that I cannot attain it." Upon which words, which in this sense Theodoret alleges, he makes a long exclamation saying thus: "When I, Lord, recollected within myself, and free from exterior cares and business, enter into myself, and set myself to contemplate my own nature and that faculty of the rational soul that you gave me, and I look at the sciences of which it has been capable, and the arts invented by it, with which the world is full, by whose benefit life is made more joyful and suave, and I look at that infinite abundance of words that fit in it, within which they are distinctly kept and conserved, and thus offer themselves to it easily when it has need of them, and I look also at how this soul governs the whole body, and how it itself committed to the eyes the office of judging among colors, and to the tongue that of knowing the difference of flavors, and made it interpreter of its concepts by means of the use of words, and to the noses gave faculty of examining odors, and to the ears of perceiving the words that come from outside, and it itself extended the sense of touching through the whole body, with which touching it sometimes feels pain, sometimes joy and delight: considering, then, with my spirit all these things and other similar ones, and seeing how many of them, apparently contrary, concur in the fabric of one animal, together with that admirable union of the two natures, one mortal and the other immortal, I remain frightened by this so great miracle, and not being able to attain the reason of a thing so great, I confess that I remain conquered, and preaching the victory and wisdom of the Creator, I come to break forth in voices of praise, and exclaim with this Prophet saying: 'Marvelous is your wisdom, Lord, which shines forth in me: so high is it that I cannot comprehend it.'" The aforesaid is from Theodoret. This, then, is another admirable excellence of our soul, in which it imitates its Creator, working (as we said) all things in its body, as the Creator works them in this world. For which, besides what has been said, it is called image of God.

II

But what does it mean that it is not only said to have been made to the image of God, but also to his likeness? To this Saint Bernard and Saint Ambrose respond, saying that image is called by reason of the natural thing that it received, and likeness by the gratuitous. They mean to

say that image is called because of the natural gifts and faculties that it received to live this common and natural life, but likeness because of the grace and supernatural virtues that in its first creation it received to live supernatural life, meritorious of eternal life. Whence it appears that the image, which is the natural, is never lost, although the soul be in hell, but the likeness is lost when grace is lost, which is lost by any mortal sin. But it is much to feel not only the man's losing this likeness, but much more the likeness that succeeds in place of this. And what it is, the Prophet declared when he said: "Man constituted by God in dignity and honor did not understand the estate that he had, for which reason he came to be compared with the brute beasts, and made similar to them." Then what thing is more to feel than this so great fall, in which the man who represented in the purity of his life the likeness of God, comes to change the divine likeness into likeness of beasts? Where can human misery more decline and descend? Then by this man will see how much is the malice of sin, which is cause of this so great evil.

Let this suffice to conclude the matter of the intellective soul, and with it of all that belongs to the two worlds, both greater and lesser, which is man. Now it will be reason to profit from all that has been said, lifting ourselves by the creatures to the knowledge of the Creator.

Chapter XXXVI. Of the special providence that our Lord has of human things

All that up to here has been said serves to declare the motives that the philosophers had to recognize and confess a first cause, a first principle and a first mover and governor of all this universe, which we call God. It also serves so that we may know the providence that this sovereign Lord has of all things, considering the abilities with which he provided all the animals for their conservation, which is to maintain themselves and defend themselves from their contraries, and cure themselves in their illnesses, and raise their children. In

none of this did the philosophers of more grave and settled judgment place doubt. But just as monstrous bodies are at times found, which are born either with excess or with lack of the accustomed members, so also (and even much more) there are monstrous spirits and wits that say things not only against all reason, but against all the common consent of the human race, such as were those who, confessing the providence that God had of the brute animals (for the aforesaid reasons), dared to say that he did not have it of men, because of the confusion and disorder that they saw in human things, not considering that since the brutes are not capable either of virtue or of vice, there is no reason why the Creator should alter the providence that he has of them. But since man is capable of the one and of the other, God treats him according to his works, doing good to the good man and punishing the evil one. Which that distinguished moral philosopher Seneca came to understand, saying in one word a great part of what our religion teaches. For speaking of God, he says that he treats us in the manner that we treat him, giving to understand that those who revere and honor God as true lord and father, he treats as faithful servants and sons. What more would this philosopher have said, if he were a Christian? How great and

how universal a doctrine is comprehended in these so brief words! But here it is to be noted that, when we say that God does good to the good and punishes the evil, we do not here understand by good temporal goods (which not even the philosophers called goods) nor by evil poverty or lack of them, since this does not deserve the name of true evil, since all the saints voluntarily loved and procured it. Thus the providence that the Creator has of animals is always of one manner, but that of men is diverse, according to the diversity of their works. But against these wandering philosophers the true and grave philosophers armed themselves, especially those who were called Stoics, who were very devoted to virtue, proving with very grave reasons the providence that that sovereign Lord generally has of human things, of which we shall place some here.

For first, what ears are not scandalized, hearing it said that God has care of beasts and not of men, the beasts and all these lower things having been created for the service of man, as is already declared? Who will say that a father has care of the slaves and servants of his son, and does not have it of the son? If it belongs to prudence and good government to have greater care of the greater things than of the lesser, man being without comparison more noble than all the brute animals, as a creature made to the image and likeness of God, in what reason does it fit to say that he has providence of things so low, and despises the high, as are men whom he calls sons by the likeness that they have with him? And if he has care of the brutes, who neither recognize the benefit, nor give him thanks for it, how much more will he have it of man, who recognizes and adores and praises him for it?

We also see that love is the cause of the providence that creatures have of their own things, and that, the more they love them, so much the greater is the care that they have of them, as we see in the providence and care that the brutes have of the children that they love. Then if God has greater love for man than for the brutes (which is seen by the advantages that he has over the brutes and by the more excellent nature that he gave him), how is it possible that, having care of what he loves less, he should not have it of what he loves more? We see by experience that if a man plants or grafts a little tree, he afterward rejoices when he sees it grown and advanced and loaded with fruit, and it pains him if he sees it maltreated, and he delights to cultivate and water it. Then if man has this love and care of a little tree that he planted, how much greater will the Creator have it of the man whom he formed?

But not only love, but goodness also is cause of providence. And thus we see that men of singular and excellent goodness have great respect for the common good, and thus desire and procure it, although it be at their cost. Then if this is proper to excellent goodness, how much more will it be proper to that highest and infinite Goodness, to have care of man, especially knowing that, man being well ordered, all this world that serves him is well ordered, but on the contrary, he being disordered, the world is also so, since it serves one who does not serve the common Lord of all?

And all the perfections of creatures that are called absolutely perfections are in God in a very eminent manner, and to have care of the common good is one of them; who

will dare to deny that it is not in God, he being an abyss of all perfections and the author of them?

We also see that all causes have special care of their effects, as parents have of their children, kings of their vassals, fathers of family of their family. Then how much greater will that King of kings, that sovereign Father and that Cause of causes have it of the most noble effect that in this lower world he produced, which is man?

I add more to what has been said: that if God does not have providence of human things, either it is because he cannot, or does not wish, or does not know what passes in this world. To say that he does not know is to take wisdom from him, and to say that he knows, but does not wish, is to take from him goodness, and justice, and charity, and mercy, and finally all his perfections and virtues, which is horrible blasphemy. But to say that he cannot is against the greatness of his power, which is infinite. For he who could create this world so great, so beautiful, so well ordered, so constant in the variety of times and in the movement of the heavens, and populated with so many things for the use of human life, how will he not be able to govern what he could make? And if he by his own will wished to create this world, not by necessity that he had of it, nor because anyone forced him, but by his sole goodness, by which he wished to give being to the things that did not have it, why must he not wish to conserve and govern what he wished to create?

At the end of what has been said I increase a very principal and very experienced consideration. We see generally that all men, of whatever nation they may be, when they see themselves in some distress and anguish, suddenly, without any discourse of reason, but by the sole instinct of nature, lift the eyes and the hands to heaven, where that Lord principally resides, asking him for succor. Then since this inclination is impressed by the Creator in the very nature of man, and this cannot be idle and vain by that common sentence of philosophers, who say that God and nature do not make a superfluous thing, it follows that he has providence of the things of men, since he created this natural inclination in their hearts. Nor is the common consent of all peoples a lesser testimony, however barbarous and bestial they may be, in whom there is always found some manner of worship of divinity, although false and erroneous, this with presupposition that they do not honor this divinity for nothing, but because they hope for favor from it. For if they hoped for nothing, they would not honor it, nor would they take account of its temples and sacrifices. And this is to confess divine providence, which is God taking account of whoever venerates and honors him. And as this is a universal thing in all peoples, it follows that this affection and knowledge is born with man himself, and is impressed in his heart by the author of nature itself, who, just as he grafted into the hearts of children a natural inclination to respect and revere their parents, so he also impressed another to honor God, who in a much more excellent manner is universal father of all men. And this is so notorious in the light of nature, that Aristotle said that we ought not put into dispute whether snow was white, nor also whether parents and gods were to be honored, but give eyes to him who denies snow to be white, and lashes and punishment to him who should deny the honor due to parents and to the gods.

These and other similar reasons moved the gravest and wisest philosophers, as were Plato and Socrates, his teacher, and especially the Stoics, one of whom (who was Seneca) wrote an entire book On Divine Providence, of which he also makes mention in other places of his letters. And thus in one that he writes to his friend Lucilius he says these singular and notable words: "Near you is God, with you he is, within you he is, a sacred spirit dwells within us, which guards and notes our good works, which treats us in the manner that we treat him. And hold it as certain that no man can be good without him. For how will anyone be able to despise the things of fortune without his help? He is the one who gives us magnificent counsels. It is certain that God dwells in the souls of the good, although we do not know which God this is that dwells in them. An excellent and moderated spirit, and one that passes over all things as over vile and low things, and laughs at all that we fear or desire, only God can make it. So great a thing cannot be made without favor from

him. And thus the greater part of this spirit is in the place whence it descended. So that, just as the rays of the sun reach the earth, but they are in the same sun whence they descend, so the great and sacred spirit, sent into the world so that by it we may know divine things, converses here with us, but it is together with its principle whence it is born." And in another letter he says thus: "You marveled that men go to the gods: a greater marvel is that God comes to men, and (what is still nearer) God comes to dwell in them. For there is no good soul without the favor and presence of God." All these are words of Seneca, who without having read the Gospel confesses the necessity of grace, without understanding what grace is, and the care of divine providence. Wherefore there is reason for us to be frightened at the blindness and madness of the Pelagian heretics, who, receiving the Sacred Scriptures, dogmatized that a man could with the forces of free will alone, without the succor of grace, keep perfectly all the divine commandments and merit the kingdom of heaven.

To this so illustrious testimony of Seneca I shall add that of Tully, who confesses the same, saying that "the immortal gods not only provide for all the lineage of men, but also for each one in particular, because if they have providence of all the world, they also have it of the principal parts of it, which are Asia, Africa, and Europe, and if they have it of these, they also have it of the cities of them, as are Rome, Athens, Sparta, Rhodes, with the rest, and thus it follows that they must have special care of each one of the dwellers of these. And in this account we place Curius, Fabricius, Metellus, Marcellus, Cato, Scipio, Laelius, and many other singular men that there were in Rome and in Greece, none of whom was such without the help of God, which reason convinced the poets, and particularly Homer, that they should assign certain gods as companions, helpers, and defenders from dangers to heroic men, as were Ulysses, Diomedes, Agamemnon, and Achilles." Whereby it is concluded that never in the world was there any signal man who was not helped with a breath and favor of God. The aforesaid is from Tully, who also, like Seneca, confesses the necessity of divine favor and the care of divine providence.

