Epistle 1

On Number

Praise be to God, and peace be upon His servants whom He has chosen.

Know, O righteous and merciful brother, that since it is the way of our noble Brethren—may God strengthen them—to investigate all the sciences concerning the beings that exist in the world, whether substances or accidents, simple or abstract things, individual or composite things; to inquire into their principles, the number of their genera and species, their particular properties, their order and arrangement as they now exist, and the manner in which they came into being and arose from one cause, one principle, and one Originator—exalted is His majesty—and since they seek evidence for explaining these matters through numerical examples and geometrical demonstrations, just as the Pythagorean sages used to do, it became necessary for us to place this epistle before all our other epistles.

In it we shall mention something of the science of number and its properties, which is called **arithmetic**, by way of an introduction and preliminary principles, so that the path toward the pursuit of wisdom, which is called philosophy, may be made easy for learners and its acquisition brought nearer for beginners in the study of the mathematical sciences.

We say:

Philosophy begins with the love of the sciences; its middle is knowledge of the realities of existing things according to human capacity; and its end is speech and action in accordance with knowledge.

The philosophical sciences are of four kinds: first, the mathematical sciences; second, the logical sciences; third, the natural sciences; and fourth, the divine sciences.

The mathematical sciences are of four kinds: first, arithmetic; second, geometry; third, astronomy; and fourth, music.

Music is knowledge of the composition of sounds, through which the principles of melodies are derived.

Astronomy is the science of the stars through the demonstrations mentioned in the *Almagest*, the book on astronomy by Ptolemy, the Greek scholar.

Geometry is the science of geometrical measurement through the demonstrations mentioned in the book of Euclid.

Arithmetic is knowledge of the properties of numbers and of the meanings of existing things that correspond to them, as mentioned by Pythagoras and Nicomachus.

Thus the first thing to be investigated among these philosophical sciences is mathematics; and the first part of mathematics is knowledge of the properties of number, because it is the

easiest of the sciences to grasp. After it comes geometry, then harmony, then astronomy, then logic, then the natural sciences, and then the divine sciences.

This is the first thing we say concerning the science of number, by way of an introduction and preliminary principles:

Words indicate meanings, and meanings are the things named, while words are the names.

The most general of words and names is our expression **"thing."**

A thing is either one or more than one.

The **one** is spoken of in two ways: either truly or metaphorically.

The one in truth is that which has absolutely no part and cannot be divided. Everything that cannot be divided is one in respect of that aspect in which it cannot be divided.

Or, if you wish, you may say: the one is that within which there is no other, insofar as it is one.

As for the one metaphorically, it is every totality of which it is said "one," as when one says "one ten," "one hundred," or "one thousand."

The one is one through unity, just as the black thing is black through blackness. Unity is a quality of the one, just as blackness is a quality of the black thing.

Multiplicity, however, is a collection of units.

The beginning of multiplicity is two, then three, then four, then five, and whatever comes after them, however far it may extend.

Multiplicity is of two kinds: either **number** or **numbered things**.

The difference between them is that number is the quantity of the forms of things in the soul of the one who counts, whereas numbered things are the things themselves.

As for calculation, it is the combining and separating of numbers.

Number is of two kinds: whole number and fractions.

The one that precedes two is the root and principle of number. From it all number arises, both whole number and fractions, and to it number returns when analysed.

Whole number arises through increase, whereas fractions arise through division.

An example of the arising of whole number is as follows:

When another one is added to one, the two are called **two**.

When another one is added to them, the whole is called **three**.

When another one is added to them, it is called **four**.

When another one is added, it is called **five**.

According to this measure, whole number arises through the successive addition of one after another, however far it may extend:

1, 2, 3, 4, 5, 6, 7, 8, 9.

Likewise, the analysis of number back into one proceeds according to the following example:

If one is taken away from ten, nine remain.

If one is taken away from nine, eight remain.

If one is subtracted from eight, seven remain.

According to this same measure, one after another is removed until one remains.

Nothing can be removed from one, because it has absolutely no part.

Thus it has become clear how whole number arises from one and how it is resolved back into it.

As for the arising of fractional number from one, it is according to the following example.

If the whole numbers are arranged according to their natural order—one, two, three, four, five, six, seven, eight, nine, ten—and then one unit is considered out of each totality, it becomes clear how fractional number arises from one.

If one is considered out of two, that one is called a **half**.

If one is considered out of a totality of three, it is called a **third**.

If one is considered out of a totality of four, it is called a **quarter**.

If one is considered out of a totality of five, it is called a **fifth**.

Likewise there are the sixth, seventh, eighth, ninth, and tenth.

If one is considered out of a totality of eleven, it is called one part out of eleven.

Out of twelve it is half of a sixth.

Out of thirteen it is one part out of thirteen.

Out of fourteen it is half of a seventh.

Out of fifteen it is a third of a fifth.

According to this example all the other fractions are considered.

Thus it has become clear how all number, whole and fractional alike, arises from one, and how one is the principle of them both.

Know, O brother, that whole number has four ranks: units, tens, hundreds, and thousands.

The units extend from one to nine.

The tens extend from ten to ninety.

The hundreds extend from one hundred to nine hundred.

The thousands extend from one thousand to nine thousand.

All of these are expressed through twelve simple words: the ten words from one to ten, together with the word “hundred” and the word “thousand,” making twelve simple words in all.

The other expressions are derived from these, compounded from them, or repeated.

The repeated expressions include twenty from ten, thirty from three, forty from four, and the like.

The compounded expressions include two hundred, three hundred, four hundred, and five hundred, for they are formed by combining the word “hundred” with the other units.

Likewise two thousand, three thousand, four thousand, and so on are formed by combining the word “thousand” with the other expressions of units, tens, and hundreds.

Know that the fact that number has these four ranks—units, tens, hundreds, and thousands—is not something necessary and inseparable from the nature of number, as are its being even and odd, whole and fractional, and its various divisions.

Rather, this is a conventional arrangement established by the sages through deliberate choice.

They did so in order that numerical matters might correspond to the ranks of natural things.

For most natural things were made by the Creator—exalted be His praise—in groups of four.

Among these are the four natures: heat, cold, moisture, and dryness.

Among them are the four elements: fire, air, water, and earth.

Among them are the four humours: blood, phlegm, yellow bile, and black bile.

Among them are the four seasons: spring, summer, autumn, and winter.

Among them are the four directions: east, west, south, and north.

Among them are the four cardinal points: the Ascendant, the Descendant, the Midheaven, and the lower angle of the Earth.

Among them are the four kinds of generated beings: minerals, plants, animals, and human beings.

According to this model, most natural things are found in groups of four.

Know that most of these natural things became fourfold through the providence of the Creator—exalted be His praise—and through the requirement of His wisdom, so that the ranks of natural things might correspond to the spiritual things above them, which are not bodies.

The things above nature are of four ranks:

first, the Creator—exalted is His majesty;

below Him, the Universal Active Intellect;

below it, the Universal Soul;

and below it, Prime Matter.

None of these are bodies.

Chapter 1 — The Four Spiritual Ranks and the Correspondence of Number

Know, O brother—may God strengthen you and us with a spirit from Him—that the relation of the Creator, exalted be His praise, to existing things is like the relation of one to number; the relation of Intellect to existing things is like that of two to number; the relation of Soul to existing things is like that of three to number; and the relation of Prime Matter is like that of four.

Know, O brother—may God strengthen you and us with a spirit from Him—that all number, whether units, tens, hundreds, thousands, or whatever exceeds these however far it may extend, has as its roots the numbers from one to four:

1, 2, 3, 4.

For all the remaining numbers are compounded from these, arise from these, and have these as their roots.

The explanation is that if one is added to four, there are five; if two are added to four, there are six; if three are added to four, there are seven; if one and three are added to four, there are eight; if two and three are added to four, there are nine; and if one, two, and three are added to four, there are ten.

According to this model are all the remaining numbers among the tens, hundreds, thousands, and whatever exceeds them however far they may extend.

Likewise, the roots of writing are four, and all the other letters are compounded from them. Speech is compounded from letters, as we shall explain later. Consider this, and you will find what we have said to be true and sound.

Whoever wishes to know how the Creator—exalted be His praise—brought things forth in the Intellect, how He caused them to exist in the Soul, and how He gave them form in Matter, should consider what we have mentioned in this chapter.

Know, O brother, that the first thing the Creator—exalted be His praise—brought forth and originated from the light of His unity was a simple substance called the **Active Intellect**, just as two arises from one through repetition.

Then He brought forth the Universal Celestial Soul from the light of the Intellect, just as three arises by adding one to two.

Then He brought forth Prime Matter from the movement of the Soul, just as four arises by adding one to three.

Then He brought forth the rest of creation from Matter and arranged it through the mediation of Intellect and Soul, just as the remaining numbers arise from four by adding to it the numbers that precede it, as we explained previously.

Know, O brother—may God strengthen you with a spirit from Him—that if you contemplate what we have mentioned concerning the composition of number from the one that precedes two and its arising from it, you will find it among the clearest proofs of the unity of the Creator—exalted be His praise—and of the manner in which He brought things forth and originated them.

For although the existence and composition of number can be conceived as arising from the one that precedes two, as we explained, the one itself does not change from what it was and is not divided.

Likewise God—mighty and majestic—although He is the One who brought things forth from the light of His unity, originated them, and caused them to arise, and although through Him they subsist, endure, become complete, and attain perfection, nevertheless He does not change from the unity in which He was before bringing them forth and originating them, as we explained in the Epistle on the Intellectual Principles.

We have thus informed you, through what we have mentioned, that the relation of the Creator—exalted be His praise—to existing things is like the relation of one to number.

Just as one is the root, origin, beginning, and end of number, so God—mighty and majestic—is the cause of things, their Creator, their beginning, and their end.

Just as one has no part and no equal within number, so God—exalted be His praise—has no equal among His creation and no likeness.

And just as one encompasses the whole of number and counts it, so God—exalted is His majesty—knows things and their quiddities.

Exalted is God far above what the wrongdoers say.

Know, O brother, that among most nations the ranks of number are four, as previously mentioned. Among the Pythagoreans, however, there are sixteen ranks, extending from units through ever greater orders of magnitude.

Know, O brother—may God strengthen you and us with a spirit from Him—that fractional numbers have many ranks, because there is no whole number that does not possess one part, two parts, or several parts. Twelve, for example, has a half, a third, a quarter, a sixth, and half a sixth; likewise twenty-eight and other numbers.

Although the ranks and parts of fractional number are numerous, they are arranged one beneath another and are all encompassed by ten expressions: one general and indefinite expression and nine specific and understood expressions.

Among the nine specific expressions, one is conventionally assigned, namely **half**, while eight are derived: third from three, quarter from four, fifth from five, sixth from six, seventh from seven, eighth from eight, ninth from nine, and tenth from ten.

The general indefinite expression is **part**, because one out of eleven is called one part out of eleven, and likewise one out of thirteen, one out of seventeen, and similar cases.

The remaining expressions for fractions are formed by relating these ten expressions to one another, as one out of twelve is called half a sixth, one out of fifteen a fifth of a third, and one out of twenty half a tenth.

According to this model the remaining meanings of fractions are made clear through relating one to another.

Know that the two kinds of number extend into multiplicity without end. Whole number begins from the least quantity, which is two, and increases without end. Fractions begin from the greatest fractional quantity, which is one half, and proceed through division without end.

Thus each has a beginning that is finite, but an end that is without limit.

Chapter 2 — On the Properties of Numbers

Know that there is no number that does not possess one property or several properties. A property means a quality peculiar to the thing described, in which no other shares.

The property of one is that it is the root and origin of number, as we explained previously, and that it measures all number, both even and odd.

The property of two is that it is the first number absolutely, and that it measures half the numbers, namely the even numbers but not the odd.

The property of three is that it is the first odd number and that it measures one third of numbers, sometimes odd and sometimes even.

The property of four is that it is the first square number.

The property of five is that it is the first circular number.

The property of six is that it is the first perfect number.

The property of seven is that it is the first complete number.

The property of eight is that it is the first cubic number.

The property of nine is that it is the first odd square number and the last rank of the units.

The property of ten is that it is the first rank of the tens.

The property of eleven is that it is the first prime number.

The property of twelve is that it is the first abundant number.

In general, among the properties of every number is that it is half the sum of the two numbers bordering it. If its two neighbours are added together, they equal twice that number.

For example, the two neighbours of five are four and six. Their sum is ten, and five is half of it.

This applies likewise to the remaining numbers when considered.

As for one, it has only one neighbour, namely two; and one is its half, while two is twice one.

When we say that one is the root and origin of number, we mean that if one were removed from existence, number would be removed with it; whereas if number were removed from existence, one would not thereby be removed.

When we say that two is the first number absolutely, it is because number is a multiplicity of units, and the first multiplicity is two.

When we say that three is the first odd number, it is because two is the first number and is even; three follows it and is odd.

When we say that three measures one third of numbers, sometimes odd and sometimes even, this is because it passes over two numbers and measures every third one, and that third is sometimes even and sometimes odd.

When we say that four is the first square number, it is because it results from multiplying two by itself. Every number multiplied by itself is called a root, and the product of that multiplication is called a square.

As for the statement that five is the first circular number, its meaning is that when it is multiplied by itself it returns to itself. If the number produced by multiplying it by itself is again multiplied by itself, it likewise returns to itself, and so on continually.

Thus:

$5 \times 5 = 25$.

$25 \times 25 = 625$.

$625 \times 625 = 390625$.

And if this number is again multiplied by itself, another number ending in twenty-five is produced.

Do you not see how five preserves itself and that which is generated from it continually, however far the process extends?

Six resembles five in this respect, though not with the same constancy. Six multiplied by six is thirty-six; thus six returns at the end. But thirty-six multiplied by itself gives 1296, in which six remains but thirty does not.

Thus six preserves itself but not what is generated from it, whereas five preserves both itself and what is generated from it continually.

As for the statement that six is the first perfect number, its meaning is that every number whose parts, when added together, equal the number itself is called perfect.

Six is the first of these, because it has a half, which is three; a third, which is two; and a sixth, which is one. When these parts are added, they equal six exactly.

No number before six has this property. Numbers after it that possess it include twenty-eight, four hundred and ninety-six, and eight thousand one hundred and twenty-eight:

6, 28, 496, 8128.

As for the statement that seven is the first complete number, its meaning is that seven gathers within itself all the meanings of number.

All number is either even or odd. Among even numbers there is a first and a second: two is the first even number and four is the second even number. Among odd numbers there is likewise a first and a second: three is the first odd number and five is the second odd number.

If the first even number is added to the second odd number, or the first odd number to the second even number, the result is seven.

Thus two, the first even number, plus five, the second odd number, makes seven; and three, the first odd number, plus four, the second even number, likewise makes seven.

Likewise, if one, which is the root of number, is taken together with six, which is a perfect number, the result is seven, which is a complete number.

This property is not found in any number before seven. Seven also has other properties, which we shall mention when we discuss how existing things correspond to the nature of number.

As for the statement that eight is the first cubic number, its meaning is that whenever a number is multiplied by itself, that number is called the root and the resulting product a square. When the square is multiplied by its root, the resulting number is called a cube.

Two is the first number. When multiplied by itself, it gives four, which is the first square. Then the square four is multiplied by its root, two, giving eight. Thus eight is the first cubic number.

It is also called the first solid number, because a body can exist only through superimposed surfaces, a surface only through adjacent lines, and a line only through ordered points, as we explain in the Epistle on Geometry.

The least line consists of two parts, the narrowest surface of two lines, and the smallest body of two surfaces. From these premises it follows that the smallest body consists of eight parts: length two, width two, and depth two.

As for the statement that nine is the first odd square number, this is because three times three is nine, whereas neither seven, five, nor three is a square number.

As for ten being the first rank of the tens, this is clear, just as one is the first rank of the units.

Ten also possesses another property resembling that of one, namely that among numbers of its own kind it has only one neighbour, twenty, of which ten is half, just as one is half of two.

Eleven is called the first prime number because it has no part whose name applies to it except by saying “one out of eleven,” “two out of eleven,” and so forth.

Every number possessing this description is called prime, such as thirteen, seventeen, nineteen, twenty-three, twenty-nine, thirty-one, thirty-seven, forty-one, forty-three, forty-seven, fifty-three, fifty-nine, sixty-one, sixty-seven, seventy-one, seventy-three, seventy-nine, eighty-three, eighty-nine, and the like.

Twelve is called the first abundant number because every number whose parts, when added together, exceed it is called abundant.

Twelve is the first of these. Its half is six, its third four, its quarter three, its sixth two, and half its sixth one. These parts total sixteen, which exceeds twelve by four.

In general, there is no whole number without some property peculiar to it rather than to another, but we have omitted mentioning all of them to avoid excessive length.