Of How All The Things Of This World Were Fabricated For Man

I

This same providence the same Tully proves by declaring very particularly how all these things that we see were fabricated by divine providence for man, and thus he says: "If someone should ask for whose cause such great things have been fabricated, perhaps for love of the trees and of the herbs, which although they lack sense, are works of nature? This would be very contrary to all reason. But perhaps were they formed for the sake of the beasts? Nor can it be said that the gods have fabricated this for the sake of mute beasts, which have no intelligence. Then for whose cause shall we say this world was made? To this we respond that for the sake of the animals that use reason, which are men, because they alone use reason and live by law." "So that, just as we say that Athens and Lacedaemon and all that there is in these cities serve the dwellers of them, so all the things that there are in this great city of the world are for the service of men. Then already the course of the sun, and of the moon, and of the stars, although they serve for the order and government of the world, are also a most beautiful spectacle for men. For there is nothing whose sight is for our eyes more insatiable, more beautiful, more artful for our understanding, for by the order and course of these planets we know the quality of the times and the variety and changes of them. And if men alone know these, for them alone must we judge that they were made. Then the earth full of crops and of diverse species of legumes that it produces with great abundance, does it serve for the use of men, or of beasts? Then what shall I say of the vineyards and of the olive groves, whose fruits so copious and so savory do not belong to the beasts? For they have no science either of sowing the fields, nor of cultivating them, nor of reaping and gathering the fruit of them at their times, nor of keeping it for later, because the use and care of all these things is of men alone, and not of them. Whereby just as the strings of a vihuela, and the other musical instruments, were made for those alone who know how to use them, so all these aforesaid things serve for those alone who know how to use them. Nor is it reason to say that they have been made because of them, because at times they snatch and steal

something of these fruits, just as we do not say that men gather and keep wheat in their granaries for the sake of the mice and of the ants that steal it, but for provision of their women and children and family. Thus the beasts enjoy something of this by theft, but men freely and openly. For who will have doubt that so great a variety and abundance of fruits so savory to the taste, and so suave to the smell, and so beautiful to sight, nature has given for men? And how can it be said that these things were made for the beasts, since it is clear to us that those beasts were made for the sake of men? For what other thing do sheep serve, except so that from their wool cloths may be made with which we may dress ourselves? Which could neither maintain themselves, nor sustain themselves, nor give any fruit, if men did not have care of them. Then already the guard so faithful of dogs, and the love with which they love and flatter their lords, and the fury and hatred against strangers, and such incredible sagacity and smell to seek the hunt, and so much lightness and joy to pursue it, what other thing does it represent to us except that they were engendered for the profit and service of men? Then what shall I say of oxen, whose backs declare that they were not fabricated to carry and bring loads, but the necks so accommodated to receive the yoke, and the forces and breadth of the breasts to draw the plough, we see how much they serve the use of men? For which reason

anciently in that golden age, as the poets call it, it was held as a great crime to kill oxen, and eat of their flesh. It would be a prolix thing if I wished now to declare the profit that comes to us from mules and from the other horse-like beasts, which we see serve men. But the pig, for what does it serve except to maintain us with its flesh? And so that this should not be corrupted, they gave it the soul in place of salt. And because this animal is so profitable for our maintenance, we see that no other gives birth to and raises as many children as it. Then what shall I say of the multitude and suavity of fish? What of the birds, from which we receive so great delight, that it seems that this so favored providence was ordered by Epicurus? Which we could not have in hand, except with the artifice and industry of men. Then already the fierce beasts we attain by hunting, partly to maintain ourselves from them, and partly to exercise ourselves in military discipline, which we also tame and domesticate, as we do with elephants, and many things from them serve to cure wounds and illnesses, as the herbs also do, whose virtue and efficacy we know by long times and experiences. And if we circle with our spirits as with our eyes all the earth and all the seas, we shall see such great spaces of fertile and fruitful fields, we shall see the mountains clothed with green herbs, and the pasture of the livestock, and the incredible lightness with which ships run through the sea. And not only the things that are upon the earth, but also those hidden in its entrails serve us, which, just as they are for the service of men, so they alone bring them to light and discover them." The aforesaid is from Tully, who by the aforesaid examples manifestly proves all the things of this lower world together with the heaven to have been fabricated and ordered for the use and provision of our life. All which is a manifest argument of the providence that God has of men, since he created so many things so appropriate for the use and provision and delight of men, of which the beasts are not capable.

And besides this discourse and argument with which this divine providence is proved, he also confesses it in the book On Laws by these words: "Before all things let men hold as ascertained that the gods are lords and governors of all things, and what passes in human life happens by their will and empire, and that they attend to doing good to the lineage of men, and look at what each one of them does, and in what he sins, and with what devotion and spirit he treats the things that belong to religion, and finally they take account and reckoning with the life of the good and of the evil." Then what more would this philosopher have said, if he had had light of faith?

Then I hold the testimony of Plutarch as more illustrious, who confesses together with divine providence the immortality of the soul by these words: "One is the reason that confirms and proves divine providence and the immortality of the soul, nor can we embrace the one and reject the other. For the soul remaining alive after the death of the body, it is fitting, and even necessary, that it receive the punishment or reward of its works. For the time that it lives in this world it fights like a wrestler and, the fight finished, it must receive

what it deserved. But in what manner the soul has to be rewarded or punished after this life, we who live do not know of this any certain thing that we can affirm, because this secret is hidden from us." Thus far are words of this great philosopher, which declare to us how great is the force and the light of truth, since in the midst of the darkness of gentility they saw its rays and splendors.

Let us come to Aristotle, who, as we already saw, does not consent that there be dispute of the honor that is owed to parents and to God, because it is a thing so clear and so peremptory. The same, in his Politics, after having said that four things were necessary for a well ordered republic, which are provisions, arms, arts, and money, says that the first that is necessary to it is the worship of the gods, which they call religion. And in the tenth book of the Ethics he says thus: "He who is ruled by reason and understanding, and seeks to perfect this principal part of his soul, and is affected to the good, it appears that this such one will be most acceptable to God, because if the gods have care of human things, as it appears, it is a thing according to reason that they be pleased by a thing so good and so similar to them (which is our understanding) and those who love this part of their soul, and seek to adorn it with the virtues, it is just that they be loved by the gods as people who live virtuously and who have care to perfect what they received." All these are words of Aristotle, which favor divine providence, since they make God a lover of the good as of people similar to him in the nobility of the understanding and in the purity of life. And no less does it make to this purpose that this philosopher attributes to religion and worship of God the first place in the well ordered republic, as we have just said. For to what end must men honor God, if he has no care nor account with them? Knowing now by faith that there is eternal punishment and glory for good and evil, there are so many men who have very little account with God; what would it be if neither in this life nor in the other they hoped for anything from him? And what would the world be populated with such men as those who believed this would be, except a cave of thieves and robbers, and a mire of pigs or, to speak better, a piece of hell? And the world being such, how unworthy a thing it would be of that infinite Goodness and Wisdom to have created those so great heavens, and those so resplendent lights, and to govern this so great machine of the world, sending its rains at their times to fructify the earth, and deputing the fish of the sea, and the birds of the air, and the animals of the earth, and all this for the use of men, they being much worse than beasts? What thing more unworthy of such knowledge and of such goodness? Thus, since Aristotle so much wishes that we honor God, he wishes that we hope something from him, because, as the Comic said, no one wishes to be good for nothing.

But the same philosopher, in the compendium of philosophy that he wrote to Alexander, although some doubt that this book is his, speaks more clearly of providence, where he relates a memorable thing, because he recounts that once Mount Etna overflowed with so great a mouthful of fire that it extended through all the fields and neighboring lands, and all the young men fleeing with great haste, as the old men could not flee, there were some sons so loyal to their parents that, taking them upon their shoulders, they fled with them. But not being able to make so much haste because of the load that they carried, finally the hurrying flame had to reach them. Then God, being pleased by that faith and loyalty of the good sons toward their old parents, made the flame divide and part into two parts, so that it should give place and safe passage to the virtuous youths with their parents. This history Aristotle relates in the aforesaid book, in which he not only confesses divine providence, but also miracles, which surpass all the faculty of nature.

II

With this example we shall join others referred not by Christian authors, to whom the infidels do not give credit, but by others of another religion. And because to this providence it belongs not only to reward the good, but also to punish the evil, we shall refer here some punishments so great and so extraordinary, executed against most perverse men, whose greatness declares them to be manifest work of divine providence and justice. Among which the disastrous end of that Herod who, by the sole ambition of reigning, used the greatest cruelty that ever was seen, which was to shed the blood of so many innocent children, and together with them that of his own son, with other cruelties and tyrannies that he used during the time that he

lived, will have the first place. For the cries and voices, both of that innocent blood shed and of the fathers and mothers of these children, who asked vengeance, it was just that they should reach the ears of that sovereign judge, who, besides the pains of the other life, should punish so extraordinary a wickedness with new and extraordinary punishment. Which Josephus, noble historian among the Jews, relates by these words: "The terrible illness of Herod each day became greater, until it entirely avenged the wickedness committed. For outside in the skin and surface he burned with a tempered fire, but within he was scorched as an enkindled oven. He always suffered very great hunger, and with no food that he ate could he calm the most cruel rage. His entrails within he had full of sores, and from his body there came out a thin and yellow humor that bathed him down to the feet, and from the feet to the beard. All his members he had swollen, and his shameful parts rotten and full of worms, and swollen, and abominable, and with terrible pains. And over all the evils there afflicted him the stench that came out from the rottenness of the members, or from the breath of the poisoned mouth. And he was so surrounded by pains that already the natural forces did not suffice him to suffer them. The diviners said that the sovereign emperor God had given him this pain for his great and many wickednesses. But given that he was wounded with such incurable sores, not for that did he lose the hope of living. For which he procured those arts and remedies that he could. Having crossed the Jordan, he bathed sometimes in the baths that are called of Callirhoe, whose waters are also healthful to drink. And it appeared to the physicians that he should bathe the whole body in hot oil, but, placed in this bath, his members were disjointed, and his eyes leaped out of their proper places. From there they brought him to Jericho, where, moved by the weepings of his servants, and already despairing of life, he commanded that to his knights should be distributed to each one fifty pesos of money, and afterward for some days he distributed among his friends a great sum of money. But afterward, full of fury and fierceness and as if threatening death, he ended with an incredible wickedness and cruelty. For he commanded all the noble and principal men of all the cities and towns of Judea to be called, and to be enclosed in a certain place, and calling his sister Salome with her husband Alexander, he said to them: 'I know that the Jews are to rejoice at my death, but if you wish to fulfill my commandment, I shall have my burial and obsequies very honored with a multitude of men and women who weep. Have armed people ready because, at the hour when I expire, they may kill all these principal men of Judea whom I have enclosed, so that all the province, although it grieve them, may make lamentation at my death.' And a little afterward, already feeling death near by the force of the pains, he asked for a knife to pare an apple (as he was wont) with his hand, and they gave it to him. Soon after, understanding that there was no one who was at hand for him, he raised the knife and thrust it into his body. But the little time that lasted before he expired, he did not wish to pass without cruelty, and he had the third son beheaded,

after two who by his commandment had before been beheaded. In this manner he went out of life full of no fewer pains than wickednesses." The aforesaid is from Josephus. In which we see verified that sentence of the Psalm: "God is just, and a lover of justice, and his eyes look upon equity." We also see here the beauty and greatness of divine justice, which permitted that this tyrant should pardon neither himself nor his own sons, he who did not pardon those of others, and that he should pay this debt not only with the hastened death that he rabidly took with his hands, but also with that terrible and prolonged illness that he wished to redeem with his own death. Which illness was of such a quality that the very physicians who cured him understood that that ailment came to him from heaven for his great sins. For this rule we must hold as general and true: that when extraordinary calamities come upon a tyrant, extraordinary wickednesses or cruelties having preceded, we must understand by this punishment the severity of divine justice and providence, which by this means declares itself and gives motive to men who are scandalized to preach the divine praises. Conformably to which the Prophet says: "The just man shall rejoice when he shall see the vengeance, and he shall wash his hands in the blood of the sinner." He means to say that, with the example of this punishment and with the fear of divine justice, he will labor to justify and purify his soul.

The same Josephus relates another extraordinary punishment of another Herod, who is the one who beheaded James, and seized Saint Peter to do as much to him. This one, then, being indignant against the dwellers of Tyre and of Sidon, and they coming with all humility to ask him pardon because of the necessity that they had of him, went out to a platform richly dressed in royal garments to make an oration to these peoples who were present. Then they, raising their voices, began to flatter him, saying: "These are words of God, and not of man." With this the unfortunate and mad king in such manner swelled with pride and became vain with this flattery, that in place of giving glory to God, he took it for himself, judging that that so great praise fit in him. At this point Josephus says that an angel of God struck him, and thus, eaten and consumed by worms, he disastrously ended his life. Where it is much to consider that, this wicked man having beheaded one Apostle and imprisoned another, he did not receive any punishment, but now he received this so great one for having stolen the glory from God and attributed it to himself: so that by this may be understood the danger that there can be in vainglory and in presumption and esteem of oneself.

With these aforesaid examples we shall join those of the emperors who persecuted the Church, beginning from Nero, who for the greater part had disastrous ends, as in the second part of this writing we declare. And among these very notable is the terrible punishment of Maximinus, and the miserable illness that he suffered, which the very physicians confessed to be punishment from God because of the greatness of his wickednesses and cruelties, as in its proper place we declare.

These examples are from gentile writers, for those who do not give faith to Christians. But with all that I shall refer here another example that in Sacred Scripture is written of King Antiochus, whose wickednesses and cruelties toward the people of God were such that they cannot be explained except by saying that almost all the things that Antichrist has to do against the honor of Christ this man did to destroy the worship of God. This is the one who martyred those happy and blessed seven Maccabean brothers with their most holy mother, and the one who

filled the holy temple with ruffians and bad women, and commanded it to be entitled by the name of Jupiter, and placed the statue of this idol where the ark of the Testament was. And among other slaughters that are written of him, one was that in the space of three days there were killed eighty thousand men and forty thousand captives, and as many others sold. But divine providence, which never sleeps, after having punished the sins of his people by the hand of this tyrant, took from him the vengeance that his wickednesses deserved, because he did not do this as minister of God, but as cruel tyrant. And thus he was punished with such illness that he himself understood that it was not natural nor ordinary, but that it came from on high. For coming on the road, suddenly God struck him with an incredible pain and torment of the entrails. And the evil did not stop here, but all the body was covered with sores so horrible that from them flowed streams of worms that gnawed his flesh day and night, and from them came out so pestilential a stench that all the army that came with him was oppressed by it, and he himself could not bear it. The miserable man, then, knowing the scourge of God upon himself, began, although late, to humble himself and recognize the power of God and the wickedness of his sins. And thus he said: "It is a just thing to subject oneself to God, and that mortal man should not wish to put himself on equality with him." And repentant with this knowledge, he promised to make the city of Jerusalem equal with that of Athens, which he was coming to lay waste, and to privilege all the Jews as Athenian citizens, and that he would adorn the temple with precious and rich gifts, and would multiply the sacred vessels, and would command that from the rents of his public granaries the cost of all the sacrifices should be paid. And over all this, that he would convert himself to the faith of the Jews, and would go about preaching everywhere the greatness of the power and glory of God.

All these are words of Sacred Scripture, which, although they serve for many other purposes, yet I have brought them here so that both this example and all the others that we have said, together with the reasons alleged, may declare to us how that sovereign Judge has special providence, not only of the brute animals, but much more of man, as of the more principal creature, giving to each one his deserved thing according to

his works, to all generally in the other life, and to many also in this one, as the past examples testify. This is one of the greatest consolations that the good have in all their labors, flattering themselves with the hope of the reward, and this same is the greatest bridle that the lukewarm and negligent have, knowing that there is punishment and pain for them, who, as much as is on the part of their malice, would not wish that God knew the evils that they do, nor that he could punish them, so that they might more without remorse of conscience wallow in the mire of their vices. And with this they make God blind so as not to see, and weak so as not to be able to punish, and unjust so as not to do justice. And this, as much as is on the part of their desire, is to wish that there be no God, because such a God as they desire, without wisdom, without power, and without justice, cannot be God. But Solomon undeceives these and all of us, who concludes all the dispute of his Ecclesiastes saying: "Let us hear the end to which all this dispute is ordered. Fear God and keep his commandments, because this is the whole being of man. And all the things that in this life are done, God will bring to judgment, whether they be good or whether evil, to give to each one his deserved thing, which is the proper office of divine providence."

Chapter XXXVII. Of the immensity and greatness of the divine perfections by the testimony of the Holy scriptures

Of The Immensity And Greatness Of The Divine Perfections By The Testimony Of The Holy Scriptures

All that up to here has been said serves to give us knowledge of those four most high perfections of our Creator, which are: goodness, wisdom, omnipotence, and providence, which is the highest, most necessary, and most profitable philosophy of as many as human wit can attain. Of the fruit of this knowledge we have already treated. But now it remains to treat of the greatness of these same perfections, which are the intrinsic modes of them, as some theologians call them, not only for the fruit that has already been declared, but to suspend the hearts in admiration of so much greatness, and so that by this they may understand the reverence that is owed to so great a Majesty, and how great an evil it is to dare to offend it. But this will not be the only fruit of this matter, but others that at the end will be seen.

And although my intent in this First Part is to proceed by the marvels of created things to the knowledge of the Creator, yet because the Holy Scriptures give us more light for this knowledge, I shall place here some signal places from them that may serve us for this. And in the first place I shall place those that are found in the book of holy Job, because both he and the friends who dispute with him treat magnificently of the greatnesses of God, whose knowledge they attained by the marvels that they noted in the works of nature, of which we treat here. For although holy Job recognized by special revelation the mystery of our Redemption and that of the general resurrection, yet the friends who disputed with him did not attain these mysteries, and therefore they proceed by the consideration that we said of created things.

This matter is very sweet and agreeable to the lovers of God. For just as he who loves a person greatly rejoices to hear the praises and excellences of him, so those who truly love God receive great consolation hearing his greatnesses and marvels, and together with this there grows in them the reverence of so great a Majesty and the fear of offending it. We shall then place in the first place the words of holy Job, and afterward those of his friends, and this with some declaration so that they may be better understood, taking some things and leaving others, as it shall appear most fitting.

Holy Job, then, begins to treat of the greatness of the power and justice of God, saying thus: "Truly I know that man cannot be justified compared with God, and if he wishes to put himself in justice with him, of a thousand charges that he should make against him he will not be able to answer one. Wise is he of heart, strong and powerful: who ever resisted him and had peace? He is the one who with his omnipotence overturns the mountains, without the dwellers of them being able first to know it, whom he with the fury of his wrath destroyed. He is the one who moves the earth from its place, and makes its columns burst. He is the

one who, when it pleases him, commands the sun not to rise, and the stars not to give light. He is the one who stretched out the heavens alone, and the one who walks upon the waves of the sea. He is the one who created diverse stars and constellations in the heaven for the government of the world. He is the one who does great and incomprehensible and marvelous things, which have no count. If he should come to my soul, I shall not see him, and if he should go away, neither shall I understand it, and if suddenly he should wish to examine man, and enter into judgment with him, who will answer him, or who will be able to say to him why do you do this? He is the one whose wrath no one can resist, and before whose regard kneel the angels who move the

heavens. Then who am I that I can answer him and dare to speak with him? For although I have something to allege on my part, I shall not answer him except with all humility, and I shall ask him pardon. And he having heard my prayer, I do not think that he has heard me. If you seek strength, he is most robust; if equity of judgment, no one will dare to advocate for me. If I should wish to justify myself, my own mouth will condemn me, and if I should wish to show myself innocent, he will show that I am guilty." Thus far are words of holy Job, which show what high thoughts this saint held of God, and how lowly and humbly of himself. And farther on, treating of the same matter, he says thus: "In him is wisdom and strength, in him counsel and intelligence. If he should destroy, there is no one who may build, and if he should enclose or imprison the man, there will be no one who may loose him. If he should detain the waters, everything will dry up, and if he should send them with too much abundance, all the earth will be drowned. In him is power and strength, and he knows the deceiver and the deceived. He permits by his secret judgments that counselors err in their counsels, and that the judges and princes of the earth come to remain astonished by the greatness of their calamities. He removes the belt from powerful kings, and makes them come to gird their loins with a rope. He takes away their glory from priests, and abases the pride of the powerful and great. He permits that the wise err in their counsels, and that doctrine be lacking to the old and aged. He makes princes be despised, and lifts up the fallen and oppressed. He is the one who reveals what is in the depth of the darkness, and brings to light what was beside the shadow of death. He is the one who by his secret judgments multiplies the peoples and destroys them, and after they have been destroyed restores them." "Hell is naked before him, and the place of perdition has nothing with which to cover itself. He is the one who sends the wind that blows from the band of the north over the element of the air, and seated the earth in the place that it now has upon nothing. He is the one who gathers and binds the waters in the clouds, so that they may not fall full upon the earth. He is the one who clothes and adorns his royal throne, which is heaven, and covers it when he wishes with the clouds and with the mist. He put a limit to the waters of the sea, which will endure while in the world there shall be light and darkness. The columns of heaven tremble at his presence, and fear at any sign of his indignation. By his virtue and strength the seas came out of their natural place, and were gathered into their proper bosom, leaving the earth uncovered. His spirit adorned the heavens, and by the virtue of his hand the coiled serpent went out, casting the perverse demon from the company of the holy angels."

This is a small part of the greatnesses of God. And it being true that all of it is scarcely a little thread of water in comparison with what remains to be said, who will be able to suffer the thunder of his greatness, which frightens the ears of our souls no less than thunder? All that up to here has been said are words with which holy Job declares what he felt of the omnipotence, wisdom, and justice of God.

I

Now let us see what concerning this matter his friends say, one of whom says thus: "Perchance will man be able to be justified by comparing himself with God, or will he be able to be purer than his Maker? See that the angels who serve him do not have by themselves stability and firmness in their being and in their grace, and in some of them he found wickedness. Then how much more will

men who dwell in houses of clay, which is this corruptible body composed and kneaded from the mire of the earth, be worn and consumed as clothing is worn by the moth?" This says one of the friends of holy Job.

Another, speaking of the same God, says thus: "The greatness of his power and of his justice is such that it causes terror and fright in men. Perchance will anyone be able to count the number of the ministers who serve him, to whom he communicates the splendor of his light? Perchance will man be able to be justified compared with God, or appear clean who was born of woman? The moon itself does not shine before him, and the stars are not clean in his regard. Then how much less will man be so, who is a rottenness, and the son of man, who is a worm?"

Another friend of the same saint, treating of this same greatness, declares how God is incomprehensible, by these words: "Perchance will you find the trace of the footprints of God, and will you know perfectly him who is all powerful? He is deeper than hell; how will you know him? His measure is longer than the earth, and broader than the sea. If he should overturn all things, and heap them together in one place, who will be powerful enough to contradict him or say to him why do you do this? For he knows the vanity of men, and he, who sees their wickednesses, does he not take account of them to punish them?"