Chapter 3 — Even and Odd Numbers

Know, O brother—may God strengthen you and us with a spirit from Him—that number is divided into two kinds: whole and fractional, as we explained previously.

Whole number is divided into even and odd.

An even number is every number that can be divided into two equal whole parts.

An odd number is every number that exceeds an even number by one or falls short of an even number by one.

The sequence of even numbers begins from two through continual addition of two:

2, 4, 6, 8, 10, 12, 14, 16, 18, 20…

The sequence of odd numbers begins from one by adding two continually:

1, 3, 5, 7, 9, 11, 13, 15, 17, 19…

Even numbers are divided into three kinds:

even-times-even, even-times-odd, and even-times-even-and-odd.

The even-times-even number is every number that can continually be divided into two equal whole parts until the division ends at one.

An example is sixty-four. Half of it is thirty-two; half of that is sixteen; half is eight; half is four; half is two; and half is one.

This kind of number begins from two, multiplying by two continually without end.

Whoever wishes to see this completely should double the squares of the chessboard, for nothing results there except numbers of this kind, namely even-times-even.

Nicomachus mentions other properties of this number at length. We shall mention only a part of them.

When these numbers are arranged in their natural order:

1, 2, 4, 8, 16, 32, 64…

one of their properties is that the product of the two extremes equals the square of the middle term when there is one middle term.

Thus:

$1 \times 64 = 8 \times 8$,

$2 \times 32 = 8 \times 8$,

$4 \times 16 = 8 \times 8$.

If another rank is added so that there are two middle terms, then the product of the two extremes equals the product of the two middle terms.

For example:

$1 \times 128 = 8 \times 16$,

$2 \times 64 = 8 \times 16$,

$4 \times 32 = 8 \times 16$.

Another property of this sequence is that if its terms are added from one up to any point, their total is always one less than the next number.

Thus:

$1 + 2 + 4 = 7$, which is one less than 8;

$1 + 2 + 4 + 8 = 15$, one less than 16;

and adding 16 gives 31, one less than 32.

This pattern continues however far the series extends.

The **even-times-odd** number is every number that can be divided into two equal parts only once and whose division does not reach one, such as six, ten, fourteen, eighteen, twenty-two, twenty-six, and the like.

Every one of these can be halved once without the division reaching one. This kind arises from multiplying every odd number by two.

The **even-times-even-and-odd** number is every number that can be halved more than once but whose division does not ultimately reach one, such as twelve, twenty, twenty-four, twenty-eight, thirty-six, forty-four, fifty-two, sixty, sixty-eight, and the like.

This kind arises from multiplying an even-times-odd number by two once or several times.

It has other properties, which we have omitted for fear of excessive length.

Odd number is divided into two kinds: **primary odd** and **composite odd**.

Composite odd is itself of two kinds: common and mutually prime.

The primary odd number is every number that no number other than one measures exactly, such as three, five, seven, eleven, thirteen, seventeen, nineteen, twenty-three, and the like.

Its property is that it has no fractional part except the one named after itself. Thus three has only a third, five only a fifth, seven only a seventh, and similarly eleven, thirteen, and seventeen.

In general, all prime numbers are measured only by one.

The composite odd number is every odd number measured by another number besides one, such as nine, twenty-five, forty-nine, eighty-one, and the like.

Common odd numbers are numbers sharing a common divisor besides one, such as nine, fifteen, and twenty-one, all of which are measured by three.

Numbers are called mutually prime when each is measured by a divisor different from the divisor of the other. Thus nine and twenty-five are mutually prime: three measures nine but not twenty-five, while five measures twenty-five but not nine.

Chapter 4 — On Perfect, Deficient, and Abundant Numbers

Know, O brother—may God strengthen you and us with a spirit from Him—that every odd number, when divided into two parts in whatever way, produces one even part and one odd part.

Every even number, however, when divided into two parts, produces either two even parts or two odd parts.

Know, O brother—may God strengthen you and us with a spirit from Him—that from another point of view number is divided into three kinds: perfect, abundant, and deficient.

A **perfect number** is every number whose proper parts, when added together, equal the number itself, such as six, twenty-eight, four hundred and ninety-six, and eight thousand one hundred and twenty-eight.

A **number is abundant** when the sum of its parts exceeds it, such as twelve, twenty, sixty, and the like.

For twelve has a half, six; a third, four; a quarter, three; a sixth, two; and half a sixth, one. These sum to sixteen, which is greater than twelve.

A **deficient number** is every number whose parts, when added together, are less than the number itself, such as four, eight, ten, and the like.

Eight, for example, has half, four; quarter, two; and eighth, one. Their total is seven, which is less than eight.

According to this principle are all other deficient numbers judged.

Chapter 5 — On Amicable Numbers

Know, O brother—may God strengthen you and us with a spirit from Him—that from another point of view number is divided into two kinds. One of these is called **amicable numbers**.

These are two numbers, one abundant and the other deficient, such that when the parts of the abundant number are added, their total equals the deficient number, and when the parts of the deficient number are added, their total equals the abundant number.

An example is **220 and 284**.

When the parts of 220 are added, they equal 284; and when the parts of 284 are added, they equal 220.

Such numbers and their like are called amicable numbers, and they are rarely found.

Chapter 6 — On the Increase and Doubling of Number

Know, O brother, that among the properties of number is that it accepts doubling and increase without end.

This occurs in five ways.

One is according to the **natural sequence**:

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12…

Another is according to the **sequence of even numbers**:

2, 4, 6, 8, 10, 12, 14…

Another is according to the **sequence of odd numbers**:

1, 3, 5, 7, 9, 11, 13, 15, 17…

Another is through subtraction in whatever manner occurs, as found throughout arithmetic.

And another is through multiplication, as we shall explain.

Chapter 7 — On the Properties of These Sequences

Know, O brother—may God strengthen you and us with a spirit from Him—that each of these kinds possesses several properties. These have been explained at length in the books of arithmetic, but we shall mention something of them here.

One property of the natural sequence is that when the numbers from one up to any given number are added, the sum equals that last number plus one multiplied by half of the last number.

For example, if it is asked: “What is the sum from one to ten according to the natural sequence?” add one to ten, giving eleven, and multiply it by half of ten, namely five. The result is fifty-five.

As for the sequence of even numbers, its pattern continues however far one wishes.

As for the sequence of odd numbers:

1, 3, 5, 7, 9, 11…

one of its properties is that when its terms are added in their natural order, the successive sums alternate in a determined manner and all of them are square numbers.

If asked for the sum from one through eleven in this sequence, take half of eleven, namely five and a half, complete it to six, and multiply six by itself. The result is thirty-six.

Know, O brother—may God strengthen you and us with a spirit from Him—that the meaning of multiplication is the repetition of one of two numbers as many times as there are units in the other.

Thus when it is asked, “What is three multiplied by four?” the meaning is: what is the total of three taken four times?

Know, O brother, that numbers are whole or fractional, as we explained previously. Their multiplication with one another is therefore either simple or compound.

Simple multiplication is of three kinds: whole by whole, such as two times three and three times four; fraction by fraction, such as one half times one third and one third times one quarter; and whole by fraction, such as two times one third or one third times four.

Compound multiplication is likewise of three kinds, involving combinations of whole and fractional numbers.

Chapter 8 — On Whole-Number Multiplication

Know, O brother, that multiplication of whole numbers falls under four ranks and ten combinations: units, tens, hundreds, and thousands.

Units multiplied by units form the first case.

Units by tens, units by hundreds, and units by thousands form the next three.

Tens by tens, tens by hundreds, and tens by thousands form three more.

Hundreds by hundreds and hundreds by thousands form two.

Thousands by thousands form the tenth.

Thus the total is ten cases.

Chapter 9 — On Multiplication, Roots, Squares, and Cubes

Every two numbers, whatever they may be, when one is multiplied by the other, produce what is called a rectangular number.

If the two numbers are equal, the product is called a square number, and either of the two equal numbers is called its root.

Thus:

$2 \times 2 = 4$,

$3 \times 3 = 9$,

$4 \times 4 = 16$.

Four, nine, sixteen, and numbers like them are square numbers, while two, three, four, and their like are called their roots.

Whenever two unequal numbers are multiplied together, the product is called a non-square rectangle, and the two unequal numbers are called its two sides.

Chapter 10 — On Solid Numbers

Every rectangular number, whether square or non-square, when multiplied by another number, produces a solid number.

If a square number is multiplied by its root, the resulting solid number is called a **cube**.

Thus four is a square whose root is two. Four multiplied by two gives eight.

Nine is a square whose root is three. Nine multiplied by three gives twenty-seven.

Sixteen is a square whose root is four. Sixteen multiplied by four gives sixty-four.

Thus eight, twenty-seven, sixty-four, and their like are cubic solid numbers.

A cube is a body whose length, width, and depth are equal. It has six square faces with equal sides and right angles, twelve edges, eight solid angles, and twenty-four plane angles.

If a square number is multiplied by a number smaller than its root, the resulting solid is called a **brick-like solid**.

Its length and width are equal, while its thickness is less than either.

If the square is multiplied by a number greater than its root, the resulting solid is called a **well-like solid**.

Its thickness is greater than its length and width.

If a non-square rectangle is multiplied by its shorter side, the result is brick-like; if multiplied by its longer side, it is well-like; and if multiplied by a number smaller than both or greater than both, the result is called a **board-like solid**.

The board-like solid is that whose length is greater than its width, and whose width is greater than its thickness.

Chapter 11 — On the Properties of Square Numbers

Every square number, when its two roots and one are added to it, produces another square.

Every square number, when its two roots less one are subtracted from it, leaves another square.

When two successive square numbers are taken and the root of one is multiplied by the root of the other, then a quarter is added, the result is a square.

For example, the root of four is two and the root of nine is three. Two multiplied by three gives six; adding one quarter gives six and one quarter, whose root is two and one half.

Likewise, when the roots of two successive squares are multiplied together, the product gives a middle number between them, and the three numbers stand in one proportion.

For example, four and nine are squares, whose roots are two and three. Two times three is six. Thus:

4 : 6 = 6 : 9.

The same principle applies to the rest.

Chapter 12 — Problems from the Second Book of Euclid’s Elements

Whenever one of two numbers is divided into any number of parts, multiplying the undivided number by the whole divided number equals multiplying it separately by each of the parts and adding the products.

For example, take ten and fifteen. Divide fifteen into seven, three, and five. Then:

$10 \times 15 = (10 \times 7) + (10 \times 3) + (10 \times 5)$.

Every number divided into any number of parts, when multiplied by itself, equals the sum of its products by all of its parts.

Thus if ten is divided into seven and three:

$10 \times 10 = (10 \times 7) + (10 \times 3)$.

If a number is divided into two parts, multiplying the whole by one part equals the square of that part plus the product of the two parts.

Thus if ten is divided into three and seven:

$10 \times 7 = (7 \times 7) + (3 \times 7)$.

If a number is divided into two parts, the square of the whole equals the square of each part plus twice the product of the parts.

Thus:

$10^2 = 7^2 + 3^2 + 2(7 \times 3)$.

If a number is divided into two halves and also into two unequal parts, then the product of the unequal parts together with the square of the difference between one unequal part and the half equals the square of the half.

Thus, if ten is divided into two halves and also into three and seven:

$7 \times 3 + 2^2 = 5^2$.

If a number is bisected and then increased by some amount, then the product of the whole increased number by the increase, together with the square of half the original number, equals the square of half the number plus the increase.

Likewise, the remaining propositions are established according to the same geometrical-arithmetical principles.

Chapter 13 — The Science of Number and the Soul

Know, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—that the sages placed the study of the science of number before the other mathematical sciences because this science is implanted potentially in every soul.

A human being needs only to contemplate it through the power of thought, without taking an example for it from some other science. Rather, from number examples are taken for every other known thing.

As for the examples drawn with lines in this epistle, they are intended for beginning students whose power of thought is weak. Whoever among them is intelligent and perceptive has no need of them.

Know, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—that one of our purposes in this epistle is what we explained at its beginning.

The other purpose is to draw attention to the **science of the soul** and to encourage knowledge of its substance.

For when an intelligent and discerning person considers the science of number, reflects upon the number of its genera, the divisions of its species, and the properties of those species, he knows that all of these are accidents whose existence and subsistence are in the soul.

The soul, therefore, is a substance, because an accident can subsist only in a substance and can exist only in it.

Chapter 14 — The Purpose of the Sciences

Know, O brother—may God strengthen you and us with a spirit from Him—that the purpose of the philosopher-sages in studying the mathematical sciences and training their disciples in them is to use them as a path and means toward the natural sciences.

Their purpose in studying the natural sciences is to ascend from them and rise toward the divine sciences, which are the furthest aim of the sages and the ultimate degree to which one rises through true knowledge.

Since the first degree in the study of the divine sciences is knowledge of the substance of the soul, inquiry into its origin and where it was before its attachment to the body, investigation into its return and where it will be after separation from the body—which is called death—and inquiry into how the reward of the righteous will be in the world of spirits and how the recompense of evildoers will be in the abode of the Hereafter, knowledge of the soul is therefore indispensable.

There is another reason as well.

Since the human being is summoned toward his Lord and has no path to knowledge of Him except after knowledge of his own soul, as God Most High says:

“And who turns away from the religion of Abraham except one who makes a fool of his own soul?”

That is, one who is ignorant of the soul.

And as it has been said:

“Whoever knows himself knows his Lord.”

It has also been said:

“The one among you who knows himself best knows his Lord best.”

It is therefore incumbent upon every rational person to seek the science of the soul, to know its substance, and to refine it.

God Most High says:

“By the soul and Him who fashioned it, and inspired it with its wickedness and its piety: successful indeed is the one who purifies it, and failed indeed is the one who corrupts it.”

And God Most High says, relating the words spoken in the story of Joseph—peace be upon him:

“Indeed, the soul commands to evil, except that upon which my Lord has mercy.”

And He says:

“But as for one who feared the station of his Lord and restrained the soul from desire, Paradise shall indeed be the refuge.”

And He says:

“O tranquil soul, return to your Lord, well-pleased and pleasing.”

And He says:

“God takes the souls at the time of their death, and those that have not died during their sleep.”

There are many verses in the Qurʾān indicating the existence of the soul and the transformations of its states. They constitute an argument against those materialists who deny the reality and existence of the soul.

As for those sages who discussed the science of the soul before the revelation of the Qurʾān, the Gospel, and the Torah, when they investigated the soul through the natural capacities of their hearts and derived knowledge of its substance through the conclusions of their intellects, this led them to compose the philosophical books mentioned at the beginning of this epistle.

But because they treated these subjects at length, and because those books were translated from one language into another by people who did not understand their meanings or know the intentions of their authors, understanding their meanings became difficult for those who studied them, and grasping the aims of their authors became burdensome for researchers.

We have therefore taken the essence of their meanings and the furthest purposes of their authors and presented them with the greatest brevity possible in **fifty-two epistles**, of which this is the first.

Its sister epistles follow it successively, in the order of number. You will find them, God willing.

The Epistle is complete. Praise be to God, Lord of the worlds. May God bless His Messenger Muḥammad the Prophet and his pure family, and grant them abundant peace.

Epistle 2

On Geometry and the Explanation of Its Nature

In the name of God, the Compassionate, the Merciful.

Praise be to God, and peace be upon His servants whom He has chosen. Is God better, or what they associate with Him?

Know, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—that we have completed the Epistle on Number concerning arithmetic and explained, to the extent sufficient and possible, some of the properties of number. We now pass from that epistle to this one, which is the second of the mathematical epistles and serves as an introduction to the science of geometry.

Know that the sciences in which the ancients educated their children and trained their disciples are of four genera. The first is the mathematical sciences, the second the logical sciences, the third the natural sciences, and the fourth the divine sciences.

The mathematical sciences are of four kinds. The first is arithmetic, which is knowledge of number, the number of its genera, its properties and species, and the properties of those species. The principle of this science is the one that precedes two.

The second is **geometry**, which is the science of geometrical measurement. It is knowledge of magnitudes and dimensions, the number of their species, and the properties of those species. The principle of this science is the point, which is the extremity—that is, the end—of the line.

The third is astronomy, meaning the science of the stars. It is knowledge of the arrangement of the spheres, the delineation of the signs of the zodiac, the number of the stars, their natures, and what they signify concerning things that come into being in this world through the movement of the Sun.

The fourth is music. It is knowledge of compositions and proportions among different things and among substances whose powers are opposed. The principle of this science is the ratio of equality, as the ratio of three to six is like the ratio of two to four.

As for logic, it is knowledge of the meanings of existing things whose forms are represented in the thoughts of souls. Its principle begins from substance.

As for natural science, it is knowledge of the substances of bodies and the accidents that occur in them. The principle of this science begins from motion and rest.

As for divine science, it is knowledge of forms separated from matter. The beginning of this science is knowledge of the substance of the soul, as in the case of angels, souls, devils, jinn, and spirits without bodies.