After these two friends of Job, the youngest of them takes the hand, and treating of the greatnesses of God, says thus: "His eyes are set upon all the ways of men, and he takes account with all the steps of their life. There are no darknesses nor shadow of death where those who work wickedness can hide themselves. He is the one who breaks and destroys many and innumerable, and puts others in their place, because he knows the evil works of them. And for this he turns the clear day for them into the dark night, which is the time of prosperity into adversity, so that thus those may be punished who almost by industry departed from him, and did not wish to understand his ways. These made the cry of the needy, and the groans and voices of the oppressed poor, reach his ears. When he shall grant peace, who will there be that condemns? And when he shall hide his face, who will be able to contemplate him? He is the one who has universal lordship over all peoples and over all men, and he is the one who permits that the evil king reign in the world because of the sins of the people." "Lift up, Job, your eyes to heaven, and contemplate and look at the height and the breadth and the almost infinite greatness of it, so that at least by this you may see how much higher God is than you. If you should sin, in what will you harm him? And if your wickednesses should be multiplied, what evil will you do him? And if you should be just, what will you give him for that, or what will he receive from your hand? The man who is like you your wickedness will be able to harm, and the son of man your justice will be able to help." "This is the sovereign and great God in his power and strength, and no less is he so in his wisdom. Who will be able to scrutinize his ways, and who will be able to tell him that he does anything against justice? All men have knowledge of him, but each one looks at him from afar. Behold here the great God who overcomes our wisdom, and the number of his years is inestimable. He suspends the waters of the rain, and afterward pours them in great abundance upon the earth, which proceed from the clouds that cover the whole region of the air. These greatnesses of God frighten my heart, and draw it from its place. He is the one who contemplates all that is done beneath heaven, and the splendor of his light reaches to the ends of the earth. He is the one who thunders in the clouds with terrible sound, declaring in this the greatness

of his power. He is the one who commands the snow to descend downward, and sends the waters of winter to water the earth. From the band of the south he sends the tempest and the whirlwinds of the waters, and from the band of the north he sends the colds, and with the breath of this wind the waters are frozen, and after being frozen with the heat they melt and pour out in great abundance. The sown fields desire the clouds, and they temper the brightness that they receive from the sun, and scatter them over the earth, which circle the world wherever that sovereign Governor directs them, they obeying his commandment, and extending themselves over the face of the earth now in one place, now in another, wherever his mercy directs them." Finally this friend of Job finishes his discourse saying that we must praise him with fear and trembling because of the greatness of his Majesty, adding that "no understanding can worthily know him, because he is in all things great, great in strength, in judgment, and in justice, whose greatness cannot be explained with words. Therefore men will fear him, and those who hold themselves for wise will not presume to

contemplate him daringly."

These are the greatnesses of God that men attained by considering the properties of created things and the course and order of the heavens, which preach the glory of God and declare the wisdom and marvelous artifice of his works.

Let us now hear, after holy Job and his friends, the Prophets. Among whom Isaiah, speaking of the greatness of this sovereign Lord, says thus: "Who measured the waters with his fist, and spanned the heavens with the span of his hand? Who has hanging from three fingers the weight of the earth, and seated the mountains and hills with weight and measure? Who helped the spirit of the Lord in this so great work, and with whom did he take counsel to fabricate it? All the peoples compared with him are like a little thread of water and like a grain of weight that is loaded upon the balance. The islands are like a little bit of dust before him, and all the wood of Mount Lebanon, with all the animals that there are in it, would not suffice to offer him a worthy sacrifice. All the peoples in his regard are as if they were not, and as nothing are reputed before him. He is the one who is seated above the circle of the earth, and the dwellers of it are like some grasshoppers in his presence. He is the one who stretches out the heavens like a curtain, and makes of them a tabernacle for his dwelling. He is the one who permits that the scrutinizers of secrets err in their counsels, and discomposes the judges and powerful in such manner as if they had never been planted, nor sown, nor rooted in the earth. With the breath of his wind these were dried, and a whirlwind carried them off like a light straw; then with whom have you compared and equaled me, says the holy God? Lift up those eyes to heaven, and look who it is who created all that which you see. He is the one who ordered by his account the army of the stars, and the one who calls all of them by their name. Then why do you say, Jacob, and speak, Israel, saying: God does not see my ways nor take account with me? Perchance do you not know and have you not heard that God is an eternal lord, who created the limits of the earth, who neither tires nor labors in the government of the world, nor is there anyone who can comprehend the greatness of his wisdom? He is the one who gives forces to the weary, and makes strong and vigorous those who seem to have no being." All these are words of Isaiah, which give us testimony of the greatness, of the power and of the wisdom and providence of our Creator.

To this same tone Jeremiah speaks, saying: "You, Lord, made the heaven and the earth with your great strength and with your powerful arm, and for this nothing will be difficult to your great power. You are the one who uses mercy with your servants for thousands of years, and punishes the sins of the fathers in the children after them. Most strong, great, and powerful, whose name is Lord of hosts, great in your counsels and incomprehensible to all understandings. Whose eyes are set upon the ways of all the children of Adam to give to each one his deserved thing according to his works, and according to the fruit of his inventions." This is from Jeremiah.

Let us come to the holy King David, who in Psalm 88, treating of this same greatness, says thus: "Who in the clouds will be equaled with the Lord, and who among the sons of God will be similar to him? He is praised and glorified in the council and assembly of the saints, and is great above all those who assist before him. Lord of the virtues, who will be similar to you? Powerful are you, Lord, and the truth of your words is together with you. You have lordship over the waters of the sea, and you calm the impetus of its waves. You took vengeance upon the proud one, and with the arm of your power destroyed all your enemies. Yours are the heavens, and yours the earth, and you created the roundness of it with all that it embraces. You made the sea and the impetuous winds that lift it. Mount Tabor and Hermon in your name shall rejoice, clothing themselves with groves and freshness, and your arm alone is the powerful one." And in Psalm 73, treating of this same matter, he says thus: "God our King before all ages worked salvation in the midst of the earth. You, Lord, opened and confirmed with your power and virtue the sea, and broke the head of the dragon in the waters. You opened fountains and streams in the desert, and dried the great and mighty rivers. Yours is the day and yours is the night, you fabricated the sun and the morning. You created all the limits of the earth, and winter and summer are works of your hands." Thus far are the words of the Psalm.

II

These authorities that we have alleged here declare to us the greatness of the power and of the wisdom of our Creator, which awaken in religious souls a great admiration and reverence of so high a Majesty, and a holy fear of offending it; but because this Lord is no less great in wisdom, companion of his omnipotence, than in the other perfections of his, therefore it will be necessary to touch here something of it, alleging some places of Scripture that treat of it. Among which one very signal one is Psalm 138, which treats of the immensity of this wisdom, speaking with God by these words: "Lord, you have proved and known me, and you know all that I do being seated or lying down. You know from afar all my ways, and no word comes out of my tongue that you do not know. You, Lord, know all things past and future. You formed me and placed your hand upon me. More admirable is your wisdom than what I can attain, higher than all that I can comprehend. Where shall I go, Lord, that I may absent myself from your spirit, and where shall I flee from your presence? If I should ascend to heaven, there you are, and if I should descend to hell, you are also there present. And if in the morning I should take some very light wings, and with them fly to the last ends of the sea, from there your hand will draw me out, and your right hand will seize me. But I said

within myself: Perchance will the darknesses hide me from you? But the night will be as clear as the light of day to comprehend me in my delights. For the darknesses are not dark before you, and the night will be clear to you as the day." This is from David.

There is another testimony no less illustrious from Ecclesiasticus, which says thus: "The man who, committing adultery, does not make account of this sin, comes to say within himself: Who sees me? The darknesses cover me, and the walls have me hidden. What do I have for which to fear? The Most High will not remember my sins. This such man fears nothing more than the eyes of men, and does not understand that the eyes of God are clearer than the light of the sun, which are always looking at all the ways and steps of men, and the depth of the abyss, and the hearts of mortals, and the most hidden thing of them. For all things were present to our Lord God before they were created, and so clearly he sees them now after they have been made." And the same Ecclesiasticus in another place, intending to warn the man who does not fear to offend God, says thus: "Do not say, I shall hide myself from God and, who from on high will remember me? In a great people I shall not be known. For what thing is now my soul among so much infinity of creatures? See then, O man, that the heaven, and the heavens of the heavens, and the abysses, and all the earth, and all the things that there are in it, move in the presence of God, and in all these things the heart of man is insensible, and he understands all that passes within their hearts. But who will be able to hit upon and attend to the ways of God?" The conclusion of what has been said is that all things, as the Apostle says, are naked and uncovered before his eyes.

And thus we confess that he has always and actually present the thoughts of all men who were, are, and shall be until the end of the world, as well of those who have to be saved as of those who have to be condemned. And this is not much for him, because all these thoughts Christ our Savior knows, not only insofar as God, but also insofar as man, since he has to be judge of the one and of the other, and thus it is fitting that he know the processes and lives of all. This serves so that men may fear to offend God, remembering that they sin in the eyes and presence of the Eternal Father and of his only-begotten Son our Savior, who says by his Prophet: "I am judge and witness," says the Lord.

Chapter XXXVIII. Of the immensity and greatness of the perfections of our Lord God as it is gathered from the greatness of his works

What up to here has been said is what the Holy Scriptures preach to us of the immensity and greatness of our Creator. Now we shall proceed in this same matter by the works that he has made in this world, as well by those that he has revealed to us in Holy Scripture, as by those that are attained by the light of reason, because

these give clear testimony of the greatness of their author. But before we descend to these works, I shall point out here one principal difference, among many others, that there is between the Creator and his creatures. And this is that all creatures have their limits and terms as far as their nature and virtue extends, so that they have limited being, and thus power, and

knowledge, and virtue, and all the other faculties that follow from this being; and this limit is according to the measure that the Creator wished to distribute to his creatures, giving to some more and to others less, as it pleased his divine will. But he, as he had no superior who created him, so neither had he anyone who limited for him his being, or his power, or his knowledge, or his goodness, or his happiness, or any of his other perfections. And for this, just as he lacks limit and term, so in all and through all he is infinite. In such manner that his being is infinite, and his power infinite, and his knowledge infinite, and his goodness infinite, and his beauty, his glory, his riches, his mercy, his justice, and all his perfections are infinite. And therefore he is in himself incomprehensible and ineffable, whose greatness no creature created, nor to be created, can comprehend, because he alone perfectly knows and comprehends himself.

For this we have a very accommodated example in the kings of the earth, who in their kingdom distribute charges and offices to diverse persons as it seems to them, limiting to each one the jurisdiction that he can use without prejudice to that of another. But the king who limits these jurisdictions has supreme and universal jurisdiction in all his kingdom, without recognizing a superior. And therefore there cannot be pointed out nor taxed to him any jurisdiction and faculty so great that it does not extend itself to more and more, without term or measure. And this manner of jurisdiction is called infinite in this sense, that you cannot point out to it any term in which it cannot pass farther on in matter of lawful jurisdiction. Then by this example we shall easily understand what has been said, making comparison of the Creator to his creatures as of the king to his officers. It is true that in this the comparison fails, because the jurisdiction of the king is in a certain manner infinite, as we declared, but that of the Creator is fully and in all manners infinite, which is still proved by another reason. For according to the common sentence of philosophers and theologians, God is a thing so great that not only can there not be another greater, but neither can a greater be thought. Then since it is a greater thing for the perfections to be infinite than finite and limited, if the perfections of God were in this manner limited, already we could think other perfections greater than his, which is impossible by the aforesaid sentence, which is that God is a thing so great that another greater cannot be thought.

But before we enter into this sanctuary, where things so great have to be explained, I shall take as theme and foundation of them those words of an angel, who represented the person of God, who, being asked by the father of Samson what he was called, responded: "Why do you ask for my name, which is admirable?" This is a word that comes so proper to the greatness of God and of all his works that there is none so small that, if it is well considered, it does not suspend our spirits in admiration of its Maker, and does not make us say: Why do you ask for my name, which is admirable? Tully, great orator, says that no account is to be made of eloquence that does not arrive at putting the hearers in admiration. Then if human wit, helped by only study and human diligence, can arrive at making a discourse so perfect and finished that it puts in admiration as many as hear it, what must be presumed of the works traced and fabricated by that infinite Wisdom (in comparison with which all the wisdom of the cherubim is ignorance), especially in the greater works of which here we shall begin to treat? Of which, whoever does not wonder and does not remain as astonished considering them, it is because he does not understand them totally, because the majesty and splendor of them blinds his sight.