Bodies, according to them, possess three dimensions.

We have composed an epistle concerning each kind of these sciences by way of introduction and preliminary principles. The first of them was the Epistle on Number preceding this one, in which we explained something of the properties of numbers, the number of their kinds, and the manner in which they arise from the one that precedes two.

In this epistle we wish to explain and mention the foundation of geometry, which concerns the three magnitudes, the number of their kinds, the properties of those kinds, and how they arise from the point, which is the head of the line, and which in the art of geometry corresponds to one in the art of number.

Know, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—that geometry is spoken of in two ways: **intellectual geometry** and **sensible geometry**.

Sensible geometry is knowledge of magnitudes and the meanings that occur in them when some are related to others. These are things seen by the eye and perceived by touch.

Intellectual geometry is the opposite of this: it concerns what is known and understood.

What is seen by the eye includes line, surface, and body possessing dimensions, together with the properties that occur in them. Yet heaviness in a heavy thing, for example, is known only by the intellect, even though heaviness is present in the heavy thing.

Magnitudes are of three kinds: **lines, surfaces, and bodies**.

Geometry enters into all the crafts, because whenever a craftsman determines beforehand what he intends to make, that determination is a kind of intellectual geometry.

Intellectual geometry is knowledge of dimensions and the meanings that occur in them when they are related to one another. They are conceived in the soul through thought.

The dimensions are three: **length, breadth, and depth**.

These intellectual dimensions are attributes of sensible magnitudes. A line is one magnitude and has one attribute only, namely length. A surface is a second magnitude and has two attributes, length and breadth. A body is a third magnitude and has three attributes: length, breadth, and depth.

Know that considering these dimensions abstracted from bodies belongs to the art of those who investigate realities.

We shall begin by describing sensible geometry because it is nearer to the understanding of learners.

The sensible line, which is one of the magnitudes, has the point as its origin, just as we explained in the Epistle on the Properties of Number that one is the origin of number.

When sensible points are arranged in succession, a line appears to the faculty of sight.

We do not say that the sensible point is something having absolutely no part. Rather, it is the **intellectual point** that has no part.

We also say that the line is the origin of the surface, just as the point is the origin of the line and one is the origin of two. Two, in turn, is the origin of even number, as we explained previously.

When lines are placed alongside one another, a surface appears to the faculty of sight.

We say also that the surface is the origin of the body, just as the line is the origin of the surface, the point the origin of the line, and one the origin of two.

When surfaces are piled one upon another, a body appears to the faculty of sight.

Chapter 1 — On the Types of Lines

We say that lines are of three kinds.

The first is the **straight line**, like that drawn with a ruler.

The second is the **curved line**, like that drawn with a compass.

The third is the **curved and bent line**, compounded from the other two.

These are the three kinds of lines.

Chapter 2 — On the Designations of Straight Lines

When straight lines are considered in relation to one another, they are either equal, parallel, converging, touching, or intersecting.

Equal lines are those whose lengths are the same.

Parallel lines are those which, being in the same surface and extended continuously in both directions, never meet.

Converging lines are those that meet in one direction and enclose one angle.

Touching lines are those of which one touches the other, producing either two angles or one angle.

Intersecting lines are those of which one cuts the other, and from their intersection four angles arise.

These are the designations of straight lines.

Chapter 3 — On the Names Given to Straight Lines

When a straight line stands upon another straight line evenly, without inclining toward either side, the standing line is called the **perpendicular**, and the line upon which it stands is called the **base**.

When two lines are considered in relation to an angle, they are called the two **legs** of that angle.

When a straight line stands upon another line while inclining toward one side, two angles are produced. The larger is called **obtuse**, and the smaller **acute**.

Every straight line opposite an angle is called the **chord** of that angle.

When lines are considered in relation to a surface, they are called the **sides** of that surface.

Every line extending from one corner of a square to another is called the **diagonal of the square**.

Every line extending from an angle of a triangle to its opposite side and standing upon that opposite line at a right angle is called the **drop of the stone**, and it is also called the perpendicular. The line upon which this perpendicular falls is called the base.

These are the names of straight lines.

Chapter 4 — On the Types of Angles

We say that angles are of two kinds: **plane** and **solid**.

A plane angle is that which is enclosed by two lines that are not in a single straight direction.

A solid angle is that which is enclosed by three lines at an angle, every two of which form an angle without lying in one straight direction.

Chapter 5 — On the Types of Plane Angles

Plane angles, with respect to the lines forming them, are of three kinds.

They are formed either from two straight lines, two curved lines, or one curved line and one straight line.

Angles enclosed by straight lines are, with respect to quality, of three kinds: right, obtuse, and acute.

A **right angle** is produced when one straight line stands evenly upon another straight line, producing two equal angles beside it. Each is called a right angle.

If that line stands unevenly upon a straight line, two unequal angles are produced. One is larger than a right angle and is called obtuse; the other is smaller than a right angle and is called acute.

Together they equal two right angles, because the acute angle falls short of a right angle by exactly as much as the obtuse angle exceeds a right angle.

These are the kinds of angles.

Chapter 6 — On the Types of Curved Lines

Curved lines are of four kinds.

One is the circumference of a circle.

One is a semicircle.

One is greater than a semicircle.

One is less than a semicircle.

The **centre of the circle** is the point in the middle of it.

The **diameter** of the circle is the straight line that divides the circle into two equal parts.

The **chord** is the straight line joining the two ends of an arc.

The **arrow** is the straight line that bisects both the chord and the arc.

Curved parallel lines are those having one centre.

Intersecting curved lines are those having different centres.

Touching curved lines are those that touch one another, either internally or externally, without intersecting.

As for irregularly bent lines, we have omitted their discussion because they are not commonly employed.

Know all this.

Chapter 7 — On Surfaces

We say that a surface is a figure enclosed by a line or by lines.

A **circle** is a figure enclosed by one line, having within it a point such that all straight lines drawn from that point to the circumference are equal to one another.

A **semicircle** is a figure enclosed by two lines, one curved and the other straight.

A **segment of a circle** is a figure enclosed by a straight line and an arc of the circumference of a circle, whether greater or smaller than a semicircle.

Chapter 8 — On Rectilinear Figures and Their Types

Rectilinear figures increase according to the number of their sides.

A pentagon is a figure enclosed by five lines and possessing five angles.

A hexagon is enclosed by six lines and possesses six angles.

After it comes the heptagon, and according to this principle the figures increase just as number increases.

Chapter 9 — On Points as They Appear to the Faculty of Sight

We have explained that lines appear to the faculty of sight from points arranged in succession.

The shortest line consists of two points, then comes one of three, then four, then five, and so on.

They increase one after another just as number increases according to its natural order.

The smallest triangular figure is made from three parts. Thereafter triangular figures increase according to the same principle, as the sums of natural numbers increase.

Square figures first appear from four parts, then nine parts, then sixteen, then twenty-five.

According to this principle square figures continue to increase, just as numbers increase according to the natural sequence of odd numbers, and all of them are square numbers.

Chapter 10 — On the Triangle as the Origin of All Figures

We say that the triangular figure is the origin of all rectilinear figures, just as one is the origin of all number, the point the origin of lines, the line the origin of surfaces, and the surface the origin of bodies.

If one triangular figure is joined to another like it, from the two together a quadrilateral figure arises.

If another triangle is added, a pentagon arises.

If another triangle is added, a hexagon arises.

If another is added, a heptagon arises.

According to this principle all rectilinear figures possessing many angles arise through triangular figures being joined to one another. They increase without end, just as numbers arise from units joined one to another without end.

It has thus become clear that rectilinear figures are compounded from triangular figures, bodies from surfaces, surfaces from lines, and lines from points, just as numbers are compounded from one.

The point in geometry is therefore like one in arithmetic.

And just as one has no part, so the intellectual point has no part.

Chapter 11 — On the Types of Surfaces

Surfaces are of three kinds with respect to quality: **plane, concave, and convex**.

A plane surface is like the face of a tablet.

A concave surface is like the interior of vessels.

A convex surface is like the exterior of domes.

Among figures there are also those called egg-shaped, crescent-shaped, pine-conical, myrobalan-shaped, and other forms whose names derive from the things they resemble.

Chapter 12 — On Measurement

We say that surfaces are the boundaries of bodies, the boundaries of surfaces are lines, and the boundaries of lines are points.

Every line must begin at one point and end at another.

Every surface must terminate in a line or lines.

Every body must terminate in a surface or surfaces.

Among bodies is that enclosed by one surface, namely the sphere.

Another is enclosed by two surfaces, namely the hemisphere, one of its surfaces being convex and the other circular and plane.

Another is enclosed by three surfaces, namely a quarter of a sphere.

Another is enclosed by four triangular surfaces and is called the **fiery figure**.

Some bodies are enclosed by five surfaces.

Some are enclosed by six square surfaces. Among the latter are the cube, the brick-like body, the well-like body, and the board-like body.

The **cube** is that whose length equals its breadth and whose breadth equals its thickness. It possesses six square surfaces with equal sides and right angles, eight solid angles, twenty-four plane angles, and twelve equal edges arranged in parallel groups.

The **well-like body** is that whose length equals its breadth while its thickness is greater than both. It possesses six surfaces, two opposite square surfaces with equal sides and right angles, and four narrow rectangular surfaces. It has twelve edges—four long and eight short—and eight solid angles and twenty-four plane angles.

The **board-like body** is that whose length is greater than its breadth and whose breadth is greater than its thickness. It has twelve edges: four long, four short, and four shorter still, as well as eight solid angles and twenty-four plane angles.

The **brick-like body** is that whose length equals its breadth while its thickness is less than both. It has six surfaces, two broad opposite square surfaces and four narrow rectangular surfaces, eight solid angles and twenty-four plane angles.

The **spherical body** is that which is enclosed by one surface. Within it is a point, and all straight lines extending from that point to the surface of the sphere are equal.

That point is called the centre of the sphere.

When the sphere rotates, there remain upon its surface two opposite stationary points called its poles.

If a straight line is drawn joining these two poles and passing through the centre of the sphere, it is called the **axis of the sphere**.

We have now mentioned something of the principles of sensible geometry by way of introduction and preliminary principles.

We said that most craftsmen are in need of this science, and we shall explain why.

Geometry, in this sense, is **determination before action**.

Every craftsman who joins bodies together and compounds them must first determine the place in which he will make the thing, the time at which he will begin it, whether it lies within his capability, the instruments and tools by which he will make it, and how he will join its parts until they fit together and form a harmonious whole.

This is the geometry that enters into most crafts involving the joining of bodies to one another.

Know that many animals practise natural crafts for which they are innately disposed without instruction.

The bee, for example, constructs its dwellings in layers, circular in general form like shields, one above another, while making all the cells of the dwelling hexagonal in sides and angles.

There is wisdom and precision in this shape, for one of the properties of the hexagon is that it is more spacious than the square and pentagon, and its cells fit together without leaving empty gaps through which air might enter and spoil the honey.

Likewise the spider weaves its web in the corners of houses and walls so that winds will not tear and destroy it.

In weaving it, the spider extends its warp threads straight and its weft threads circularly because this facilitates the work.

Among human beings there are those who discover a craft through innate disposition and the intelligence of their souls without anyone having preceded them in it. Most craftsmen, however, receive their crafts through instruction and teaching from masters.

Chapter 13 — On Land Measurement

Know, O brother—may God strengthen you and us with a spirit from Him—that the science of geometry enters into all crafts, and particularly into land measurement.

This is an art needed by administrators, scribes, landowners, and possessors of estates in their transactions, in the collection of land tax, the digging of canals, the construction of embankments and similar works.

Know that the measures used for measuring land in Iraq are five: the **ashl**, the **bāb**, the **cubit**, the **grip**, and the **finger**.

One finger has a thickness of six barley grains arranged side by side, their backs against their bellies.

One grip is four fingers.

One cubit is eight grips, which is thirty-two fingers.

The *bāb* is six cubits long, that is forty-eight grips or one hundred and ninety-two fingers.

The *ashl* is a rope ten *bābs* long, namely sixty cubits, four hundred and eighty grips, or one thousand nine hundred and twenty fingers.

When these linear measures are multiplied by one another, what results is called a **square measure**. When these are combined, they produce *jarībs*, *qafīzes*, and tenths.

A grip multiplied by itself gives sixteen square fingers.

A cubit multiplied by itself gives sixty-four square grips and one thousand and twenty-four square fingers.

A *bāb* multiplied by itself gives thirty-six square cubits, two thousand three hundred and four square grips, and thirty-six thousand eight hundred and sixty-four square fingers.

An *ashl* multiplied by itself gives one *jarīb*, which is ten *qafīzes* or one hundred tenths. It contains 3,600 square cubits, 230,400 square grips, and 3,686,400 square fingers.

A *qafīz* consists of ten tenths.

A tenth is produced by multiplying one *bāb* by itself and is thirty-six square cubits.

These measures are combined with one another according to their respective proportions.

This is the explanation of measuring length and breadth.

As for measuring depth, multiply length by breadth, and then multiply the result by depth. What results is the cubic measure of the body.

Such calculation is required in digging canals, wells, pits and foundations, and in constructing buildings and similar works.

Know, O brother—may God strengthen you and us with a spirit from Him—that confusion may enter every scientific craft for one who undertakes it without belonging to its people, whether through deficiency in knowledge or negligence.

They relate, for example, that a man sold another man a piece of land for one thousand dirhams, its length being one hundred cubits and its breadth one hundred cubits.

Then he said to him:

“Take from me, in exchange for it, two pieces of land, each of which is fifty cubits long and fifty cubits wide.”

He imagined that this was the buyer's full due.

They went before a judge who was not a geometer, and he wrongly ruled that this was equivalent.

Then they went before a judge skilled in the art, who ruled that what had been offered amounted to only half the purchaser's due.

Likewise, it is related that a man hired another man to dig him a pool four cubits long, four cubits wide, and four cubits deep for eight dirhams.

The worker dug two cubits in length, two in breadth, and two in depth, and then demanded four dirhams, half the payment.

They disputed and went before a legal authority who was not a geometer, and he ruled that the worker was entitled to this.

Then they went before people skilled in the science, and they ruled that he was entitled to only one dirham.

A man who practised arithmetic without being one of its experts was asked:

“What is the ratio of one thousand thousand to one thousand thousand thousand?”

He replied:

“Two-thirds.”

But the experts said that it is one tenth of one tenth of one tenth.

According to this example, error enters upon anyone who practises an art without being one of its people.

For this reason it has been said:

“Seek the assistance of the people of every craft in that craft.”

Chapter 14 — On the Human Need for Cooperation

Know, O brother—may God strengthen you and us with a spirit from Him—that a single human being cannot live alone except with great hardship.

For a pleasant life requires the perfection of many different crafts, and one person cannot master all of them because life is short and the crafts are many.

For this reason many people gather in every city and village in order to assist one another.

Divine wisdom and providential care have required that one group occupy itself with perfecting crafts, another with commerce, another with construction, another with political administration, another with perfecting and teaching the sciences, and another with serving them all and striving to satisfy their needs.

Their example is like that of brothers from one father dwelling in a single house and cooperating in the affairs of their livelihood, each undertaking one aspect of it.

As for what people have agreed upon concerning measures, weights, prices, and wages, this is wisdom and political regulation intended to urge them to diligence in their works, crafts, and mutual assistance, so that each person receives wages according to his diligence in labour and his activity in the crafts.

Know, O brother—may God strengthen you and us with a spirit from Him—that you should be certain that you cannot save yourself alone from the trial and afflictions of this world into which we have fallen through the transgression of our father Adam—peace be upon him.

For in your salvation and deliverance from this world, which is the world of generation and corruption, and from the punishment of Hell, the companionship of devils and the armies of Iblīs, and in ascending to the world of the spheres, the breadth of the heavens, the dwelling place of the exalted ones, and the neighbourhood of the angels of the Merciful brought near, you need the assistance of sincere brethren and virtuous friends who possess insight into religion and knowledge of the realities of things.

They will show you the paths of the Hereafter, how to reach it, and how to escape from the predicament into which we have all fallen through the transgression of our father Adam—peace be upon him.

Consider the story of the **Ring-Dove** mentioned in *Kalīla wa-Dimna*, and how she escaped from the net, so that you may understand the truth of what we have said.

Know that whenever the sages set forth a parable concerning worldly affairs, their true purpose is the affairs of the Hereafter and to indicate them through various parables according to what human intellects in every place and time are capable of bearing.

Chapter 15 — On Intellectual Geometry

Since we have mentioned something of sensible geometry by way of introduction and preliminary principles, we now wish to mention something of intellectual geometry, because it is one of the aims of the sages firmly established in the divine sciences and trained in philosophical mathematics.