Beginning, then, with the work of creation, I say that although what Saint Augustine says were true (and Ecclesiasticus appears to feel the same), that God created all this great fabric of the world with all that there is in it together, yet with all that, with supreme and divine counsel Moses divided the works of Creation into six days. For since it is true that God created all things for love of himself, that is, for manifestation of the greatness of his perfections, our understanding could not have embraced a thing so great and that

comprehended so many and so great things as this whole world, and thus it would have fainted with the consideration of so many and so great things together. And therefore the Prophet divided it into many parts, chiefly because each work of these six days by itself is so great and has so much to consider, that each one of them could be divided into many other parts in order to be considered perfectly.

It is also to be noted here that to create, speaking properly, is not to make from one thing another, because this is called generation, but it is to make from nothing something, which is a thing so proper to God that it cannot be communicated to any creature, however most perfect it may be.

For we see in the changes of natural things that, the greater the distance is from one extreme to another, so much the greater virtue is required to cause this change. And thus we see how much more difficult it is for earth or water to be changed into fire than air. Then since the distance that there is from not being to being is infinite, because another greater cannot be imagined, it follows that infinite power is necessary for this work, and this belongs to God alone, who calls the things that are not as if they really were.

I

Beginning, then, to treat of the works of the six days in which God created all things, on the first day it is said that he created heaven and earth: by which we understand the heavens together with the four elements that are beneath them: earth, water, air, and fire. I do not wish to heighten here the greatness of the power that sufficed so that from nothing, that is, without any preceding matter, this so great body of the earth should come to light, with all its mountains and hills, because this whole body is no more than a point in comparison with the greatness of the heavens, but of the greatness of them alone, which is such that if those who determine it were not so wise and so exercised in the science of astrology, it would not be credible. It is true that to him who attends to the immensity of the power of God (he having created these bodies to show in them the greatness of his power) what is written of this greatness will not be incredible, always presupposing that the superior heaven is much greater in quantity than its inferior, and thus ascending through all of them up to the Empyrean, whose greatness cannot be explained, which is the royal palace and dwelling of God and of all his chosen ones. Then from what quarry, let us see, did God bring to light these so great heavens? And descending lower, from what abyss did he draw out these so great seas? From what place did he draw out this so great body of the earth, and place it in the middle of the world? Who, says God by holy Job, opened the foundations of the earth, and seated it in its place by weight and measure? Upon what bases is it firmly seated?

Let us not stop at the ninth heaven, which they call the first mobile, which with its movement snatches and moves all the other inferior heavens, and makes them make one turn around the world in a natural day, nor also at the Empyrean heaven, which is above all, whose greatness is so much greater than that of all its inferiors, as it occupies a greater place, nor are there indications in mathematical science with which this can be settled. Let us stop only at the greatness of the starry heaven, where there is so much infinity of stars of very different greatnesses. Then let us estimate now: what will be the power that with a simple sign of his will brought to light, from the darknesses and abysses and from nothing, all this so great machine, and not of one heaven alone, but of so many heavens together? Men, to make a house, must first gather the materials from which it has to be made, and masters who make it, and laborers who serve the masters, and diverse tools for the work, and plans and models before it is made. And with all this after much time they give end to this work. For Solomon spent seven years in the fabric of the temple, bringing to it one hundred and fifty thousand men who were occupied in the work, with three thousand and three hundred masters who governed the people. And with all this apparatus so great a king made a house that, compared with the rest of the world, is scarcely a nest of ants. But that most omnipotent Creator, without any of these aforesaid things, in an instant, with a single word, created these bodies of such incredible greatness. But it becomes credible, considering the greatness of the stars, among which there is none so small that it is not much greater than all the earth, given that from here they appear so small, because of the very great distance that there is from the

earth to the eighth heaven, where they are, which can be understood by the thickness of the heavens. Wherefore those who treat of this matter say that, if God should convert the earth into a star, and should put it, not already in the eighth, but lower, in the sixth heaven, it would not be seen by our eyes because it is so small. Then let him who has discretion consider now how great the number of the stars of heaven is, among which there are some of so notable greatness that they are one hundred times greater than all the earth. Then according to this, how great will the heaven be where there is so much infinity of stars, and so many spaces where many more could fit? And all this so admirable machine the Creator formed from nothing with only this word, Fiat. This is a thing that the philosophers of the world could never finish believing, because they did not understand how it was possible for something to be made from nothing, chiefly considering that in all natural changes they saw that there was always presupposed something from which another should be made. For which either they believed that the world had been ab aeterno, or they said that God and prime matter, which they called chaos, from which they believed all things to have been made, were ab aeterno. But the Catholic faith, taught by God, preaches to us that his power is infinite, and that thus he can make from nothing something, and that with that power he could create a thousand worlds in a point, if he wished. For to all this and much more the immensity of his power extends. This is a marvel that suspends and exhausts all understandings, and makes them unable and incapable of being able to estimate a thing so great, and thus they fall as if stunned, because they cannot wade this so deep sea. And thus they come to reprehend their daring of wishing to measure and think things so great, chastising themselves with those words of the angel: Why do you ask my name, which is admirable? This, then, is the work of the first day.

Let us come to that of the second. On this day the whole earth was covered round about with water, as the lighter element that had its seat and natural place and as its own center over the body of the earth. And because, the earth being thus, it did not give place to the habitation

of men, for whose profit the elements had to serve, with all the other creatures, the Creator commanded the waters to leave this their position and natural place, and to gather themselves into another bosom, and to leave the earth uncovered. And the waters, as if they had sense to know, and ears to hear, and feet to flee, suddenly abandoned the earth and the natural position that belonged to them, and moved to the place that they now have, which is neither natural, nor can it be called violent, because there is no violence where the creature obeys the commandment of its Creator. And what is more: without his making walls or barriers so that the water should not run to its natural place, it remains quiet and fixed, having no more barrier than loose sand. And although its waves rise one after another up to the clouds, so that they seem to come to cover the earth, on arriving at the sands they recognize the terms and the law that is set for them and, breaking there all their fury, they pass no farther. Which marvel God heightens many times in Holy Scripture, especially in chapter 38 of Job, which we already alleged, and more particularly in Jeremiah, saying: "Will you not fear me, nor tremble at my presence, who was powerful to put the sand as term and wall of the sea? And its waves shall grow fierce and shall swell, and they shall not pass over it." And since the Creator himself so much amplifies the greatness of this power, with reason we can here repeat the words of the angel: "Why do you ask for my name, which is admirable?"

Let us come to the work of the third day, which has more differences of things to consider than the second, which is when the Creator commanded the earth to produce every kind of plants and groves. Then with this commandment alone of the Creator, without more seeds, without more labor, without influences of the sun and of the planets and stars, which were not yet created, the earth produced so many differences of plants, of herbs, of flowers, of trees, for so many uses and profits of human life as we declared above, and therefore we do not repeat it in this place. For the eyes of that Lord, to whom all the future is present, saw the things of which our life had necessity, and for all he provided remedy. But among so many species and differences of trees, which have neither count nor number, one of those that should give us knowledge of his providence are the great pines that grow in some parts, chiefly in Germany, so great, so long, so thick, and above all so

straight, that neither with rule nor plummet could they come out straighter, which serve for masts of great ships and galleons that sail from West to East (which are five thousand leagues of water) through very tempestuous seas, of which I saw one lying on the bank of Lisbon, of so strange a greatness that it put me in admiration. Whereby it appears that the Creator saw that these so great seas had to be navigated, and from the beginning of the world, among other infinite differences of trees, he also created these so great, so straight, so beautiful, and so accommodated to the end for which he created them. For by this means faith also sails together with merchandise to the end of the world.

II

Nor is less admirable, but much more, the work of the fourth day, where God said, "Let there be lights in the heaven, so that they may give light to the earth." And by the virtue of this word alone there came to light the sun, the moon, the morning star with the other planets, and all the other

infinity of innumerable and resplendent stars that beautify, more than the flowers and roses of spring, that so great vault of heaven, whose number, greatness, virtue, and efficacy who will be able to explain? And after it has been explained, who will be able to believe it? Who will believe that the sun is one hundred and sixty-six times greater than all the circle of the earth together with the water, appearing from here as small as the head of a man? Who will believe the frightful lightness that the Creator gave it to move? For we see that, when in the morning this our world begins to be discovered, in less than a quarter of an hour all of it is discovered, which is to run so many leagues and so much space as the circle of the earth occupies, multiplying this space one hundred and sixty-six times, which is the quantity that the body of the sun occupies. Then what ray falls from heaven that moves with such lightness? And if the earth, as the mathematicians say, has in roundness six thousand and three hundred leagues, let whoever knows this multiply this number of leagues all these aforesaid times, and he will see how many thousands of leagues this planet runs in so brief a space as that in which it is discovered when it is born. And considering this, he will not be able to fail to remain astonished, knowing by this the greatness of the omnipotence that could give such lightness to this star, or to speak better, to the heaven where it is, by whose movement it is moved. But the marvel does not stop here. For a much greater marvel is to consider the lightness with which the ninth heaven moves, which is above the heaven of the stars, which they call the first mobile, which makes one turn around the world in the space of twenty-four hours, and snatches and moves together with itself all the other inferior heavens. For we presuppose that the higher one heaven is than another, so much the greater space and place it occupies, and so much with greater lightness it moves. Then this first mobile being five heavens above the sun, it follows that it will move with more than doubled lightness than the fourth heaven, where the sun is. And if the lightness of the sun so much frightens us, how much more will that of the ninth heaven frighten us, which moves with so much greater lightness? What ray will there be so light that it is not the step of a tortoise, and much less in comparison with it? Then what understanding will there be that does not faint, considering the greatness of the power that could cause such lightness? And over this marvel there is another no lesser, and it is that one single angel is the one who, applying his virtue to this so great machine of the ninth heaven, moves it from the beginning of the world until today without ceasing, and without tiring, and without another changing turns in this office, and this with so great a measure that after the Creator delivered this charge to him until today, he has not lost a single point of this measure, nor by this care does he lose a point of the glory that he enjoys seeing the face of his Creator. And by reason of this measure the astrologers hit upon the eclipses of the sun and of the moon many years before, because this movement is so regular and so infallible. Then what is the power that gave such power to a creature? Who will not humble and prostrate himself and make himself a little worm before so great a Majesty? Who will have daring to offend so powerful a Monarch and Lord of heavens and earths? Who will not see with how much reason that angel said in the person of God: "Why do you ask for my name, which is admirable?"

The greatness of the sun, which we have already said, is attained by the measures and rules that the astrologers have for this. But that it is greater than the body of the earth, together with the water, is seen by sight through this experience: if you put before a lighted torch a hat, which is a body greater than the light of this same torch, the shadow of this hat, the farther it goes forward, the more and more it will always go extending and widening. But if you should put in place of it an apple, which is a body smaller than the

flame of the torch, its shadow on the contrary will always go diminishing and narrowing until it is entirely undone. Then this we see by experience: that when the sun at night is on the other band of the world beneath the earth, the shadow of it goes always narrowing, so that it reaches no farther than the heaven of the moon, and therefore it eclipses it when it happens to place itself beneath the earth opposite it, but there this shadow ends, so that it does not reach to the third heaven, where the morning star is, which is not eclipsed, because the shadow of the earth does not reach to it. Which openly declares the Sun, which appears so small to us, to be greater than all the body of the Earth and water, since, when it is beneath the earth, the shadow of it always goes narrowing in such manner that it does not pass beyond the heaven of the moon, which is the one that is nearest to us.

Then the greatness of its virtue, of its heat and clarity, who will explain it? Anaxagoras, distinguished philosopher, was so amazed at the virtue and clarity of this planet that, asked for what he had been born, he responded that it was to see the sun: so much did he marvel at the beauty and efficacy of this star. Then what was the virtue of that Lord who, by only commanding, kindled a lamp that gives light to all that he has created, excepting hell, because the earth impedes it, and the Empyrean heaven, because this has another more excellent manner of light, which is the Lamb of God, as Saint John says?