Their purpose in placing geometry after the science of number is to lead learners from sensible things toward intelligible things and to raise their disciples and children from corporeal matters toward spiritual matters.

Know, O brother—may God strengthen you and us with a spirit from Him—that contemplation of sensible geometry leads to proficiency in the practical crafts, while contemplation of intellectual geometry leads to proficiency in the scientific arts.

For this science is one of the gateways leading to knowledge of the substance of the soul, which is the root of the sciences, the element of wisdom, and the foundation of all scientific and religious arts.

Chapter 16 — On Imagining Dimensions

The intellectual line is not seen in abstraction except as the common boundary between two surfaces, like the boundary between sunlight and shadow.

If there were neither sunlight nor shadow, you would not see such a line except by imagining two points.

If you imagine that one of the two points moves while the other remains stationary, until the moving point returns to where its motion began, a surface arises in your thought.

The intellectual surface likewise is not seen in abstraction except between two bodies, like the common boundary between water and oil.

The intellectual point also is not seen in abstraction except where the line is mentally divided. Wherever indication terminates, there is the point.

Know, O brother, that if you imagine the movement of this point in one direction, there arises in your thought an imaginary straight line.

If you imagine the movement of this line in a direction other than that in which the point moved, there arises in your thought an imaginary surface.

If you then imagine the movement of that surface in a direction other than those in which the point and line moved, there arises in your imagination an imaginary body having six square surfaces with right angles: the cube.

If the distance through which the surface moves is less than the distance through which the line moved, a brick-like body arises.

If it is greater, a well-like body arises.

If the distances are equal, a cube arises.

Know, O brother, that every straight line posited in imagination must have two ends, which are its extremities, and these are called the two imaginary points.

If you imagine that one of them moves while the other remains fixed until the moving point returns to the place where it began, there arises in your thought an imaginary circular surface.

The stationary point is the centre of the circle, while the moving point, through its movement, produces the circumference.

The first portions of the surface produced by such movement are a third of a circle, then a quarter of a circle, then a semicircle, and finally the whole circle.

If you imagine the curved line forming half the circumference of the circle with its two extremities fixed while the line itself rotates until it returns to the place where its movement began, a spherical body arises in your thought.

It has thus become clear from what we have mentioned that **intellectual geometry is the contemplation of the three dimensions—length, breadth, and depth—apart from natural bodies**.

Those trained in sensible geometry, once their thought has become strengthened through its study, abstract these three dimensions and represent them within their souls.

They then dispense with looking at sensible magnitudes and speak concerning the genera, species, and properties of these intelligible magnitudes, and the meanings that arise in them when they are related to one another.

They say:

A line is a magnitude possessing one dimension.

A surface is a magnitude possessing two dimensions.

A body is a magnitude possessing three dimensions.

A straight line is the shortest line joining two points.

A point is the extremity of a line.

A curved line is one upon which three points cannot be posited in a single straight direction.

An angle is what lies between two lines that are not in one straight direction.

A figure is that which is enclosed by one line or by several lines.

A circle is a figure enclosed by one line called the circumference, within which is a point such that all straight lines drawn from that point to the circumference are equal.

A triangle is a figure enclosed by three lines and possessing three angles.

A square is a figure enclosed by four lines and possessing four right angles.

And according to this principle are all the other expressions used concerning geometrical figures, without reference to any natural body.

Chapter 17 — On the Reality of Dimensions in Intellectual Geometry

Know that many geometers and students of the sciences suppose that these three dimensions—length, breadth, and depth—possess existence and subsistence in themselves.

They do not realize that their existence is only in the substance of body or in the substance of soul.

Body or soul is like matter for these dimensions, while the dimensions are like forms within it when the thinking faculty abstracts them from sensible things.

If they knew that the ultimate purpose of studying the mathematical sciences is to train the souls of learners to receive the forms of sensible things through the sensory faculties and represent them within themselves through the faculty of thought, they would understand their true purpose.

When sensible objects are absent from the observation of the senses, the impressions delivered by the sensory faculties to the imaginative faculty remain.

The imaginative faculty delivers them to the thinking faculty, and the thinking faculty delivers them to the preserving faculty, where they remain represented within the substance of the soul.

Then the soul becomes independent of employing the sensory faculties for the apprehension of objects of knowledge.

When it looks within itself, it finds the forms of all the objects of knowledge within its own substance.

At that point it becomes independent of the body and ceases to desire dwelling with it.

It awakens from the sleep of heedlessness and rises from the slumber of ignorance.

It rises through its own powers, subsists through itself, separates from bodies, departs from the sea of matter, escapes the captivity of nature, is freed from servitude to bodily desires, and is released from the burning longing for corporeal pleasures.

It beholds the world of spirits and ascends to that place concerning which He said:

“To Him ascends the good word, and the righteous deed raises it.”

By this is intended the purified soul.

It is then rewarded with the finest reward.

This is the furthest purpose of the study of the mathematical sciences in which the children of the sages and the disciples of the ancients were trained.

Such is the doctrine of our noble Brethren.

May God guide you and us to the path of right guidance. Indeed, He is compassionate toward His servants.

Chapter 18 — On the Properties of Geometrical Figures

Know, O brother—may God strengthen you and us with a spirit from Him—that geometrical figures possess properties, and combinations of them possess properties as well.

We explained in the Epistle on Arithmetic something of the properties of numbers. We now wish to mention something of the properties of geometrical figures so that those who study these two sciences may be alerted to their purpose, and so that seekers after the properties of things may be guided concerning the way to investigate them.

We begin with triangles, since they are the first geometrical figures.

A triangular figure has three sides and three angles.

Triangles are of seven kinds:

1. an equilateral acute triangle;
2. an isosceles acute triangle;
3. a scalene acute triangle;
4. an isosceles right triangle;
5. a scalene right triangle;
6. an isosceles obtuse triangle;
7. a scalene obtuse triangle.

Each of these triangles possesses a property not possessed by the others. These are demonstrated in the first book of Euclid.

But we shall mention properties common to all seven.

Every triangle, whatever its kind, must contain two acute angles. Its third angle may be acute, right, or obtuse.

The three angles of every triangle together equal two right angles.

The longest side of every triangle is opposite its greatest angle.

Any two sides of every triangle, when added together, are longer than the third side.

If any side of a triangle is extended in a straight line, an exterior angle is produced. It is greater than either of the two opposite interior angles and equals the two opposite interior angles together.

The area of every triangle is obtained by multiplying its altitude by half its base.

The property of the right-angled triangle is that **the square upon the side opposite the right angle equals the two squares upon the other two sides**.

In an acute-angled triangle, the square upon the longest side is less than the sum of the squares upon the other two sides by a determined amount related to the projection of the perpendicular.

In an obtuse-angled triangle, the square upon the longest side exceeds the squares upon the other two sides by a determined amount related to the extension beyond the perpendicular.

As for quadrilateral figures, they possess four sides and four angles and are of five kinds:

the square with equal sides and right angles;

the rectangle with right angles and opposite sides equal;

the rhombus with equal sides and unequal angles;

the rhomboid with opposite sides equal;

and the irregular quadrilateral with unequal sides and angles.

Know, O brother, that each of these possesses properties whose full explanation would be lengthy.

The property common to all of them is that the four angles of any quadrilateral together equal four right angles, and every quadrilateral may be divided into two triangles.

A pentagon is enclosed by five sides and has five angles. It is the first of the regular many-angled figures.

A circle may be circumscribed around each regular polygon, and each regular polygon may likewise be inscribed in a circle.

Among regular polygons having the same perimeter, the figure with the greater number of angles has the greater and wider area.

The property of a regular hexagon is that each of its sides equals the radius of the circle surrounding it.

In general, there is no figure that does not possess one property or several properties. We have omitted most of these to avoid excessive length.

As for the properties of the circular figure, Euclid devoted an entire book to them.

We shall mention only something of them.

The circle is a surface enclosed by one line.

Its centre lies in its middle.

All its radii are equal.

Among plane figures of equal perimeter it is the most capacious.

The sphere shares corresponding properties among bodies, and its relation to other bodies is like the relation of the circle to other surfaces.

The properties of these figures are explained through demonstrations in Euclid.

In general, O brother, if you contemplate Euclid's purpose and what is contained in the other books of geometry, you will find that all of them investigate the properties and realities of magnitudes—lines, surfaces, and bodies—and the dimensions, angles, and proportions that occur among them.

We have explained something of the properties of figures in this epistle, and before it something of the properties of numbers in the Epistle on Arithmetic.

We now wish to mention something of the properties that arise when the two are combined.

When certain numbers are joined with certain geometrical figures, other properties appear that are not evident in either one separately.

Thus, if the nine numbers are written in a nine-cell figure in the arrangement shown in the source, its property is that however the relevant rows are counted, their sum is fifteen.

Likewise, when the sixteen numbers are written in the sixteen-cell figure in the indicated arrangement, the sum is thirty-four.

When twenty-five numbers are arranged in twenty-five cells, the sum is sixty-five.

When thirty-six numbers are arranged in thirty-six cells, the sum is one hundred and eleven.

When forty-nine are arranged in forty-nine cells, the sum is one hundred and seventy-five.

When sixty-four are arranged in sixty-four cells, the sum is two hundred and sixty.

When eighty-one are arranged in eighty-one cells, the sum is three hundred and sixty-nine.

The source presents the numerical arrangements graphically in square diagrams.

As for their uses and benefits, we have mentioned something of these in the Epistle on Talismans and Incantations.

But we shall mention one example here as evidence for what we have said.

Among the properties ascribed to the nine-cell figure is the easing of childbirth when it is written upon two pieces of pottery untouched by water and suspended upon a woman experiencing labour pains, especially if the Moon happens to be in the ninth place and joined to the lord of the ninth, or in a corresponding configuration.

It was according to this method that practitioners of talismans proceeded in constructing them.

For there is nothing among mathematical and natural existents that does not possess some property not possessed by another.

Their combinations likewise possess properties not found in their individual components: numbers, figures, forms, places, times, medicinal substances, flavours, colours, scents, sounds, words, actions, letters, and motions.

When these are combined according to harmonious proportions, their properties and effects appear.

As evidence for what we have said, consider the effects of antidotes, ointments and medicinal drinks, and the melodies of music and their effects upon bodies and souls, which are evident to every wise and philosophical person of understanding, as we have explained in part in the Epistle on Music.

Chapter 19 — On the Fruit of This Art

Know that the study of sensible geometry assists one in becoming skilful in the crafts.

The study of intellectual geometry, together with knowledge of the properties of numbers and figures, assists in understanding the manner in which celestial configurations and musical sounds affect the souls of listeners.

And studying the manner in which sensible influences act upon the things affected by them assists one in understanding how separated souls influence embodied souls in the world of generation and corruption.

In the science of intellectual geometry there is, for those who investigate it, a path toward attaining knowledge of these matters through God's assistance and guidance.

The Epistle on Geometry is complete.

It is followed by the Epistle serving as an Introduction to the Science of the Stars, which is the third epistle of the First Section of the four sections.

Epistle 3

On Astronomy: The Science of the Stars and the Composition of the Celestial Spheres

In the name of God, the Compassionate, the Merciful.

Praise be to God, and peace be upon His servants whom He has chosen. Is God better, or what they associate with Him?

Know, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—that we have completed the Epistle serving as an Introduction to the Science of Geometry. In it we explained sensible and intellectual geometry and completed the discussion of the lines, figures, and angles that geometers must know.

Know that the science of the stars is divided into three branches.

One branch consists in knowledge of the composition of the celestial spheres, the number of the stars, the divisions of the zodiacal signs, their distances, magnitudes, and motions, and the other matters belonging to this subject. This branch is called the **science of the configuration of the heavens**.

Another branch consists in knowledge of how to interpret astronomical tables, construct calendars, determine dates, and matters resembling these.

A third branch consists in knowledge of how to infer, from the rotation of the celestial sphere, the rising of the zodiacal signs, and the motions of the stars, those things that come into being beneath the sphere of the Moon before they occur. This branch is called the **science of astrological judgments**.

In this epistle we wish to mention something from each of these branches by way of introduction, so as to make the path easy for learners and the subject accessible to beginners.

We say that the foundation of the science of the stars is knowledge of three things: **the stars, the celestial spheres, and the zodiacal signs**.

The stars are luminous, round, spherical bodies. The large stars apprehended through observation number one thousand and twenty-nine. Seven of them are called the wandering stars, namely Saturn, Jupiter, Mars, the Sun, Venus, Mercury, and the Moon. The remainder are called fixed stars.

Each of the seven wandering stars has a sphere peculiar to it.

The celestial spheres are transparent, hollow, spherical bodies. There are nine spheres, one contained within another like the layers of an onion.

The nearest to us is the sphere of the Moon. It surrounds the air from all directions just as the shell of an egg surrounds its white, while the Earth lies within the air like the yolk within the white.

Beyond the sphere of the Moon is the sphere of Mercury; beyond Mercury is the sphere of Venus; beyond Venus is the sphere of the Sun; beyond the Sun is the sphere of Mars; beyond Mars is the sphere of Jupiter; beyond Jupiter is the sphere of Saturn; beyond Saturn is the sphere of the fixed stars; and beyond the sphere of the fixed stars is the encompassing sphere.

The encompassing sphere rotates continually like a waterwheel. Above the Earth it turns from east to west, and beneath the Earth from west to east, completing one revolution every day and night. It carries with it all the other spheres and stars, as God—mighty and majestic—says:

“Each swims in an orbit.”

This encompassing sphere is divided into twelve sections, like the sections of a melon, and each section is called a zodiacal sign.

Their names are:

Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricorn, Aquarius, and Pisces.

Each zodiacal sign consists of thirty degrees, making three hundred and sixty degrees in all.

Each degree consists of sixty parts, every part being called a minute, making twenty-one thousand six hundred minutes altogether.

Each minute consists of sixty parts called seconds, each second of sixty thirds, and so on through fourths, fifths, and whatever follows, however far the division may extend.

These zodiacal signs are described by various attributes from several points of view. Before describing them, however, we must mention certain things.

Time has four divisions: spring, summer, autumn, and winter.

The directions are four: east, west, south, and north.

The elements are four: fire, air, water, and earth.

The elementary qualities are four: heat, cold, moisture, and dryness.

The humours are four: yellow bile, black bile, phlegm, and blood.

The winds are four: the east wind, the west wind, the north wind, and the south wind.

Chapter 1 — On the Qualities of the Zodiacal Signs

We say that six of the zodiacal signs are northern and six southern; six are of straight ascension and six of crooked ascension; six are masculine and six feminine; six are diurnal and six nocturnal; six are above the Earth and six beneath it; six rise during the day and six during the night; six are ascending and six descending; six are right-hand and six left-hand; six belong to the domain of the Sun and six to the domain of the Moon.

The six northern signs are Aries, Taurus, Gemini, Cancer, Leo, and Virgo. When the Sun is in one of these, the night is shorter and the day longer.

The six southern signs are Libra, Scorpio, Sagittarius, Capricorn, Aquarius, and Pisces. When the Sun is in one of these, the night is longer and the day shorter.

The signs of straight ascension are Cancer, Leo, Virgo, Libra, Scorpio, and Sagittarius. Each of these rises in more than two hours. When the Sun is in one of them, it is descending from north toward south and from apogee toward perigee, while the night is gaining upon the day.

The signs of crooked ascension are Capricorn, Aquarius, Pisces, Aries, Taurus, and Gemini. Each rises in less than two hours. When the Sun is in one of them, it is ascending from south toward north and from perigee toward apogee, while the day is gaining upon the night.

The six masculine, diurnal signs are Aries, Gemini, Leo, Libra, Sagittarius, and Aquarius.

The six feminine, nocturnal signs are Taurus, Cancer, Virgo, Scorpio, Capricorn, and Pisces.

The six signs that rise during the day extend from the sign in which the Sun is situated to the seventh sign from it. The six that rise during the night extend from the seventh sign back to the sign in which the Sun is situated.

The six belonging to the domain of the Sun extend from Leo to Capricorn.

The six belonging to the domain of the Moon extend from Aquarius to Cancer.

From another point of view, the zodiacal signs are divided into four groups.

Three are spring signs, ascending in the north while the day increases over the night: Aries, Taurus, and Gemini.

Three are summer signs, descending in the north while the night begins to take from the day: Cancer, Leo, and Virgo.

Three are autumn signs, descending in the south while the night increases over the day: Libra, Scorpio, and Sagittarius.

Three are winter signs, ascending from the south while the day begins to take from the night: Capricorn, Aquarius, and Pisces.

From another point of view, the signs are divided into four triplicities.

Three are fiery, hot, dry, and eastern, sharing one nature: Aries, Leo, and Sagittarius.

Three are earthy, cold, dry, and southern: Taurus, Virgo, and Capricorn.

Three are airy, hot, moist, and western: Gemini, Libra, and Aquarius.