III

Nor is it a thing of lesser admiration to have created so great a number of stars, which only he, who created them, can count. And if each one of the stars is greater than this lower world that we understand by sea and earth, what will it be for him to have created innumerable stars, except to have created innumerable worlds, so much more beautiful and precious than this one, as the matter of the stars is more excellent than that of the elements? And all of them, together with the Sun and with the Moon, were created with a single word.

Let us come to the fifth day, when God said: "Let the waters produce fish and birds in their genera and species." And leaving infinite things that there are here to consider, of which we have already said something, one alone I wish to ponder. Let man consider how many differences of birds of diverse conditions and species fly through the air, and from there let him descend to the sea, and look at that admirable fecundity of so many differences of fishes and shellfish, and of so many figures and forms of them, some so great that they frighten with their greatness, and others of so strange a make that they no less frighten with their artifice and figure, some of them as armed as a man is with jointed armor, and others unarmed, which serve as maintenance for the others. And let him also consider the great fecundity of the fish that are contained beneath one species, which surpasses that of the animals of the earth and of the birds of the air. For these are found in certain places, but the sea is almost entirely curdled with fish. But because of this matter we have already treated something, at present I shall say no more than one thing of greater admiration than all, and this is that, the species of the birds of the air, of the fish of the sea, and of the animals of the earth being almost infinite, all the philosophy of the world did not find a single one that was not most perfectly fabricated in its species, without there being in them a thing that is superfluous or that is lacking. From which flowed those four signal sentences of philosophers, of which one is that the works of nature are fabricated by

an intelligence (that is, by a most perfect and supreme wisdom) that does not err in what it does. Another is that the author of nature always does what is better and more perfect. Another is that nature does not fail in necessary things, and another that God and nature do not make a superfluous thing. From these two last sentences it is inferred that in all this infinity of species of fish and birds and animals there will not be found

a thing of which it can be said "this is superfluous," or "this is lacking," but that all are complete and perfect, each one in its genus.

Then let the discreet reader now consider what may be the power and the knowledge of that Lord who without labor, without instruments, without materials, and without space of time, with a single word created this infinity of species of birds and of fish with so much perfection and with so much provision of members and abilities for their conservation, that if he had been thinking for a thousand years, in a manner of speaking, how he could fabricate each creature of these, he would not have made it in another manner than he made it, since his wisdom does not grow with years and with time. And if he preserved this perfection in one single species of animals, it would not be so admirable a thing, but to preserve it in so great an infinity of animals, which almost surpasses the number of the stars of heaven, and for all of them to come to light in a moment, with only an "I will," this is a thing that surpasses all admiration. And although the work of the fourth day, when the stars and planets of heaven were created, by which the world is governed, is admirable, yet it appears to me that this of the fifth day is more so. For although the stars have singular properties and virtues for influencing the bodies of the earth, yet in figure there is little difference of some from others except that some are greater and others lesser; but in the bodies of the fish, and still more of the birds, there is so much variety of members, of organs, and of senses to conserve themselves in their being, that almost all that rigging and harmony of members that we placed in the human body is in each one of these birds.

And if the fabric of the human body, which God formed on the sixth day, is so admirable, how much more will that of so many thousands of bodies of animals be, which with one word were created on the fifth? This is a thing of so much admiration that it alone, in the judgment of Solomon, is sufficient cause to induce men to the fear and reverence of so great a Majesty. Conformably to which, he says: "There is nothing that can be added or taken away from the things that God created in order to be feared." He means to say that all the works of God are made with so much perfection that there is not in any of them a thing that can be added as necessary, nor that can be taken from it as superfluous. And for this to be found in so great an infinity of creatures, without one single species being able to be pointed out in which there is an error or a point more or less, who does not see this to be a work that incites us to an admiration of so great power and knowledge, and to fear and reverence of so great a Majesty, who did all that he wished with so much facility in heaven and on earth and in the sea and in all the abysses?

IV

This is the knowledge that the work of Creation, chiefly of the heavens, gives us of the greatness of the power and of the wisdom of the Creator, of whom the Prophet says that the heavens preach the glory of God, and that there are no tongues, nor nations so barbarous that they do not understand this language. Upon which Saint Chrysostom says: "What is this? How do the

heavens preach this glory? They have no voice, no tongue, no mouth: then how do they preach?" This, he says, they do by representing the greatness, the height, the beauty, the site, the form, and the constancy of them, by which in so many thousands of years they have neither aged nor been worn away with such continuous movements, nor altered the course of them; and when we see this, we adore him who created such beautiful bodies, and with such sight we know the greatness of that Majesty.

Let us now see this same thing by the work of the general resurrection, which faith proposes to us, which holy Job by special revelation of God, before the Gospel and before the law, knew and testified by these memorable words: "Who would give me that these my sermons were written? Who would give me that they were sculpted in a book with an iron pen, or on a plate of lead, or on living rock. For I know that my Redeemer lives, and on the last day I have to rise again, and again I have to be surrounded with this skin of my body, and in this flesh of mine I have to see God, whom I myself have to see, and my eyes have to see him, and not another than the one I now am. This hope I have kept in the bosom of my soul." This so great

mystery could not have been represented with greater clarity and greater apparatus of words than those of this holy man. Then this that faith preaches to us reason also testifies, because this is conformable to the rectitude and fulfillment of divine justice, so that since the body together with the soul, while in this world they lived, were occupied either in serving God or in offending him, it is just that in the other they be rewarded and punished. Then let us now consider how great the power may be that in one point and, as the Apostle says, in the space of a shutting and opening of the eye, will resurrect on that fearful day of judgment all the bodies of men, and they will be joined with their proper souls, so that thus the whole man, who is composed of body and soul, may rise again, either for pain or for glory. Then how so great will be the power of that Lord who, by the ministry of an archangel and terrible sound of a trumpet that will sound through all the regions of the world, will resurrect the bodies, of which some will have been made earth, others ashes, others eaten by birds, others by fish, and others by other men! And all these have to rise again. And those who were eaten by other men will rise again, both the eaten and the eaters. And the teeth and skulls and bones that at that time shall be whole, although they be scattered through all the world, will come to recognize one another, and to be joined as brothers and fitted into their proper places, as they were when they lived. Let us think, then, now how many teeth of men will be scattered at the hour of the general resurrection in all parts of the world, outside their skulls. These will perhaps be more than the stars of heaven, and God knows where they are, and to what head they belong, in order to come to join themselves with it. And with these teeth being so similar among themselves, some will not be exchanged with the others, but all will recognize their owners and their proper places, and in them they will return to be fixed. Then what is the power and the knowledge that extends to here?

Eusebius recounts in book V of the Ecclesiastical History that in a persecution that there was in the time of the emperor Antoninus Verus in Lyons and Vienne, cities of France, where the martyrs who suffered were innumerable, not content with this, the tyrants burned and turned into ash those sacred bodies, and cast it into the Rhone River, so that it might carry it away. And in this manner it appeared to them that they finished conquering our God, and took away from us the hope of the resurrection. For they said: These hope

that sometime they have to rise from the sepulchers, and for this, deceived with this vain superstition, they offer themselves to torments and to death. Then now let us see if they will rise again, and if their God will be able to avail them and deliver them from our hands. Then this being so, what is that power and that knowledge that will know how to make difference among so much confusion and multitude of ashes, in order to know which part of them belongs to the body of one martyr, and which to another, in order to change that ash into its proper body? Then who does not go out of judgment considering and adoring and being stunned by this so great power and knowledge?

But with this being a thing so great that it surpasses all admiration, it does not surpass the faith that the faithful ought to have of it. For which serves the example that, for confirmation of this truth, the Apostle brings, of the virtue that the Creator placed in all the seeds of herbs and trees, in each one of which he placed virtue so that from it may be born the plant from which the seed proceeded: and what is more: it is fitting that this seed die so that, dying, it may rise again and fructify. Farther on we shall explain this example more entirely, by which it will be seen how worthy of faith this mystery is, although it appears so arduous. For to the rectitude and perfection of divine justice, as we say, it belongs that the same body that was instrument and companion of the soul in evil or in good, be participant with it in its evil or in its good. For otherwise the evil, as Eusebius Emisenus says, could pamper their bodies with every kind of vice, presupposing that other new bodies had to be tormented, and not theirs. And for this it is fitting, as the Apostle says, that this corruptible body rise incorruptible, and that which now is mortal clothe itself with immortality, so that thus it may receive its due punishment or reward. Then in this work no less, but perhaps much more than in the past one, is seen the immensity of the wisdom and omnipotence of the Creator, because to know where are the ashes and the relics and the matter of as many bodies as there have been, from the beginning of the world

until it ends, and where are those who died drowned in the sea in the time of the flood and in the other shipwrecks that have happened and hereafter will follow, who does not see how frightful a work this is? And if these bodies were whole with all their frame, like that of Lazarus four days dead, or like that of the widow's son whom the Savior resurrected, it would not frighten us so much, but they being already eaten by fish or birds or men, and converted into the substance of them, this is a thing that exhausts all human understandings, because for this, the Apostle preaching this mystery in Athens, the Athenians mocked him, saying that he was a "preacher of new demons." But to this Saint Augustine responds, saying: "Let us concede that God can do something that we cannot understand." And Solomon also responds, saying: "Just as you do not attain the manner in which the body of a child is fabricated in the womb of the pregnant woman (where there is so great an infinity of members and organs and senses, and all so concordant and proportioned to the service and use of the human body), so you cannot attain the marvels and secrets of the works of God, who is the Maker of all things." Holy Job also responds, who says that God does great and admirable things, and such that human understanding cannot scrutinize nor understand how they are possible. Then by this marvel, which surpasses all understanding, it is known how incomprehensible is the majesty and greatness of that sovereign Lord who knows and can do such things, and with how much reason that angel who represented him said: "Why do you ask for my name, which is admirable?"

Let us come to another work in part similar to this one, which also serves for confirmation of the past one, which is the admirable virtue that the Creator placed in the seeds of all things, as well of plants as of all animals, which, as a great philosopher said, also exhausts all understandings, like the past one, and serves much for the faith and belief of it, as we have just said. How admirable a thing it is that a seed so small of an orange has within itself virtue so that from it may be born a tree so beautiful as an orange tree, so fragrant when it is flowered, and so showy when it is loaded with fruit. Nor is it a lesser marvel that in a little pine nut there is virtue to produce so great a tree as a pine. This marvel grows still more, as the Savior declares in the Gospel, in the little grain of mustard, which, being so small, has virtue so that from it may be born a tree so great that the birds of the air can sit in its branches. Who, then, was powerful to place in a thing so small so great a virtue? Then from this virtue that there is in seeds the Apostle profits to persuade the mystery of the resurrection. Let us pass to the animals. How admirable is the virtue that the Creator placed in the egg of a peahen, from which in so brief a space is born a bird so beautiful as the peacock, with all that fineness of feathers that we declared above! But let us come to man and, leaving Absalom with his hair of gold, and his brother Adonijah, no less beautiful than he, and Queen Helen, because of whom Troy was lost, let us set our eyes on holy Judith, and on Queen Esther, and on Tamar, daughter of David, and on the three last daughters of holy Job, whose beauty the Holy Scriptures magnify, and passing in haste over the matter from which this so great beauty was forged, and marveling at this, let us consider what may be the power of that sovereign artificer, who from a thing so vile could form a thing of so great beauty, which many times has sufficed to make the judgments of infinite men go astray. And thus their strayings come to be testimonies of this admirable artifice of the Creator. For so great is the perversity of many men that, from where they had to take motive to glorify the painter of such a figure, they take it to offend him and lose judgment, health, and at times life, and above all their souls.