Three are watery, cold, moist, and northern: Cancer, Scorpio, and Pisces.

From another point of view, they are divided into three groups of four.

Four are changeable in time: Aries, Cancer, Libra, and Capricorn.

Four are fixed in time: Taurus, Leo, Scorpio, and Aquarius.

Four are double-bodied: Gemini, Virgo, Sagittarius, and Pisces.

From this arrangement it becomes clear that if the zodiacal signs were more or fewer than twelve, these divisions could not continue in the manner we have described.

Thus, by the necessity of wisdom, they are twelve, because the Creator—exalted be His praise—does nothing except in the wisest and most perfect manner.

For this reason He made the celestial spheres spherical in form, since this form is the best of all forms. It is the most capacious, the furthest removed from defects, and the swiftest in motion. Its centre lies in its middle, its radii are equal, one surface encloses it, and it touches another body only at a point.

These qualities are not found together in any other figure.

He likewise made their motion circular, because circular motion is the best of motions.

These twelve zodiacal signs are apportioned among the seven wandering stars in several ways, and the planets possess within them various divisions and degrees of lordship. Among these are houses and detriments, apogees and perigees, exaltations and falls, the nodes—that is, the head and tail—triplicity rulerships, faces, bounds, other subdivisions, twelfths, the positions of lots, and other things.

The wandering stars are like spirits, while the zodiacal signs are like bodies.

Chapter 2 — On the Houses and Detriments

Know that Leo is the house of the Sun, and Cancer the house of the Moon.

Gemini and Virgo are the two houses of Mercury.

Taurus and Libra are the two houses of Venus.

Aries and Scorpio are the two houses of Mars.

Sagittarius and Pisces are the two houses of Jupiter.

Capricorn and Aquarius are the two houses of Saturn.

Each of the five planets has one house on the side of the Sun and one house on the side of the Moon.

The detriment of each planet is in the sign opposite its house.

These planets also possess particular places in one another's houses, among them exaltation and fall, apogee and perigee, and the nodes.

Exaltation is the most honoured position of a planet in the sphere, while fall is its opposite.

Apogee is the highest position of a planet in its sphere, and perigee is its opposite.

The exaltation of the Sun is in Aries, the house of Mars, while its apogee is in Gemini, the house of Mercury.

The exaltation of Saturn is in Libra, the house of Venus; its apogee is in Sagittarius, the house of Jupiter; and its node is in Cancer, the house of the Moon.

The meaning of the **node** is the intersection of the path of a planet with the path of the Sun as they pass through the zodiac at two points. One is called the **head of the node**, and the other the **tail of the node**.

Thus, when Saturn travels through the zodiac, its path passes through six signs on one side of the path of the Sun, then crosses to the other side and travels through six signs on the other side. Consequently the two paths intersect at two points, one called the head and the other the tail.

Each of the five wandering planets has nodes just as Saturn does, as is explained in the astronomical tables.

As for the nodes commonly mentioned in calendars, these are the nodes of the Moon. They are especially mentioned because they move through the signs and degrees and possess a motion like that of the planets, and indications like the indications of the planets.

When the Sun and Moon come together at one of these nodes in the same sign and the same degree, the Sun is eclipsed.

This occurs only at the end of the lunar month, because the Moon then becomes aligned with the Sun in the same zodiacal sign and degree and prevents the light of the Sun from reaching our sight. We therefore see the Sun eclipsed, just as a piece of cloud prevents the Sun's light from reaching our eyes when it passes between our sight and the Sun.

When the Sun is at one node and the Moon reaches the opposite node, the Moon is eclipsed.

A lunar eclipse occurs only around the middle of the lunar month, because at that time the Moon occupies the sign opposite the sign occupied by the Sun, while the Earth lies between them and prevents the sunlight from shining upon the Moon.

The Moon is then seen eclipsed because it possesses no light of its own but receives its light from the Sun.

The exaltation of Jupiter is in Cancer, its apogee in Virgo, and the head of its node in Gemini.

The exaltation of Mars is in Capricorn, its apogee in Leo, and its node in Aries.

The exaltation of Venus is in Pisces, its apogee in Gemini, and the head of its node in Taurus.

The exaltation of Mercury is in Virgo, its apogee in Libra, and its node in Aries.

The exaltation of the Moon is in Taurus. Its apogee moves through the zodiac and its position is known through the calendar and the astronomical tables.

In general, opposite the exaltation of every planet lies its fall in the seventh sign from it; opposite the apogee lies the perigee; and opposite the head of the node lies the tail in the seventh sign from it.

Chapter 3 — On the Lords of the Triplicities, Faces, and Bounds

Know that these wandering planets possess shared rulership in one another's houses called **the rulership of the triplicities**.

They also possess divisions within them called **faces**, and portions called **bounds**.

Every three zodiacal signs sharing one nature are called a triplicity, as we explained previously, and three planets govern each triplicity. These are called the lords of the triplicities, and through them indications are taken concerning the three portions of the lives of those born.

The lords of the fiery triplicity during the day are first the Sun and then Jupiter; during the night, first Jupiter and then the Sun; and their associate both by day and night is Saturn.

The lords of the earthy triplicity by day are first Venus and then the Moon; by night, first the Moon and then Venus; and their associate by day and night is Mars.

The lords of the airy triplicity by day are Saturn and then Mercury; by night, Mercury and then Saturn; and their associate by day and night is Jupiter.

The lords of the watery triplicity by day are Venus and then Mars; by night, Mars and then Venus; and their associate by day and night is the Moon.

Chapter 4 — On the Lords of the Faces

Know that every zodiacal sign is divided into three thirds, each third consisting of ten degrees and being called a **face**.

Each face is attributed to one of the wandering planets, which is called the lord of that face. From it indications are taken concerning the appearance of the person born and the outward aspects of affairs.

The first ten degrees of Aries are the face of Mars, the second ten the face of the Sun, and the last ten the face of Venus.

The first ten degrees of Taurus are the face of Mercury, the second ten the face of the Moon, and the last ten the face of Saturn.

The first ten degrees of Gemini are the face of Jupiter, the second ten the face of Mars, and the last ten the face of the Sun.

According to this order it continues until the end of Pisces, every ten degrees constituting a face belonging to one planet in the successive order of their spheres.

As for the bounds and their lords, every sign is divided into five unequal portions of degrees. The smallest portion is two degrees and the largest twelve degrees.

Each portion is called a **bound**, and each bound is attributed to one of the five wandering planets, which is called the lord of the bound. From it indications are taken concerning the character of the person born.

Neither the Sun nor the Moon has a share in these bounds.

For calculating them, a circular diagram is drawn in which two symbols are written: the first represents the name of the lord of the bound and the second the number of degrees in that bound.

The faces are represented in a similar manner, with one symbol for the lord of the face and another for the number of degrees.

Chapter 5 — On the Wandering Planets

We say that two of them are the two luminaries: the Sun and the Moon.

Two are benefics: Jupiter and Venus.

Two are malefics: Saturn and Mars.

One is mixed: Mercury.

There are also two nodes: the head and the tail.

As for their natures:

The Sun is masculine, hot, fiery, diurnal, and benefic.

Saturn is cold, dry, masculine, diurnal, and malefic.

Jupiter is hot, moist, masculine, diurnal, and benefic.

Mars is hot, dry, feminine, nocturnal, and malefic.

Venus is cold, moist, feminine, nocturnal, and benefic.

Mercury is subtle, mixed, and benefic.

The Moon is cold, moist, feminine, nocturnal, benefic, and black.

The head resembles Jupiter, and the tail resembles Saturn.

As for their lights: the light of the Sun extends fifteen degrees before it and the same amount behind it.

The light of Saturn and Jupiter extends nine degrees before each and the same behind.

The light of Mars extends eight degrees before it and eight behind.

The light of Venus and Mercury extends seven degrees before each and the same behind.

The light of the Moon extends twelve degrees before it and twelve behind.

As for the days and nights belonging to them, know that the day, night, and their hours are divided among the wandering planets.

The first hour of Sunday, and the first hour of Thursday night, belong to the Sun.

The first hour of Monday, and of Friday night, belong to the Moon.

The first hour of Tuesday, and of Saturday night, belong to Mars.

The first hour of Wednesday, and of Sunday night, belong to Mercury.

The first hour of Thursday, and of Monday night, belong to Jupiter.

The first hour of Friday, and of Tuesday night, belong to Venus.

The first hour of Saturday, and of Wednesday night, belong to Saturn.

The remaining hours of the day and night are apportioned among these planets according to the successive order of their spheres.

Thus the second hour of Sunday belongs to Venus, whose sphere is below the sphere of the Sun; the third to Mercury, whose sphere is below that of Venus; the fourth to the Moon, whose sphere is below that of Mercury; the fifth to Saturn; the sixth to Jupiter; the seventh to Mars; the eighth again to the Sun; the ninth to Venus; the tenth to Mercury; the eleventh to the Moon; and the twelfth to Saturn.

According to this calculation the remaining hours of all days and nights are determined, beginning from the lord of the first hour and proceeding according to the succession of the planetary spheres.

The source next assigns to each of the wandering planets particular numerical values relating to years, months, days, and hours, arranged under several grades such as the greatest, the great, the middle, and the small. These values are presented in a compact numerical table.

Chapter 6 — On the Rotation of the Sphere and the Division of Its Quarters

The encompassing sphere rotates continually like a waterwheel, from east to west above the Earth and from west to east beneath the Earth.

At every moment half the celestial sphere—that is, six zodiacal signs or one hundred and eighty degrees—is above the Earth, while the other half is beneath it.

The celestial sphere is divided, in relation to the horizon and meridian, into quarters, and the positions of the zodiacal signs and planets within these divisions differ according to their rising, setting, culmination, and descent beneath the Earth.

The signs that are rising are brought successively above the horizon, while those opposite them descend beneath it.

Through these positions arise the principal places by which astrologers distinguish the ascendant, the midheaven, the setting place, and the lower culmination, together with the intermediate places between them.

The significance attributed to the planets varies according to whether they occupy one of the principal angles or a place between them, according to their strength or weakness, their relation to the horizon, and their relation to one another.

The planets also differ in their conditions according to whether they are rising before or after the Sun, advancing or retreating, swift or slow, direct or retrograde, near or far from their exaltations, houses, falls, and detriments.

All these matters belong to the calculations and distinctions of this art.

Chapter 7 — On the Aspects of the Planets

Know that the wandering planets cast their rays throughout the degrees of the celestial sphere, and some look toward others from particular positions.

When two planets are joined in one place, their relation resembles two persons gathered together in one house.

When they are related through a harmonious aspect, their condition resembles people whose dispositions agree and who cooperate with one another.

When two planets regard one another by trine, they are like two men agreeing in disposition and character.

When they regard one another by square, they are like two men engaged in a transaction, each of whom claims the matter for himself.

When they regard one another by opposition, they are like two men in dispute, or like two partners quarrelling over mutual claims.

Thus the mutual aspects of the planets occur from defined positions among the degrees of the sphere, and through these positions are understood the directions in which their rays fall.

Know that the planets cast their rays toward all the degrees of the sphere, illuminating them and filling them with light and radiance.

Their actions and the manner in which their influences appear in this world from particular degrees are according to the proportions that exist among those degrees.

For the actions of the stars and their influences in this world occur according to their proportional relations to the Earth—that is, according to the relations of their bodies to the body of the Earth, their distances from the centre of the Earth, and the proportions of their motions to one another.

We have explained something concerning the science of such proportions in the Epistle on Music.

Chapter 8 — On the Two Benefics, the Two Malefics, and Their Spiritual Significations

Among these matters is the condition of the two benefics, Jupiter and Venus.

One of them signifies the happiness of the children of this world, namely Venus.

For when Venus predominates over a nativity, it signifies the enjoyments of worldly life: eating, drinking, marriage, offspring, and pleasures of this kind.

Whoever possesses such a condition in this world is among the fortunate in it.

As for Jupiter, it signifies the happiness of the children of the Hereafter.

For when Jupiter predominates over a nativity, it signifies goodness of character, soundness of religion, sincerity in scrupulousness, and purity of piety.

Whoever possesses such a condition in this world is among the fortunate in the Hereafter.

Likewise there are the two malefics, Saturn and Mars.

One signifies the misfortune of the children of this world, namely Saturn.

When Saturn predominates over a nativity, it signifies misery, distress, poverty, illness, and difficulty in affairs. Whoever possesses such a condition in this world is among the unfortunate in it.

Mars, however, signifies the misfortune of the children of the Hereafter.

When it predominates over a nativity, it signifies evils such as wickedness, debauchery, killing, theft, and corruption upon the Earth.

Whoever possesses such a condition in this world is among the unfortunate in the Hereafter.

When Jupiter and Venus together predominate over someone's nativity, their beneficence signifies happiness in both this world and the Hereafter.

When Saturn and Mars predominate, their maleficence signifies misfortune in both this world and the Hereafter.

Mercury's mixture with beneficence and maleficence signifies the affairs of this world and the Hereafter and the connection of one with the other.

The changeable signs signify the changing conditions of the children of this world.

The fixed signs signify the stability of the conditions of the children of the Hereafter.

The double-bodied signs signify the connection of the affairs of this world and the Hereafter with one another.

It has been said that Cancer is the ascendant of the world, and it is a changeable sign, as are its angles.

As for the two nodes, one of which is called the Head of the Dragon and the other the Tail, they are neither planets nor bodies.

Rather, they are two hidden matters. They possess motions through the zodiac like the motions of planets and indications concerning generated things like the indications of the malefic planets.

They are hidden in their essence but manifest in their effects.

The hiddenness of their essence together with the manifestation of their effects indicates that there are in the world souls, tribes of jinn, and hosts of devils.

The genera of angels are good souls entrusted with preserving the world and maintaining the well-being of creation.

At one time they had been embodied. Then they became purified, acquired insight, separated from their bodies, subsisted through themselves, attained felicity and salvation, and moved through the expanses of the celestial spheres and the breadth of the heavens.

They remain delighted, joyful, happy, and filled with pleasure for as long as the heavens and Earth endure.

As for the rebellious jinn and the insolent devils, they are evil and corrupt souls.

They too had previously been embodied, but they separated from their bodies without insight and without purification.

They therefore remained blind to the vision of realities, deaf to hearing what is right, and mute with respect to intellectual discourse concerning subtle meanings.

They wander in the darkness of the sea of matter, sinking into the depths of dark bodies.

Such is their condition until the day they are raised.

As for the manifest effects of the Head and Tail, among them are the eclipses of the two luminaries, for these two nodes are among the strongest causes connected with their eclipses.

Divine wisdom ordained the eclipsing of the two luminaries so that suspicion and doubt might be removed from the hearts of those who imagine that the Sun and Moon are gods.

Had they been gods, they would not have been eclipsed.

The affliction of these two noble and luminous bodies by two hidden things also serves as an indication of the great trials caused by devils to the prophets—God's blessings be upon them all—for the prophets are the suns and moons of the children of Adam.

Among these examples is the story of Iblīs with Adam, father of mankind, and his causing him to leave Paradise.

There is also his story with Noah and the Ark, his story with Abraham the Friend of the Merciful when he was cast into the fire and the construction of the catapult, his story with Moses—peace be upon him—when he whispered to him that perhaps the speech he heard was not the speech of the Lord of the worlds, whereupon Moses said:

“My Lord, show Yourself to me, that I may look upon You.”

And He said:

“You shall not see Me.”

His stories with the Messiah, Zechariah, John—peace be upon them—and the other prophets are well known, and explaining them would take too long.

We have mentioned these matters in this epistle because many of those in our time who study the science of the stars doubt the matter of the Hereafter, are perplexed concerning the ordinances of religion, are ignorant of the mysteries of prophecy, and deny reckoning and resurrection.

We therefore point them toward the truth of what they deny by means of their own art, so that it may be nearer to their understanding and clearer in demonstration to them.

We proceed in the same manner in the rest of our epistles concerning the various sciences.

Chapter 9 — On the Science of Astrological Judgments

Since we have mentioned something concerning the configuration of the heavens and the composition of the celestial spheres by way of introduction, we now wish to mention something concerning the science of judgments, which is known through inference.

Know, O brother—may God strengthen you and us with a spirit from Him—that scholars differ concerning the validity and reality of the science of astrological judgments.

Some hold and believe that celestial bodies possess indications concerning the things that come into being in this world before they occur.

Others hold that they possess both actions and influences in addition to their indications.

Still others hold that they possess neither actions, nor influences, nor indications whatsoever, but regard them as being like inanimate and lifeless bodies.

Those who say that the stars possess indications are the practitioners of astrological judgments.

They came to know these indications through great attention to observing the celestial motions and their effects, examining their conditions and investigating them carefully.

Over the succession of days, months, and years, nation after nation and generation after generation, whenever people apprehended something of these matters they recorded it in books, as is explained at length in their writings.

Those who deny these things are a group of disputants who abandoned investigation of this science, turned away from considering the conditions of the celestial sphere, its bodies, movements, and revolutions, and neglected research into them and contemplation of the changes in their affairs.

They therefore remained ignorant of them, denied them, and became hostile toward those who practised the art.

Those who say that the celestial bodies possess actions and influences, in addition to indications, upon things generated beneath the sphere of the Moon came to know this by another path, different from that of the practitioners of judgments.

Their investigation was more penetrating and their consideration more extensive.

It is the path of **spiritual philosophy and the sciences of the soul**, together with divine support and providential care.

We wish to mention something of this subject so that it may guide those who love philosophy and desire it, point them toward it, and increase their desire for philosophical knowledge.

Know, O brother—may God strengthen you and us with a spirit from Him—that the stars of the celestial sphere are the angels of God and the kings of His heavens.

God Most High created them for the cultivation of His world, the governance of His creatures, and the ordering of His creation.

They are God's vicegerents in His celestial spheres, just as the kings of the Earth are God's vicegerents upon His Earth.

He appoints earthly kings over His lands and servants so that they may cultivate His lands, govern His servants, preserve the laws of His prophets by enforcing their judgments, and maintain their order in the best condition attainable for them, bringing them toward the finest ends they can reach, whether in this world or in the Hereafter.

According to this analogy, the actions of these stars proceed among the generated beings beneath the sphere of the Moon.

They possess subtle actions and hidden influences whose manner is difficult for most people to know, just as children and ignorant people find it difficult to understand the manner in which kings govern and administer their subjects.

Only rational and mature people who contemplate affairs understand the latter.

Likewise, the manner in which these stars act and influence generated beings is known only to those sages and philosophers firmly established in the sciences, advanced in divine knowledge, engaged in the divine sciences, and supported from heaven through God's support and inspiration.

Chapter 10 — On How the Powers of the Beings of the Higher World Reach the Beings of the Lower World, Which Is the World of Generation and Corruption

Know—may God strengthen you and us with a spirit from Him—that when the sages say **"the world,"** they mean all existing bodies together with the attributes attached to them.

It is one world, like one city or one animal.

All bodies, however, fall into two divisions.

One is the world of the celestial spheres.

The other is the world of the four elements—fire, air, water, and earth—which is called the world of generation and corruption.

The first boundary of the world of the celestial spheres extends from the upper surface of the encompassing sphere to the innermost concave surface of the sphere of ether, which is the sphere of the Moon.

The world of the elements extends from the concave surface of the sphere of the Moon down to the furthest depth of the Earth.

One is called the **higher world**, and the other the **lower world**, because the higher lies toward the circumference and the lower toward the centre.

As for what lies above the celestial sphere, it is the rank of the **Universal Soul**, whose powers flow throughout all the bodies in both worlds, from the encompassing sphere to the very centre of the Earth, by permission of the Creator—exalted be His praise.

Know, O brother, that the first power flowing from the Universal Soul toward the world enters the noble luminous bodies that are the fixed stars.

After that it enters the wandering stars.

After these it reaches what lies below them among the four elements.

Then it reaches the individual beings generated from the elements: minerals, plants, and animals.

The manner in which the powers of the Universal Soul flow through universal and particular bodies is like the manner in which the light of the Sun spreads through the atmosphere and reaches the bodies illuminated by it.

The influence differs according to the receptivity, position, nature, and disposition of the recipient.

Thus a single power may produce differing manifestations according to the bodies in which it is received, just as one soul manifests different powers through the different organs of a living body.

The relation between the higher and lower worlds is therefore one of continuous connection: the higher causes convey powers downward, while lower bodies receive those powers according to their capacities.

The wandering stars, their motions, positions, aspects, distances, and rays are among the intermediary means through which these powers are manifested within the world of generation and corruption.

Their effects differ according to their relations to the Earth, their distances from its centre, their relations to one another, and the proportions of their motions.

For this reason knowledge of numerical and geometrical proportions assists in understanding the relations among celestial bodies and the manner in which their effects are manifested below.

Chapter 11 — On the Astrologer Not Claiming Knowledge of the Unseen in What He Reports of Future Events

Know that many people suppose that the science of astrological judgments is a claim to knowledge of the unseen.

The matter is not as they suppose.

Knowledge of the unseen means knowing what will occur without inference, cause, or any sign serving as a means.

No creature knows this—not an astrologer, not a soothsayer, not even a prophet among the prophets or an angel among the angels—except insofar as God makes it known.

Absolute knowledge of the unseen belongs to God—mighty and majestic.

Know, O brother, that the things known by a human being are of three kinds.

Some have already occurred, ended, and passed away with past time.

Some exist in the present moment.

Some will occur in future time.

Human beings possess three corresponding paths toward these three kinds of knowledge.

The path toward what has occurred and passed is hearing and report.

The path toward what presently exists is sensation.

The path toward what will occur in the future is inference.

Among the forms of such inference are inference from the stars; augury, omens, and divination; reflection, deliberation, and consideration; interpretation of dreams; and inward thoughts, revelation, and inspiration.

The last of these is the most exalted and noble.

It is not acquired, but is a gift from God—mighty is His name—to whomever He wills to choose from among His servants.

As for the science of the stars, it is acquired by human beings through effort, exertion, diligence, learning, and seeking knowledge.

The same applies to augury and omens, examining the palm, casting pebbles, soothsaying, physiognomy, divination, interpretation of dreams, and similar things.

In all these a person requires learning, investigation, thought, deliberation, and consideration.

People differ from one another in their ability in these branches of knowledge, and each may possess particular skill in one of them.

Know, O brother, that the things whose occurrence astrologers seek to infer are of seven kinds.

One concerns **religions and dynasties**, which they infer from the great conjunctions occurring approximately once in every thousand years.

Another concerns the transfer of kingship from one ruler to another, one nation to another, one country to another, and one ruling house to another. These are inferred from conjunctions occurring once in approximately every two hundred and forty years.

Another concerns changes of persons upon the throne and the wars and civil disturbances produced by these changes. These are inferred from conjunctions occurring about once every twenty years.

Another concerns the events arising in each year: cheapness and high prices, drought and abundance, calamities, plague, widespread death, famine, sickness, illnesses, or safety from them. These are inferred from the revolutions of the years of the world by which calendars are dated.

Another concerns events occurring month by month and day by day. These are inferred from particular times, conjunctions, and oppositions recorded in calendars.

Another concerns the judgments relating to the nativities of individual people and the revolutions of their years, according to the configurations of the heavens and positions of the planets at their births and at their annual revolutions.

Another concerns inference regarding hidden matters, such as reports, theft, what lies concealed in the mind, and questions posed for judgment. These are inferred from the ascendant at the time when the question is asked.

Know, O brother, that knowledge of things before they occur is not beneficial for every person.

For such knowledge may embitter life, bring anxiety upon a person, and cause fear, grief, and expectation of calamities before they actually arrive.

The sages investigated this science and searched into these mysteries so that they might train their souls through it and use this knowledge as assistance in ascending toward sciences more noble and exalted than it.

For when an intelligent, accomplished person with an awakened heart studies this science, investigates this mystery and its causes, and considers them with a heart free from love of the world, his soul awakens from the sleep of heedlessness and rises from the slumber of ignorance.

It revives and rises from the death of sin.

The eye of insight opens within it.

Then it perceives the transformations of affairs, knows the realities of existing things, sees with the eye of certainty the abode of the Hereafter, realizes the truth of the Return, understands what it is and why it exists, longs for it, and becomes detached from dwelling in this world.

Then the calamities of this world become light upon it.

It neither becomes overwhelmed, terrified, nor sorrowful when it knows of the fears and calamities indicated by the judgments of the heavens.

It is related that the Messenger of God—may God bless him and grant him peace—said:

"Whoever renounces the world, its calamities become easy for him."

Confirming this is the saying of God Most High:

"So that you may not grieve over what has escaped you, nor exult over what He has given you."

Know, O brother, that knowledge of the science of the stars possesses many benefits.

Among them is that if a person knows of an event that may occur in the future, or something that may happen after some days, he may be able to ward off some of its effects from himself—not by preventing the event itself from occurring, but by guarding against it or preparing for it.

This resembles what people do when they prepare clothing against the cold of winter, seek shelter against the heat of summer, store provisions for years of high prices, flee from places of civil disturbance and keep distant from them, or abandon travel in times of danger.

They do this while knowing that nothing will befall them except what God has decreed for them and against them.

Another benefit is that when people know of events before they occur, they may seek to avert them before their descent through prayer and humble supplication to God Most High, repentance and returning to Him, fasting, prayer, sacrifice, and asking Him to turn away what they fear and remove from them what they dread.

Know, O brother, that if you examine the mysteries of the divine laws and contemplate the customs of revealed religions and their ordinances, it will become clear to you that among the greatest purposes of the lawgivers was what we have just mentioned.

Thus Moses—peace be upon him—admonished the Children of Israel, saying to them in meaning:

Keep the laws of the Torah that God revealed to me and act according to its commandments. Then God Most High will hear your prayers, lower your prices, make your lands fertile, increase your wealth and children, and restrain from you the evil of your enemies.

Whenever you fear the accidents of the days and calamities of time, repent to God altogether with sincere repentance, seek His forgiveness, pray to Him, fast, give charity secretly and openly, and call upon Him in fear and humility until He turns away from you the evil you fear, protects you against what you dread, and removes from you the trials of the world and the calamities of its days.

In a similar manner was the counsel of the Messiah—peace be upon him—to his disciples.

There is no need for us to repeat the counsel of Muḥammad—may God bless him and grant him peace—to his community.

Know that the jurists, the transmitters of ḥadīth, the people of scrupulousness, and the devotees have forbidden engagement with the science of the stars.

They forbade it because the science of the stars is a part of philosophy, and the study of the philosophical sciences is considered undesirable for youths, children, and anyone who has not learned the science of religion and does not know enough of the ordinances of the revealed law to fulfil what is required of him and what he cannot lawfully remain ignorant of.

As for one who has learned the science of the revealed law, knows the ordinances of religion, and has attained certainty concerning the divine law, his study of philosophy does not harm him.

Rather, it increases his certainty in the science of religion, deepens his insight into the matter of the Return, strengthens his certainty concerning the reward of the Hereafter and severe punishment, increases his longing for the Hereafter and desire for it, and brings him nearer to God Most High.

May God guide you, us, and all our brethren upon the path of correctness, and guide you, us, and all our brethren to the way of right guidance.

The Third Epistle on Astronomy from the Epistles of the Brethren of Purity is complete. Praise be to God, Lord of the worlds, and prayers and peace be upon His Messenger Muḥammad and upon his good and pure family.

Epistle 4

On Geography: The Form of the Earth and Its Climates

In the name of God, the Compassionate, the Merciful.

The Fourth Epistle is on geography—that is, the form of the Earth and its climates—from the Epistles of the Brethren of Purity, may God preserve their rank.

There is no secret belonging to God except that it is manifest upon the tongues of His creatures, nor is there any veil thicker than their ignorance of Him, for none knows what He is except He Himself. To You is the final end. From Him all things begin and to Him they return; then to Him you shall be returned.

Every multiplicity begins from the One and returns to Him, and all existing things begin from the Creator and return to Him.

O son of Adam, I am God, the Living who does not die. If you obey Me and accept My commandment, I shall make you living, never to die.

O son of Adam, I am God. I say to a thing, "Be," and it is. Obey Me, and I shall make you such that you say to a thing, "Be," and it is.

Because the way of our brethren—may God strengthen them and us with a spirit from Him—is to contemplate all existing things, investigate their principles and the cause of their existence, examine the ranks of their order, and uncover how their effects are connected with their causes by permission of their Creator—exalted be His praise—we have found it necessary to discuss the condition of the Earth, the manner of its form, and the reason for its remaining at the centre of the world.

Knowledge of its condition and of how it remains suspended in the air is among the noble sciences, because upon it our bodies stand and grow, from it comes the material by which they continue to exist, and to it they return when their souls depart from them.

Moreover, contemplation of this world becomes a cause for elevating the aspirations of our souls toward the world of the celestial spheres, the dwelling of those on high, and for increasing the movement of our thoughts through the abode of the spiritual beings.

Frequent contemplation of the celestial world becomes a cause for awakening our souls from the sleep of heedlessness and the slumber of ignorance. It summons them to rise from the world of generation and corruption toward the world of permanence and everlasting duration, and causes them to desire departure from the world of bodies and the neighbourhood of devils toward the world of spirits and the neighbourhood of the angels brought near.

In this epistle we have mentioned something concerning the form of the Earth, the description of its inhabited quarter, and what lies within it of the seven climates, seas, mountains, deserts, rivers, and cities. This is intended as a path for beginners studying the configuration of the heavens, the composition of the spheres, the risings of the zodiacal signs, and the revolutions

of the stars, so that these things may be more easily conceived in the minds of students and more readily contemplated by those who reflect upon the dominion of the heavens and the Earth and say:

“Our Lord, You did not create this in vain. Glory be to You; protect us from the punishment of the Fire.”

God Most High also says:

“And upon the Earth are signs for those who possess certainty.”

And He says:

“Thus We showed Abraham the dominion of the heavens and the Earth, that he might be among those possessing certainty.”

Chapter 1 — On the Description of the Climates and What Is in the Inhabited Quarter of the Earth

Before describing the climates, the mountains, seas, deserts, rivers, cities, islands, and settlements within them, we must first describe the Earth, its six directions, and the manner in which it stands in the air.

The six directions are east, west, south, north, above, and below.

East is the direction from which the Sun rises.

West is the direction in which the Sun sets.

South is the direction of the circuit of Canopus.

North is the direction of the circuit of the Pole Star and the two Guards.

Above is that which lies toward heaven.

Below is that which lies toward the centre of the Earth.

The Earth is a round body like a sphere, standing in the air with its mountains, seas, deserts, inhabited regions, and ruined places altogether upon it. The air surrounds it from all directions—east, west, south, north, and from every side.

The distance of the Earth from heaven is equal from all directions.

The greatest circumference upon the surface of the Earth is **25,455 miles**, or **6,855 parasangs**.

The diameter of this circle, which is the diameter of the Earth, is **6,551 miles**, or **2,167 parasangs**.

Its centre is an imagined point in its depth at half the diameter, equally distant from the outer surface of the Earth and from the surface of the sea in every direction, because the Earth together with all the seas upon its surface constitutes a single sphere.

Nothing upon the outer surface of the Earth, from whatever side, is truly “beneath” the Earth, as many people imagine who have not trained themselves in geometry and astronomy.

They imagine that the surface of the Earth opposite our position is the underside of the Earth, that the air surrounding that side lies beneath the Earth, that the half of the lunar sphere surrounding that air is in turn beneath the air, and that each succeeding celestial sphere lies beneath the one before it, until it would follow that the lowest of the low is one half of the encompassing sphere—which is in fact the highest of the high at all times.

The matter is not as they imagine.

This conception is something a person acquires in childhood through imagination without reflection or demonstration. When a person is trained in astronomy and geometry, it becomes clear that the truth is contrary to what he previously imagined.

The true lowest point of the Earth is an imagined point in its depth at half its diameter, called the **centre of the world**.

Whichever side of the Earth one approaches from, the direction inward toward this centre is downward, because the centre of the Earth is the lowest of the low.

As for its exterior surface touching the air, and the surfaces of the seas in every direction, these are above.

The surrounding air is likewise above the Earth in every direction.

Above the sphere of the air is the sphere of the Moon; above the sphere of the Moon is the sphere of Mercury; and likewise the remaining spheres lie one above another until the ninth sphere, which is above every above and is the highest of the high.

Opposite this is the centre of the Earth, the lowest of the low.

Know, O brother, that wherever a person stands upon the surface of the Earth—whether in its east, west, south, north, on this side or that side—his feet are always upon the Earth, his head is directed upward toward heaven, and his feet downward toward the centre of the Earth.

He sees half of heaven, while the convexity of the Earth conceals the other half from him.

When a person moves from one place to another, a portion of heaven appears to him equal to the portion concealed from him on the opposite side.

For every nineteen parasangs of travel, this difference amounts to one degree.

Every parasang is three miles.

Every mile is four thousand cubits.

Every cubit is six handbreadths.

Every handbreadth is four fingers.

Every finger is six barleycorns.

Chapter 2 — On the Earth's Remaining in the Midst of the Air and the Cause of It

As for the reason the Earth remains in the midst of the air, four explanations have been given.

One opinion holds that the reason it remains there is the attraction exerted upon it equally from every direction. Since the power of attraction is equal from all sides, it necessarily remains in the middle.

Another opinion holds that the cause is repulsion in the same manner: because the force of repulsion is equal from every direction, the Earth necessarily remains in the middle.

A third opinion holds that the cause is the attraction of the centre upon all the parts of the Earth from every direction toward the middle.