To this example I shall add another no less admirable. We see in the eggs that every day we eat a white streak attached to the yolk and white of the egg. Then in that streak so small is the formative virtue of the chicken that is born from the egg, in which there is almost all that we placed in the fabric of the human body. And if we look at the egg of a dove, that little streak is so much smaller than the other, as its egg is smaller than that of the hen. And if we pass to that of a swallow, it will come to be as small as the head of a pin. Then in that so very small streak the Creator placed virtue to fabricate from that little egg a body of a little bird, which, though being so small, has all that fabric and rigging of members and organs and senses that above we placed in the human body, with its stomach, liver, spleen, lungs, guts, veins, nerves, arteries, and with a heart in which there fit passions of sadness, fear, and wrath, and imagination, and sense in part spiritual, because

lifting its eyes to the hawk, it knows that it is its enemy, and has fear of it. And there will not be lacking someone who holds this for a marvel so much greater than the fabric of our body, as this little body is of lesser quantity, since for this greater artifice and subtlety of it is required, as above we declared treating of the mosquito. Then of all this fabric the master, who is the efficient cause, is that white little streak that we said. For just as to make a chest or a chair the matter is necessary, which is the wood from which it is to be made, and the officer who makes it, so in this little egg that we said both things are present, because the

matter is the egg, and the efficient cause of this fabric is that white little streak that we said, because here is the formative virtue of this body. Then how so great is the omnipotence of him who could give to so small a substance so great virtue and faculty? Then what understanding is not exhausted considering the greatness of this power? Who does not reverence and adore this so great Majesty, who was powerful to give virtue to a substance so small (as we said) as the head of a pin, so that in the space of fifteen or twenty days it should finish so great a fabric, that neither the labyrinth of Daedalus nor the palaces of Solomon, which he built in the space of three years, had so many compartments, and offices, and chambers, and inner chambers as the body of this little bird has? Truly, Lord (says the Prophet), admirable are your works, and my soul knows it much. Then this marvel declares to us that he will be able to resurrect a body from the ashes that remained of it, who could give virtue to so small a matter for this so great fabric.

Then what shall I say of the little egg of a shad, from which without other industry is born so great and so savory a fish? And if this puts us in admiration, much greater admiration should the little egg of a sardine put in us, which will be little greater than the point of a pin, from which is born a sardine, which in so small a body has so many instruments and senses, as well to swim as to seek its maintenance, as any other great fish. And when the body and the little egg are smaller, so much the greater is this marvel. Nor even is the fecundity and fruit of this little fish less admirable, since it is common maintenance of the sea and of the earth, as we said above.

V

Let us pass from here to another marvel no lesser than the past one. The philosophers say that the soul that we have comes from outside, and does not come out of the matter of our body as the souls of the other animals do. For since it is spiritual substance in the manner of the angels, it cannot proceed from a material or bodily thing, since there is no proportion from the one to the other. But they saying this that reason attains, do not declare whence this soul comes, since it comes from outside. But this that they did not attain the Christian religion teaches us, saying that God by himself creates souls and infuses them into the bodies after they have been organized in the entrails of their mothers. And it is held that the body of the male, at forty days after its conception, is organized, and that of the female at sixty.

And at the point that this fabric is finished, which is like building the house with its offices for lodging of the soul, at that point and moment it is by God created and infused into the body. Then let us now begin to philosophize upon this. And let us now extend our eyes through all the universe world, which is through the three principal parts of it, which are Asia, Africa, and Europe, and in the fourth that now has been discovered in the Western Indies, which they call the New World, and let us run through all the islands of the archipelago and through all those of the Ocean Sea, and through all the lands of barbarians and black people who dwell beneath the torrid zone, and finally through all that the Sun surrounds, and let us look how many women will be pregnant in all these hemispheres, and how many boys and girls will have arrived at this point at which the soul has to be infused into them, and we shall see that by day and by night God has to be creating

souls, and infusing them into the little bodies, and this without lacking one single point of the time in which they arrive at this disposition. And this he does not only in this present century and age, but from when he created the world until today. And it will happen that many of these organized little bodies are at the same

point, some in the East and others in the West, that is, in most distant places, and God assists without lacking a point, and without making lack in one part by assisting another. And this he does, not by virtue of the influences of heaven nor by ministry of angels, but by himself alone. And neither by this so continual and punctual occupation does he lose that most blessed peace and happiness in which he lives, nor does this put him in care and solicitude to assist so many parts. Then I ask now: what is the wisdom of such a Lord, who knows the disposition in which all the children of the world are in the wombs of their mothers, in order to assist at the point that they are organized to infuse into them the souls, since the same mothers do not know it? And what is the universal assistance, without ever lacking at the appointed term? And what is the power of the Lord who creates from nothing a substance so spiritual and so beautiful, in which the image of God shines forth? This is a thing that conquers all our admiration and understanding, and declares to us how much that most blessed Substance differs from all human power and knowledge.

With this marvel I wish to join another very similar, although in a more excellent matter, which is the consecration of the body and blood of our Redeemer. For we hold as an article of faith that, when the priest has finished pronouncing the words of the consecration, at the point when he finishes the last of these words, which are the form of this most divine Sacrament, the divine presence and omnipotence assists there to work (as Saint Thomas says) the greatest of all his miracles, changing the substance of the bread into his most sacred body, with which together is his most holy soul with all the Divinity, and this, which is another marvel, is not only in all the consecrated host, but also in any particle of it. For which reason many times (when hosts are lacking) we receive communion with one of these particles. Then let the discreet reader now consider how many masses will be said each day in all the churches of Christendom, some in the parts of the East and others of the West, and others in other places, and how great is the wisdom of this great God who knows all the points at which the last word of the consecration is finished in all parts of the world, without lacking one single moment, and what may be the power of him who suddenly changes one substance into another. This is a thing that suspends and surpasses all understanding, given that what true philosophy has to confess of the creation of souls, of which a little while ago we spoke, is no small argument for the faith of this mystery. For he who can assist so punctually (as we said) to create so many souls, and infuse them into the little bodies at the point that they finish being organized, can also assist at this transformation of the material bread into his most sacred body. But without these examples faith alone suffices, as the Church sings, to confirm our heart in the belief of this mystery, protesting that the power of that most high God is so great and so incomprehensible that he can do infinite things that we cannot understand, as holy Job testifies. Then what remains here except to reverence and adore that immense Majesty, and by the greatness of this power know the height of the being whence this power is born, and confess that, as our understanding faints in the knowledge of the power, so, and much more, it faints in the knowledge of the being?

VI

But I wish to give end to this matter by proposing another singular marvel of our Creator, which is the general assistance to all created things. For which it must be presupposed that there are two manners of efficient causes, some that serve only to make the work, and do not pass farther on after it has been made, as the master who makes the house or the painter who paints the figure, and others that not only make the things, but also after they have been made conserve them in the being that they gave them, as the Sun does, which produces from itself the rays of the light, and itself is conserving them in that clarity that it gave them, in such manner that, if it should fail to produce them, at this point they would cease to be. Then in this second manner the Catholic faith confesses that that sovereign Lord is cause of all created things, because he by his sole goodness and will gave them the being that they have, and he himself is conserving them in that same being that he gave them. And this with so great dependence that, if he ceased one point from this office, all of them would return into that nothing from which they were made. So that just as, the weights of a clock stopping, all the wheels of it would stop, and all that movement and concord of giving its hours would cease,

so this whole machine of the world would stop and would be annihilated, if that sovereign Lord who sustains all things, with the word of his virtue, should cease to conserve them.

For which it is necessary that he be within all of them, conserving them in their being, not only by his presence and power, but by his very essence. For the understanding of which it is to be noted that all the other causes produce their effects by means of the virtue that they have, as fire heats by means of the heat that proceeds from it, and the stars and planets by means of their influences; but in God there is not this distinction of essence and of virtue, because in that most high and most simple nature no accident can fit, because all that there is in God is God, without mixture or composition of another thing. And therefore, wherever there is something of God, there he is, since neither does this supreme simplicity suffer division, so that part of him can be in one place and part in another. And because the cause and the effect have to be together and touch one another, and being is the most universal and most intimate effect of all things, since there is none that lacks it, it follows that God is in the most intimate part of all of them, touching the being that they have and conserving it. For which reason the same Lord says that he fills the heavens and the earth. This is a marvel and excellence of that most high substance, that, being most simple, it is all in all the world, and all in any part of it, since there is no created thing that has being by itself, except he alone, who depends on no one.

But the business passes still farther on. For he is not only conserving cause of the being of creatures, but also of all the acts and natural movements that there are in them. So that no one can move the foot nor the hand, nor open the mouth, nor close the eyes, except by virtue of him. And thus he is more cause of all these acts and movements than the man himself who makes them. Avicenna said that God did no more than assist at the order and movement of the heavens, and that by this means he governed the things of this lower world. But Christian philosophy passes farther on, confessing that the first cause, which is God, concurs with all the other inferior causes, as well universal as particular, all of which are instruments of the first cause, and thus all their effects are attributed more to the principal cause that makes them than to the instruments with which he makes them, since it is more properly said that the painter paints the image than the brush with which he paints it.

Then according to this, what can we think that Being is, which not only fills heavens and earth, as we already said, but also concurs as principal cause with all the acts and natural movements of all the creatures of heaven and earth, and neither is this able to diminish one point of his happiness and blessedness with the care and providence of assisting so great an infinity of things? Then whoever considers these marvels, how will he not see with how much reason that angel said "why do you ask for my name, which is admirable?"

Then from the consideration of all these greatnesses that we have here declared, there follows in the soul a great amazement and admiration of that divine Being, knowing that he is immense, infinite, incomprehensible, and ineffable, and that not only whatever can be said, but whatever can be conceived and understood of his greatnesses, is almost nothing in comparison with what remains to be known. For what the creature, even though it be angelic, can know, is finite, just as it is finite, but the greatness of him is infinite. And thus there is no proportion between what is understood and what remains to be understood. For this David said that "God surrounded with darkness the tabernacle of his dwelling," to signify that no created understanding can come to comprehend the height of his divine essence. And this is represented to us by the same Prophet saying of him that "he ascends above the cherubim, and that he flies upon the wings of the winds," to give to understand that even those sovereign spirits, in whom the treasures of divine wisdom are deposited, remain low in this knowledge, and that they lose from sight him who flies upon the feathers of the winds. And this same thing those two seraphim figure to us whom Isaiah saw at the two sides of God, who with their wings covered his feet and his face, to represent this same incomprehensibility of God, whom they see in such manner that they do not reach from end to end, nor comprehend how much there is in him.

What up to here has been said opens the way for us to negative theology, of which Saint Dionysius is a great master. For which it is to be known that in this life we have two manners of knowledge of God, one that they call affirmative, and another negative. The affirmative is when, tracing by the perfections and beauties that we see in the heavens, sun, moon, and stars, and in all the other creatures, we lift ourselves to know how much more perfect and beautiful will be the Creator who formed them, in whom all of them are together with infinite eminence and advantage. This we call affirmative knowledge, because it affirms and confesses that all these perfections are in God. But negative is that which, presupposing how low and limited all our concepts are, denies all these perfections of God in the manner that we conceive them and attribute them to him, saying that God is not great in that manner, nor beautiful, nor wise, nor powerful, etc., as our understandings conceive him, because he is in another very different manner great, beautiful, wise, and powerful, which all created understandings cannot attain. And in this manner, denying these perfections that we conceive of God, we praise and glorify him more, confessing that his greatness is infinite, immense, incomprehensible, and ineffable.

VII

And to form in our souls some concept, although confused, of that most high Substance, we must take as foundation a common sentence of the same Saint Dionysius, who says that in each one of the creatures there are three things, which are being, power, and working. Which are so consequent among themselves that by the one we know the others. For by the works we know the greatness of the power, and by this the greatness of the being, whence they proceed. Then these same three things, which are being, power, and working, we consider in God our Lord, although in him all are one same thing. Then of his works we have treated up to here, and by the admirable greatness of them we know the greatness of the power whence they flowed, and by the greatness of this power we know that of the being, given that the one does not equal the other, because that being extends to much more than the power declares. For with the facility with which he created this world he could create with a single word another thousand worlds as great and greater than this, as ahead we shall declare. Then let us estimate now what that being will be in whom this so admirable and frightful power fits. What comparison is there of every other created power, since none is powerful to create an ant?