Since the centre of the Earth is also the centre of the celestial sphere and is the “magnet of heavy things,” all parts of the Earth, being heavy, are drawn toward the centre.

One part first reaches the centre, while all the remaining parts gather around it—around the central point—each part seeking the centre.

Through this cause the Earth, with all its parts, becomes a single sphere.

Since the parts of water are lighter than the parts of earth, water rests above the earth.

Since the parts of air are lighter than the parts of water, air lies above the water.

And since the parts of fire are lighter than those of air, fire lies above, toward the sphere of the Moon.

The fourth explanation concerning the Earth's remaining in the midst of the air is the special fitness of the place appointed for it.

The Creator—mighty and majestic—assigned to every universal body, namely fire, air, water, and earth, a particular place most fitting for it.

Likewise He assigned to the Moon, Mercury, Venus, the Sun, Mars, Jupiter, and Saturn a particular place within its sphere, in which it remains fixed while its sphere carries it around.

This explanation most closely resembles the truth, because this cause applies consistently to the ordering of the seven celestial spheres, the fixed and wandering stars, and the four elements—fire, air, water, and earth.

For God—blessed and exalted—has assigned to every existing thing a particular place proper to it rather than other places, or a known rank more fitting for it than all other ranks.

Chapter 3 — On the Form of the Earth and the Division of Its Quarters

Half of the Earth is covered by the great encompassing ocean, while the other half is exposed.

Its likeness is that of an egg submerged in water, with one half immersed and the other half projecting above the water.

Of this exposed half, one half toward the south of the equator is desolate.

The other half, lying north of the equator, is the **inhabited quarter**.

The equator is an imagined line extending from east to west beneath the circuit of the first degree of Aries.

Along this line, night and day are always equal.

The two celestial poles there lie upon the horizon: one toward the circuit of Canopus in the south and the other toward the Pole Star in the north.

Description of the Inhabited Quarter of the Earth

Within this inhabited northern quarter of the Earth are seven great seas, and in every one of them are numerous islands, some measuring twenty parasangs across, some a hundred, and some as much as a thousand.

Among them is the **Sea of the Romans**, containing about fifty islands.

There is the **Sea of the Slavs**, containing about thirty islands.

There is the **Sea of Jurjān**, containing five islands.

There is the **Sea of al-Qulzum**, containing about fifteen islands.

There is the **Sea of Fārs**, containing seven islands.

There is the **Sea of Sind and India**, containing about one thousand islands.

And there is the **Sea of China**, containing about two hundred islands.

Within this quarter there are also fifteen smaller lakes, each ranging in extent from twenty parasangs to one hundred and even one thousand parasangs. Some contain salt water and others fresh water.

As for the Western Sea, the Sea of Gog and Magog, the Sea of the Zanj, the Sea of al-Zānj, the Green Sea, and the Encompassing Ocean, these lie outside this inhabited quarter.

Each of these seas is a branch or gulf of the Encompassing Ocean, and all are salt.

Within this quarter are also approximately two hundred long mountain ranges.

Some extend for twenty parasangs, others a hundred, and some as much as a thousand.

They differ in colour.

Some extend east to west.

Others extend south to north.

Others run obliquely between these directions.

Some lie among inhabited lands, cities, and villages; others in deserts and wastelands; still others on islands and within the seas.

Within this quarter there are also approximately two hundred and forty rivers, each extending from twenty parasangs to one hundred or even one thousand.

Some flow from east to west, others west to east, others north to south, and others south to north, while some run obliquely between these directions.

All these rivers begin in mountains and end in seas, marshes, and lakes.

In their course they water cities, villages, and cultivated districts.

Whatever water remains flows into the seas and mixes with seawater.

It then becomes vapour and rises into the air.

Clouds accumulate from it, and the winds drive them toward the summits of mountains and the deserts.

There rain falls and waters the lands.

Valleys and rivers flow, and the water returns once again to the seas.

Such is its continual course in winter and summer.

“That is the determination of the Mighty, the Knowing.”

Within this inhabited quarter are seven climates containing **seventeen thousand large cities**, ruled by approximately **one thousand kings**.

All this lies within only one quarter of the surface of the Earth.

As for the remaining three quarters, their condition is otherwise.

Chapter 4 — On the Seven Climates

The climates are seven divisions marked out within the inhabited quarter of the Earth.

Each climate is like a carpet spread out, extending in length from east to west and in width from south to north.

They differ from one another in length and width.

The longest and broadest is the first climate.

Its length from east to west is approximately three thousand parasangs, and its width from south to north approximately one hundred and fifty parasangs.

The shortest and narrowest is the seventh climate.

Its length from east to west is approximately one thousand five hundred parasangs, while its width from south to north is approximately seventy parasangs.

The remaining climates fall between these two in length and width.

God knows best what is correct, and to Him is the return and final destination.

Know, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—that these seven climates are not natural divisions.

Rather, they are like imaginary lines laid down by the ancient kings who travelled throughout the inhabited quarter of the Earth so that the boundaries of countries, kingdoms, and routes might be known.

Among these were Afrīdūn the Nabataean, Tubbaʿ the Ḥimyarite, Solomon son of David the Israelite—peace be upon them—Alexander the Greek, and Ardashīr son of Bābak the Persian.

By means of these divisions they sought to know the boundaries of countries, roads, and kingdoms.

As for the remaining three quarters of the Earth, lofty mountains, difficult roads, raging seas, and extreme atmospheric conditions prevented them from travelling through them.

In the far north, beneath the circuit of the Pole Star, the cold is exceedingly severe because winter there consists of six months of continuous night.

The air becomes intensely dark, the waters freeze from the severity of the cold, and animals and plants perish.

Opposite this region, in the far south around the circuit of Canopus, there is continuous daylight for six months in summer.

The air becomes intensely hot, like scorching fire, and animals and plants are burned by the severity of the heat, making habitation and travel there impossible.

In the west, travel is prevented by the Encompassing Ocean because of the violent collision of its waves and the intensity of its darkness.

In the east, travel is prevented by lofty mountains.

Thus, upon reflection, you find human beings confined within the inhabited quarter of the Earth, with no knowledge of the remaining three quarters.

Know that the Earth, with all its mountains and seas, is in relation to the vastness of the celestial spheres no more than a point within a circle.

For there are in the celestial sphere one thousand and twenty-nine stars.

The smallest of them is said to be eighteen times the size of the Earth, and the largest one hundred and seven times its size.

Because of their extreme distance and the vastness of the celestial spheres, you see them as though they were scattered pearls upon a green carpet.

When a person reflects upon this immensity, the wisdom of the Maker and the majesty of His greatness become clear to him.

Then he awakens from the sleep of heedlessness and the slumber of ignorance and knows that He did not create these things except for a tremendous purpose, as God Most High says:

“We did not create the heavens and the Earth and what is between them except in truth.”

Chapter 5 — An Exhortation to Contemplate the Earth and Take Instruction from It

Know, O brother, that whoever enters this world and lives in it for a long time occupied with eating, drinking, and sexual intercourse, continually seeking pleasures, eagerly gathering wealth and possessions, constructing buildings, cultivating lands and estates, and seeking leadership while wishing to remain in it forever—yet neglecting the pursuit of knowledge, heedless of knowing the realities of things, abandoning the discipline of the soul, and delaying preparation for the journey to the abode of the Hereafter—such a person, when his lifespan is exhausted, his appointed term approaches, and the stupor of death comes, which is the soul's separation from the body, departs from this abode ignorant.

He has not known its form, reflected upon the signs in its horizons, considered the states of its existing things, or contemplated the sensible realities he witnessed within it.

His likeness is that of people who entered the city of a mighty, wise, just, and merciful king.

The king had built it through his wisdom and placed within it wonders of his craftsmanship that description could not encompass except through seeing them.

He placed within it a table containing sustenance for those who entered and provisions for those departing.

Then he summoned servants of his to his presence in order to bestow honour upon them, commanding them to pass through this city on their journey so that they might look upon it, perceive what it contained, contemplate the marvels of his workmanship, and take instruction from the extraordinary forms he had fashioned.

Through this they were to discipline their souls, become wise, virtuous, good, and excellent, then reach his presence and become deserving of his honour.

Yet a group entered the city at night and spent the whole night occupied with eating, drinking, playing, and amusement.

They departed from it before dawn, not knowing through which gate they had entered or through which they had departed.

They saw nothing of the traces of the king's wisdom or the wonders of his craftsmanship and gained no benefit from it beyond enjoying food and drink for that single night.

Such is the condition of the children of this world who enter it ignorant, remain in it bewildered and constrained, deny the affair of the Hereafter, and then depart from it.

As God—exalted be His praise—says:

“Whoever is blind in this world will be blind in the Hereafter and further astray from the path.”

And He says in condemnation of them:

“Deaf, dumb, blind—they do not understand.”

I seek refuge for you, O righteous and merciful brother, from being among them.

Rather, be among those whom God—mighty and majestic—praised when He said:

“That abode of the Hereafter We assign to those who desire neither exaltation upon the Earth nor corruption; and the final outcome belongs to the God-fearing.”

He also recounts the words of those who desired worldly goods when they said:

“Would that we had the like of what Qārūn was given! Truly he possesses a mighty fortune.”

But those who had been given knowledge concerning the reality of the Hereafter said:

“Woe to you! The reward of God is better for whoever believes and acts righteously, and none receives it except the steadfast.”

And:

“None receives it except those who are patient, and none receives it except one possessing a mighty share.”

May God grant you, O righteous and merciful brother, success in correctness, guide you to right guidance, and likewise all our brethren wherever they may be in the lands.

Having completed the discussion of the Earth and described the inhabited quarter, we now wish to discuss the seven climates, explain their boundaries in longitude and latitude, and mention the great cities, long mountain ranges, and rivers contained within each.

Know, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—that the boundaries of the climates are determined according to the hours of daylight and the differences in their increase.

Chapter 6 — On the Measurement of the Seven Climates

When the Sun is at the beginning of Aries, the lengths of day and night and the number of their hours are equal throughout all these climates.

As the Sun proceeds through the degrees of Aries, Taurus, and Gemini, the lengths of daylight in the climates begin to differ.

When it reaches the end of Gemini, which is the beginning of Cancer, the longest day at the middle of the first climate is thirteen hours.

At the middle of the second climate it is thirteen and a half hours.

At the middle of the third climate it is fourteen hours.

At the middle of the fourth climate it is fourteen and a half hours.

At the middle of the fifth climate it is fifteen hours.

At the middle of the sixth climate it is fifteen and a half hours.

At the middle of the seventh climate it is sixteen hours.

In regions whose latitude reaches sixty-six degrees and continues toward ninety degrees, the whole period becomes continuous daylight. The explanation of this is lengthy and is given in the *Almagest*.

Know that the **longitude** of a country or city means its distance from the furthest west, while its **latitude** means its distance from the equator.

The equator is the place where night and day are always equal.

Every city lying upon that line has no latitude.

Likewise, every city at the furthest west has no longitude.

From the furthest west to the furthest east there are one hundred and eighty degrees, each degree amounting to nineteen parasangs.

Every city whose longitude is ninety degrees lies midway between east and west.

Whatever has a longitude greater than this lies nearer the east; whatever has less lies nearer the west.

Between two cities, the one possessing the greater longitude and latitude lies further east and north than the other.

The difference in latitude is approximately nineteen parasangs for every degree.

The difference in longitude, however, varies according to latitude.

At the equator, each degree of longitude equals nineteen parasangs.

In the first climate, each degree equals seventeen parasangs.

In the second, fifteen.

In the third, thirteen.

In the fourth, ten.

In the fifth, seven.

In the sixth, five.

In the seventh, three.

The First Climate — Assigned to Saturn

The first climate belongs to Saturn.

Its length from east to west is **9,555 miles**, or **3,185 parasangs**, and its width from south to north is **445 miles**, or **146 parasangs**.

Its first boundary, toward the equator, lies where the elevation of the northern pole is twelve and three-quarter degrees and the longest day is twelve hours and three quarters.

Its middle lies where the pole rises sixteen and two-thirds degrees above the horizon, and the longest day is thirteen hours.

Its second boundary lies where the elevation of the pole is twenty and a half degrees and the longest day is thirteen and a quarter hours.

Within this climate are approximately twenty long mountain ranges, some extending from twenty to one hundred or even one thousand parasangs.

It also contains approximately thirty long rivers of comparable lengths and about fifty well-known large cities.

This climate begins in the east to the north of the Island of Rubies.

It passes through the southern part of China, then north of Serendib, then through the middle of India, through the middle of Sind, across the Sea of Fārs south of Oman, through the middle of al-Shiḥr and Yemen, across the Sea of al-Qulzum, through the middle of Abyssinia, across the Nile of Egypt, then through Nubia, the lands of the Berbers and al-Būya, and the southern regions of Mauritania, ending at the Western Sea.

Most of the inhabitants of these lands are described in the source as black.

The Second Climate — Assigned to Jupiter

The second climate belongs to Jupiter.

Its length from east to west is **7,655 miles**, and its width from south to north is **600 miles**.

Its first boundary, toward the climate of Saturn, lies where the elevation of the pole is twenty and a half degrees and the longest day is thirteen and a quarter hours.

Its middle lies where the pole rises twenty-four degrees and six minutes above the horizon, and the longest day is thirteen and a half hours.

Its second boundary lies where the pole rises twenty-seven and a half degrees above the horizon, and its longest day is thirteen hours and three quarters.

Within this climate are approximately seventeen long mountain ranges, a comparable number of long rivers, and around fifty well-known large cities.

It begins in the east and passes through the middle of the lands of China, then through the northern regions of Serendib, through the northern parts of India, the lands of Qandahār, the middle of Kabul, the northern parts of Sind, and the southern parts of Makrān.

It then crosses the Sea of Fārs, passes through Oman, the middle of the lands of the Arabs, crosses the Sea of al-Qulzum, passes through the northern lands of Abyssinia and the southern parts of Upper Egypt, crosses the Nile of Egypt, then passes through the middle of the lands of al-Zaqa and Ifrīqiya, north of the lands of the Berbers and south of Qayrawān, then through the middle of Mauritania, ending at the Western Sea.

Most of the inhabitants of these lands are described in the source as having complexions ranging from brown to black.

Among the principal cities listed within this climate are cities in China, India, Sind, al-Yamāma, Ṭāʾif, Mecca, Yathrib—the City of the Messenger—Upper Egypt, Ifrīqiya, and other regions. The source provides their longitudes and latitudes in a compact numerical table.

The Third Climate — Assigned to Mars

The third climate belongs to Mars.

Its length from east to west is **8,255 miles**, and its width from south to north is **355 miles**.

Its boundaries extend from twenty-seven and a half degrees to thirty-three degrees and thirty minutes.

Its middle lies where the pole rises approximately thirty and a half degrees above the horizon, and its longest day is fourteen hours.

Within this climate are thirty-three long mountain ranges, twenty-two long rivers, and one hundred and twenty-eight well-known large cities.

It begins in the east and passes through the northern lands of China and south of the lands of Gog, then through northern India and south of the lands of the Turks.

It passes through the middle of Kabul, then Qandahār, Makrān, the southern parts of Sijistān, the middle of Kirmān, the coastal regions of Fārs, the southern parts of Iraq, south of Diyār Bakr and north of the lands of the Arabs.

It then passes through the middle of Syria, through Egypt and Alexandria, through the middle of Marmarica, the lands of Qādisiyya and Qayrawān, then Tangier, finally reaching the Western Sea.

Most of the inhabitants of these lands are described as brown.

Among the cities listed in this climate are Qandahār, Kabul, cities of Sijistān and Makrān, Shīrāz, al-Ahwāz, Basra, Kufa, Damascus, Jerusalem, Fusṭāṭ, Alexandria, Qayrawān, and Tangier.

The Fourth Climate — Assigned to the Sun

The fourth climate belongs to the Sun.

Its length from east to west is **7,855 miles**, and its width from south to north is **355 miles**.

Its boundaries extend from thirty-three degrees and thirty minutes to thirty-nine degrees.

Its middle lies where the pole rises thirty-six degrees and fifty minutes above the horizon, and its longest day is fourteen and a half hours.

Within this climate are twenty-five long mountain ranges, twenty-two long rivers, and approximately two hundred and twelve well-known large cities.

It begins in the east, passing through northern China and south of the lands of Gog and Magog.

Then it passes through the southern regions of the Turks and northern India and Ṭukhāristān, then north of Balkh, through the northern lands of Makrān, the middle of Sijistān, Kirmān, Fārs, Khūzistān, and the middle of Iraq.

It continues through the middle of Diyār Rabīʿa and Diyār Bakr, then through the southern frontier districts and the northern parts of Syria.

It crosses the middle of the Sea of the Romans and the island of Cyprus, then passes through the sea north of Egypt and Alexandria.