Understood, then, the infinite distance and difference that there is from the power of the Creator to every other created power, we shall understand that which there is from created being to the being of the Creator. And conformably to this we say that that most high substance differs infinitely from every other substance, which has another manner of being, and of power, and of greatness, and of wisdom, and of beauty, and other infinite perfections that no created understanding can comprehend. And for this, to know something of him, we must leave beneath our feet all the creatures of heaven and of earth, and pass in flight over all that can be sensed and imagined and understood, in order to arrive in some manner at that Substance that surpasses all senses and understandings, and differs and infinitely has advantage over all else, which neither has figure, nor quantity, nor quality, nor any other bodily sense, nor by any of them can it be sensed, nor has it need of light, nor is it subject to any division or diminution, nor is it soul nor power of the soul, nor body nor form of body, nor can it cease to be, nor be more than what it is, because in him is all being, nor is it reason nor intelligence in the manner that we can understand, although it is another manner of reason and of intelligence and of life; nor is it great, nor good, nor wise, nor powerful, nor beautiful in the manner that we imagine, because he is in another very different manner great, and good, and powerful, and beautiful, and wise.

For which reason not only Saint Dionysius, but also Plato, who was before him, although a gentile philosopher, when he treats of the divine perfections, uses these terms: superhuman, superpowerful, superbeautiful, superwise, giving to understand by this manner of speaking the supereminence and advantage of the divine perfections over all that our understandings can attain, because he is a substance above every substance, and a life above every life, and a light above every beauty, which our understandings do not attain, and a sweetness that surpasses every sweetness, which our senses do not attain, and not only ours, but also

those of all the angels, cherubim, and seraphim. So that the perfections that all created understandings attain of the Creator fall so short of him, that with more truth we shall deny them to him than attribute them to him. Which theology Ecclesiasticus declared to us by these words: "Glorify God as much as may be possible for you, because he is greater than all that you can say of him, and you who

bless the Lord, exalt him as much as you can, because he surpasses all praise. Who saw him, so that he can recount his greatnesses? And who will be able to exalt him as much as he deserves? Many other things there are that are hidden from our understandings, because few are his works that we have seen."

Then the religious soul considering this, and seeing that no title, nor name, nor attribute, nor praise comes to explain what God deserves, and all the perfections and praises of men and angels remain infinitely low to explain what he is, already desists from these names, and understands that there remains to it an immense sea and abyss of incomprehensible greatnesses into which to enter, and thus it remains in a holy silence and fright of such greatness, and with this, not understanding, it understands, and not knowing, it knows, because it knows this Lord to be incomprehensible and ineffable. And with this it praises him more than with all the names and excellences that it can attribute to him. Which the Royal Prophet signified when, according to the translation of Saint Jerome, he said: "To you, God, praise is silent in Zion," giving us to understand that the most perfect praise of God is this holy silence and fright that we say, with which the religious soul remains as if absorbed and stunned with a great admiration of so incomprehensible a Majesty.

This is the theology that Saint Dionysius repeats so many times. And thus in one place he says: "The darkness and shadows in which God is said to dwell is an inaccessible light, which, as the Apostle says, no man saw, nor can see." And by the very case that he neither sees nor knows, he joins himself familiarly to that Lord who surpasses all knowledge. And in another place he says that in this holy ignorance is the true knowledge of that Lord who is above every understanding and every substance. Wherefore this supreme theologian concludes the matter saying that we shall see this great secret of the sovereign Deity, which transcends all understandings, with a sacred reverence of our soul and with a chaste silence. And he calls chaste silence that which dismisses from itself all curiosity of understanding, and remains in an amazement and admiration of so great a Majesty, which ties the tongue and the understanding, and leaves it as if sunk in the sea and abyss of this greatness, where no bottom is found, and then it sings with the Prophet: "To you praise is silent, God, in Zion."

All that up to here has been said serves so that, in some manner, according to our rudeness, we may understand some small part of the immensity and greatness of our sovereign God and Lord, which those seraphic spirits that assist before his Majesty know in such manner that they are as if prostrate and sunk before it, holding themselves for some vile little worms in the presence of such greatness, and thus they adore, reverence, and tremble before it. And for this it is said in the book of holy Job that "the columns of heaven, which are those sovereign spirits who govern the world, tremble in the presence of so great a Majesty." Although this trembling is neither painful nor servile, but filial and reverential, because, knowing the immensity of that greatness, they understand that, just as to the greatness of Goodness supreme love is owed, so to the height of Majesty supreme reverence and fear.

But let us come to consider in our God not only his greatness, of which up to here we have treated, but his magnificence and liberality, and the dependence that we have on him,

since, as has been said, in him we live, and we move, and we are, and our life is hanging as from a little thread of his will alone. Which he signified by Isaiah when he said that he was the one who gave power to breathe to the men who dwell on the earth, signifying by this that he is the one who is always sustaining and conserving us, which is like always creating us, always doing what he once did, and providing us for this conservation with all the gifts and benefits of his providence; and even the very angels who see his beauty he did not wish to be exempt from our guard. Finally, all that we are and possess and hope, to him we owe it, in

such manner that, if he did not maintain us, we would die of hunger. If he did not dress us, we would perish of cold. If he did not defend us, we would be killed at the hands of our enemies. If he did not govern us, we would eat one another alive. If he did not illumine us, at every step we would fall through the darknesses of our ignorance. If he did not console us, we would soon be consumed with anguish and sadnesses.

VIII

Let us begin, then, now to philosophize upon this doctrine. The greatnesses of our Lord God being so sovereign and so incomprehensible as we have seen, and his benefits being so many and such, and the dependence that our being and life have on him being so great, it follows that nothing can be imagined more obligatory, more just, more due, more necessary, more important, more honest, and more excellent than to serve, honor, love, reverence, praise, and adore this Lord. And this obligation is so great that all those that we have to parents, friends, and benefactors, or to the kings and princes of the earth, or to any other excellent person, joined in one, are not called obligations, compared with this one, just as all their excellences and perfections, compared with the divine ones, are not called perfections. This follows from what has been said.

And it also follows that, just as that sovereign Father is always conserving us and sustaining us without ceasing one point from this office, so it was just that the creature should always be occupied in his praises and service. And just as to fulfill this obligation is the most due and most just thing of as many as there are in the world, so not to fulfill it is the most unjust and worst in the world, whence is born that any offense made against that sovereign Majesty is of infinite gravity. And the reason is clear. For it is a notorious thing that, the higher a person is, so much the graver is the injury made against him, in such manner that as many as are the degrees of the dignity of the person offended, so many are those of the offense committed against him. Whence it is inferred that, since the Majesty of God is infinite, so too is the gravity of the fault committed against it. And truly it is so, and as such there corresponds to it in the other life infinite pain, both because it deprives man of an infinite good, which is God, and because it has to last for an infinite space, which is forever, while God shall be God.

Then this being so, what tears, what feeling, what words will suffice to explain so great an evil as it is to see the facility of those who believe and confess all this, in offending this so great Lord, and provoking to wrath the eyes of his Majesty? What blindness is this? What amazement, what bewitchment with which the demon has overturned the hearts of

men, so that they do not know this so great evil? How do they forget him who always carries them in his arms, whose is the air with which they breathe, whose is the earth that sustains them, and the sea that maintains them, and the sun that illumines them, and the other elements that serve them, and the angels who guard them? How do they dare to offend that immense and infinite Majesty, whose offense is of as much gravity as is the greatness of his being? How are they almost always offending him who is always sustaining and governing them? How do they dare to offend a Lord whom the principalities adore, and before whom the powers tremble, and the columns of heaven shake? How do they dare to offend him who, after the body is dead, can cast the soul into the hells? This is that fright with which Isaiah began his prophecy, saying: "Hear, heaven, and hear also, you earth, because God has spoken. Children (he says) I have raised and exalted, and they have despised me. The ox knew his possessor, and the ass the manger of his lord, but Israel has not known me, nor has my people understood: Woe to the sinful nation, and to the people loaded with wickednesses, evil seed and perverse children! They abandoned the Lord, blasphemed the Holy One, estranged themselves from him, and turned backward." This forgetfulness and contempt of God there was in that people, and this we see in thousands of Christians in this time. And for this I do not marvel that that just judge scourges us with so many manners of calamities, with so many hungers and pestilences and deaths and wars and uprisings of peoples and, what is worse, with so great an infinity of heresies with which so great a part of Christendom is stained and, over all this, with his having permitted that so many kingdoms and nations of Christians, where at one time the faith and worship of God so flourished, are now occupied and

vassalized and tyrannized by most cruel infidels. For, as God is just, just as sins grow in all parts, so at the same pace the scourges are multiplied. Among which the greatest is not to know by the scourges the wrath of him who scourges us, nor to understand that this comes because of sins, nor for that reason to have more amendment of them. This declares that there are evil spirits, enemies of the human race, deceivers and overturners of hearts. And this also is an indication to us of divine wrath, which by its secret judgments permits this so strange amazement and blindness in men, so that "having eyes they may not see, and ears they may not hear, and with heart they may not understand, and having faith and judgment they may not profit from the one nor from the other, and seeing men die every day, they may not remember that they are mortal, and being so acute for the businesses of the world, and so sensitive to their grievances, they may be so insensible to the mortal wounds of their souls."

Then just as by what has been said we understand how great an evil it is to offend that sovereign Majesty, so also we understand how necessary true religion is, which, all sins abhorred and abominated, is employed in serving and honoring the same God. For according to the rules of philosophy, the more evil a thing is, so much the more good is its contrary; and since it is so great an evil to offend God, by this it will be understood how great a good it is to honor and serve him, which is the proper office of true religion, to which not only the divine and human laws incite us, but also nature itself, as all the nations of the world show us, among which there is none so barbarous nor so fierce that it does not have some knowledge of God, and does not offer him some manner of worship and reverence, although it does not know which is the true God. From which it is inferred that necessarily there has to be in the world some true religion, with which the true God may be duly and holily honored and venerated. For otherwise, vain would be this

natural inclination, if this religion were lacking. This, then, is the sum and the conclusion of the First Part of this book, to which all that is written in it is ordered.

For for this reason we have treated in it so at length of the greatnesses and perfections of God, and of the multitude of his benefits, according as they shine forth in all creatures, so that clearly may be seen the obligation that we have to venerate and reverence this so great Majesty and Goodness, which is the proper office of religion.

It remains now to inquire which is the true religion and worship with which he has to be honored. For there have been seen in the world many manners of ceremonies with which blind men have pretended to honor those whom they held for gods. Of which some were superstitious, others vain, which had no power, others bloody, in which they sacrificed men, others foul and dishonest, in which they prostituted virgins for honor of the goddess Venus, others most shameless, as those that they made to the goddess Flora and to the god Priapus, of which mention is made in Holy Scripture, and others extravagant and mad, as those that were made to the god Bacchus, men making themselves drunk, and doing a thousand outrages and madnesses. Then what can we say of all these manners of religions, except that they were such as the gods who by them were venerated, who were the demons? And from such gods, what other religions could be expected?

And that these religions are false, and unworthy of God, is shown clearly by this reason. For the true religion has to be with works that please and honor God, and nothing among as many things as there are in the world pleases him except to hold high thoughts of his greatnesses and perfections and to imitate him in holiness and purity of life, because this makes man similar to God, who is holiness and purity itself. And since likeness is cause of love, it follows that those who have this holiness and purity of life will be those who will please and honor him, whence it is also inferred that only the Christian religion is the true one, since it is the one that holds the highest thoughts of the greatnesses of God and of his divine perfections, and the one that professes and teaches greater holiness and purity of life. And besides this we shall show here that all the conditions that the true religion has to have, in it alone are found with so much perfection that another greater cannot be imagined. Which we shall manifestly declare in the Second Part that follows. And in this will be seen how this First Part is ordered to the Second. But because in this Second Part there is treated of the excellences of

the Christian faith and religion, before we treat of them, it will be necessary to declare what faith is, and of two manners that there are of faith.

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