It then passes through Sicily, north of Marmarica, the lands of Qādisiyya, Qayrawān, and Tangier, and finally reaches the Western Sea.

Most of the inhabitants of these lands are described in the source as having complexions between brown and white.

This climate, the text says, is **the climate of the prophets and sages**, because it lies in the middle of the climates, with three climates south of it and three north of it.

It is also the portion belonging to the Sun, the greatest luminary.

The source states that the inhabitants of this climate possess the most balanced temperaments and characters, followed by the inhabitants of the two climates adjacent to it, namely the third and fifth.

It then contrasts them with peoples in the more extreme climates, attributing differences of appearance and disposition to climatic conditions. These are historical ethnographic judgments of the source.

Among the cities listed in this climate are Kāshghar, Samarqand, Balkh, Herat, Merv, Nishapur, Jurjān, Āmul, Rayy, Daylam and Gīlān, Isfahan, Hamadan, Baghdad, Mosul, and Aleppo.

The Fifth Climate — Assigned to Venus

The fifth climate belongs to Venus.

Its length from east to west is **7,455 miles**, and its width from south to north is **255 miles**.

Its boundaries extend from thirty-nine degrees to forty-three and a half degrees.

Its middle lies where the pole rises forty-one degrees and one third above the horizon, and its longest day is fifteen hours.

Within this climate are approximately thirty long mountain ranges, fifteen long rivers, and about two hundred well-known large cities.

It begins in the east and passes through the middle of the lands of Gog and Magog, through the middle of the lands of the Turks, the lands of Farghāna and Isfījāb, and the middle of Transoxiana.

It crosses the Oxus and passes through the middle of Khurasan, north of Sijistān and Kirmān, north of Fārs, through the middle of Rayy and Māhān, north of Iraq and south of Azerbaijan.

It continues through the middle of Armenia and north of the frontier regions, then through the middle of the lands of the Romans.

It crosses the gulf of Constantinople, passes north of the Sea of the Romans and through the middle of the lands of Rome, then south of the Temple of Venus, through the middle of al-Andalus, and ends at the Western Sea.

Most of the inhabitants of these lands are described as white.

The source lists among its regions and cities lands of Gog and Magog, Khāqān of the Turks, Ṭarāz, Isfījāb, Khwārazm, Ardabīl, cities of Armenia, Melitene, Macedonia, and Rome.

The Sixth Climate — Assigned to Mercury

The sixth climate belongs to Mercury.

Its length from east to west is **7,555 miles**, and its width from south to north is **255 miles**.

Its boundaries extend from forty-three and a half degrees to forty-seven degrees and one quarter.

Its middle lies where the pole rises forty-five degrees and fifty minutes above the horizon, and its longest day is fifteen and a half hours.

Within this climate are approximately twenty-two long mountain ranges, thirty-two long rivers, and around ninety well-known large cities.

It begins in the east and passes north of the lands of Gog and Magog, through regions associated with the peoples of the eastern steppes, through the middle of the lands of Khāqān and south of the lands of Kīmāk.

It passes north of Isfījāb, north of Sogd and Transoxiana, through the middle of Khwārazm, north of Jurjān, Ṭabaristān, Daylam, and Gīlān.

It crosses the Sea of Ṭabaristān, passes through the middle of Azerbaijan and Armenia, then through the northern regions of Constantinople and Macedonia, continuing westward through northern regions until it reaches the Western Sea.

Most of the inhabitants of these lands are described as having complexions between fair and ruddy.

The Seventh Climate — Assigned to the Moon

The seventh climate belongs to the Moon.

Its length from east to west is **6,655 miles**, and its width from south to north is **185 miles**.

Its boundaries extend from forty-seven degrees and one quarter to fifty and a half degrees.

Its middle lies where the pole rises approximately forty-eight and two-thirds degrees above the horizon, and its longest day is sixteen hours.

Within this climate are approximately ten long mountain ranges, about forty long rivers, and around twenty-two well-known large cities.

It begins in the east and passes south of the lands of Gog and Magog and through regions of the northern peoples, including Kīmāk.

It passes south of the Alans, north of the Sea of Jurjān, through regions near the Mountain of Bāb al-Abwāb, through the middle of a northern sea, then through regions north of Macedonia and south of the Sea of the Slavs and other northern islands, ending at the Western Sea.

Most of the inhabitants of these lands are described as tending toward a ruddy complexion.

The source then gives a compact table of principal cities with their longitude and latitude.

Chapter 7 — On the Particular Characteristics of the Climates

Know, O brother, that within each of these seven climates are thousands of cities, increasing and decreasing in number.

Within every city are peoples whose languages, colours, natural dispositions, manners, doctrines, works, crafts, and customs differ from one another.

The same applies to their animals and minerals, which differ in shape, taste, colour, and smell.

The cause of these differences lies in the differences of the airs of the countries, the soils of the regions, and the sweetness or salinity of their waters.

But these differences also correspond, according to the source, to the risings of the zodiacal signs and their degrees over the horizons of those lands, to the passages of the planets over the zeniths of those regions, and to the places upon which their rays fall from the horizons.

A full explanation of these matters would be lengthy.

It is related that one of the kings of former times once ordered that the inhabited cities in the inhabited quarter of the Earth be counted, and they were found to number **seventeen thousand cities**, apart from villages.

Know that the number of the cities of the Earth sometimes increases and sometimes decreases.

This occurs, according to the text, in accordance with the astrological judgments of conjunctions and the cycles of the celestial spheres extending over thousands of years.

When conjunctions indicate the strength of the benefic planets, moderation of the times, balance of the elemental natures, the coming of prophets, frequent revelation, abundance of scholars, justice of kings, uprightness of human affairs, and the descent of heavenly blessings in rain, the Earth and vegetation flourish, animals multiply, lands become populated, and the building of cities increases.

But when conjunctions indicate the strength of the malefic planets, corruption of the times, departure of temperament from balance, interruption of revelation, scarcity of scholars, death of the virtuous, injustice of kings, corruption of human morals, evil actions, and disagreement of opinions, the descent of blessings from heaven through rain is withheld.

Then the Earth does not flourish, vegetation dries up, animals perish, and cities throughout the lands fall into ruin.

Know, O brother, that the affairs of this world consist of alternating dynasties and cycles passing among its inhabitants, generation after generation, from one nation to another and from one land to another.

Chapter 8 — On the Rise and Decline of Dynasties

Know that every dynasty has a time at which it begins, a summit toward which it rises, and a limit at which it ends.

When it reaches its furthest summit and utmost limit, decline and diminution hasten toward it.

Ill fortune and abandonment begin to appear among its people, while among another people strength, vigour, manifestation, and expansion begin anew.

Every day the latter grows stronger and increases, while the former becomes weaker and diminishes, until the first and preceding dynasty disappears and the later one becomes firmly established.

An example of this is found in the course of the ordinances of time.

All time is divided into two halves: one half is luminous day and the other dark night.

Likewise one half is hot summer and the other cold winter.

These alternate in their coming and going.

Whenever one departs, the other returns.

At one time one increases while the other decreases, and whatever amount is diminished from one is added to the other.

When the two reach the extreme limits of their increase and decrease, diminution begins in the one that had reached the extreme of increase, while increase begins in the one that had reached the extreme of decrease.

They continue in this manner until their measures become equal.

Then each passes beyond equality toward the opposite condition until both again reach their extreme limits of increase and decrease.

Whenever one reaches the extreme of increase, its strength becomes manifest and its actions in the world multiply, while the power of its opposite becomes hidden and its actions diminish.

Such is the condition of time with respect to the **dynasty of the people of good** and the **dynasty of the people of evil**.

At one time dominion, strength, and manifest activity in the world belong to the people of good.

At another time dominion, strength, and manifest activity belong to the people of evil.

As God—mighty and majestic—says:

“And these days We alternate among the people.”

And:

“None understands them except those who possess knowledge.”

Chapter 9 — On the Coming of the State of the People of Good

We see, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—that the dominion of the people of evil has reached its extreme, their power has become manifest, and their actions have multiplied throughout the world in this age.

But after reaching the furthest point of increase there remains nothing except decline and diminution.

Know that dominion and kingship pass, in every age and time, cycle and conjunction, from one nation to another, from one household to another, and from one land to another.

Know, O brother, that the **state of the people of good** begins with a group of learned sages and virtuous, excellent men.

They gather upon a single opinion, agree upon a single doctrine and a single religion, and bind themselves together by covenant and compact that they will not quarrel and will not refrain from supporting one another.

In all their affairs they become like a single man, and in all their administration like a single soul.

Their aim is to support religion and seek the Hereafter.

They seek nothing except the countenance of God and His good pleasure, desiring neither recompense nor thanks.

Would you then, O righteous and wise brother—may God strengthen you and us with a spirit from Him—desire the companionship of sincere brethren and virtuous, excellent friends whose qualities are such as these?

Then pursue their aim, adopt their character, contemplate their sciences so that you may know their paths, be among them, and attain salvation through their triumph.

“No evil shall touch them, nor shall they grieve.”

May God, through His bounty and grace, grant you, O brother, and all our brethren success in what is right.

God is sufficient for us, and He is the best Trustee; the best Protector and the best Helper.

Praise be to God, Lord of the worlds, and prayers and peace be upon His Prophet Muḥammad and his family.

The Fourth Epistle is complete.

Epistle 6

On Numerical and Geometrical Proportion in the Refinement of the Soul and the Improvement of Character

In the name of God, the Compassionate, the Merciful.

Praise be to God, and peace be upon His servants whom He has chosen. Is God better, or what they associate with Him?

Know, O brother—may God strengthen you and us with a spirit from Him—that we have completed the epistle mentioned before this one. In this epistle we wish to discuss the ratios of numbers to one another.

We say:

Know that a **ratio** is the measure of one of two magnitudes in relation to the other.

Whenever two numbers are compared with one another, they must either be equal or unequal.

If they are equal, their relation to one another is called the **ratio of equality**.

If they are unequal, then one must necessarily be greater and the other smaller.

If the smaller is compared with the greater, this is called the **lesser difference**, and it is expressed through one of the nine terms we have mentioned previously: half, third, quarter, fifth, sixth, seventh, eighth, ninth, and tenth, together with expressions compounded from these, such as half of a sixth, a third of a fifth, and the like.

Such ratios are familiar to calculators, as in the relation of six to sixty and other numbers.

But when the greater number is compared with the smaller, this is called the **greater difference**. Investigation and discourse concerning ratios of this kind belong to philosophers rather than to the calculators of administrative accounts.

These ratios are divided into five kinds and are expressed by five forms.

The first is the **multiple ratio**.

The second is the **ratio of one whole plus one part**.

The third is the **ratio of one whole plus several parts**.

The fourth is the **ratio of a multiple plus one part**.

The fifth is the **ratio of a multiple plus several parts**.

No greater number can be compared with a smaller one without falling under one of these five ratios.

As for the multiple ratio, it is exemplified by comparing every number beginning from two, in natural order, with one.

Two is twice one.

Three is three times one.

Four is four times one.

Five is five times one.

According to this principle all numbers, however far they extend, when compared with one are in a relation of multiplicity:

2:1, 3:1, 4:1, 5:1, 6:1, 7:1, 8:1, 9:1.

As for the ratio of **one whole plus one part**, it is like the relation of successive numbers beginning from two to the number immediately preceding each:

3:2, 4:3, 5:4, 6:5, and so forth.

Three is one whole of two plus one half of it.

Four is one whole of three plus one third.

Five is one whole of four plus one quarter.

And according to this principle the sequence continues however far numbers extend.

As for the ratio of **one whole plus several parts**, it is exemplified by:

5:3, 7:4, 9:5, 11:6, 13:7, and so forth.

For five is one whole of three plus two thirds of it; seven is one whole of four plus three quarters; nine is one whole of five plus four fifths; and so on according to the same principle.

As for the ratio of a **multiple plus one part**, examples are:

5:2, 7:3, 9:4, 11:5.

Five is twice two plus one half of two.

Seven is twice three plus one third.

Nine is twice four plus one quarter.

Eleven is twice five plus one fifth.

According to this principle the sequence continues.

As for the ratio of a **multiple plus several parts**, examples are:

8:3, 11:4, 14:5, 17:6.

Eight is twice three plus two thirds of three.

Eleven is twice four plus three quarters of four.

Fourteen is twice five plus four fifths of five.

Seventeen is twice six plus five sixths of six.

Thus it has become clear that whenever two unequal numbers are compared with the greater relative to the lesser, their relation necessarily belongs to one of these five kinds: multiple, one whole plus one part, one whole plus several parts, multiple plus one part, or multiple plus several parts.

When the relation is reversed and the smaller is compared with the greater, another expression is added to each of these five terms, namely **"sub-"** (*taḥt*).

Thus one compared with any multiple of itself is called **submultiple**.

Two compared with three, three with four, and four with five are called **sub-one-whole-plus-one-part** relations.

Three compared with five, four with seven, and five with nine are called **sub-one-whole-plus-several-parts**.

Two compared with five, three with seven, and four with nine are called **submultiple-plus-one-part**.

And three compared with eight, four with eleven, five with fourteen, and six with seventeen are called **submultiple-plus-several-parts**.

It has therefore become clear that the ratio of a lesser number to a greater likewise cannot fall outside these five forms.

Chapter 1 — On Ratios

Know that ratio is of three kinds: either according to **quantity**, according to **quality**, or according to both together.

That which is according to quantity is called **numerical ratio**.

That which is according to quality is called **geometrical ratio**.

That which combines both is called **harmonic or musical ratio**.

Numerical ratio consists in an equal difference between different numbers.

An example is:

1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

The difference between each two successive numbers is one.

Likewise:

2, 4, 6, 8, 10, 12, 14, 16, 18…

The difference between each two successive numbers is two.

Likewise:

1, 3, 5, 7, 9, 11…

The difference between every two successive numbers is two.

All other numerical ratios are constructed according to this principle, for what is considered in them is the equality of the differences between the numbers.

One property of this ratio is that if any two numbers whatsoever are taken, and half of each is taken and the two halves added together, another number is produced that lies midway between the two.

For example, between three and four the difference is one.

Half of three is one and a half, and half of four is two.

Their sum is three and a half.

Three and a half exceeds three by one half and falls short of four by one half.

According to this principle all numerical ratios are considered.

As for **geometrical ratio**, it consists in the measure of one of two unequal numbers relative to the other.

For example:

4, 6, 9

are in geometrical proportion, because the ratio of four to six is the same as the ratio of six to nine.

Four is two thirds of six, and six is two thirds of nine.

The reverse is likewise true: the ratio of nine to six is like the ratio of six to four, because nine is one and a half times six, while six is one and a half times four.

Likewise:

8, 12, 18, 27

stand in geometrical proportion, because eight is two thirds of twelve, twelve two thirds of eighteen, and eighteen two thirds of twenty-seven.

The reverse relations follow the same rule.

Geometrical ratio is divided into two kinds: **continuous** and **discontinuous**.

The continuous kind is like the examples just mentioned.

One of its properties is that when there are three numbers in continuous geometrical proportion, the product of the first and third equals the product of the second by itself.

Thus:

4 × 9 = 6 × 6.

When there are four numbers, the product of the first and fourth equals the product of the second and third.

Thus, with:

8, 12, 18, 27

the product of eight and twenty-seven equals the product of twelve and eighteen.

The discontinuous geometrical proportion is like:

4, 6, 8, 12.

The ratio of four to six is the same as the ratio of eight to twelve, for four is two thirds of six and eight is two thirds of twelve.

But six is not two thirds of eight.

This and similar ratios are therefore called discontinuous.

Its property is likewise that the product of the first and fourth equals the product of the second and third.

The difference between continuous and discontinuous proportion is that in continuous proportion the middle term is shared in both ratios, whereas in discontinuous proportion the middle term is not shared.

As for the **harmonic ratio**, it is compounded from geometrical and numerical ratio.

An example is found in:

1, 2, 3, 4, 5, 6.

Six is called the greatest term, three the least term, and four the middle term.

One and two are the differences between the terms.

For the difference between six and four is two, while the difference between four and three is one.

The ratio of two—the difference between six and four—to one—the difference between four and three—is like the ratio of the greatest term, six, to the least term, three.

Conversely, the ratio of three to six is like that of one to two.

From another perspective, the ratio of one to two is like the ratio of two to four and like that of three to six.

Conversely, the ratio of six to three is like that of four to two and two to one.

Likewise, the ratio of six to four is like the ratio of three to two, and conversely the ratio of two to three is like that of four to six.

This ratio is therefore compounded from the numerical and geometrical ratios.

From this kind of proportion was derived the composition of musical notes and melodies, as we explained in the Epistle on Music.

Chapter 2 — On Deriving Continuous Proportions

Every number whatsoever, when compared with another number greater than itself, possesses some ratio to it, and another number smaller than it may be found bearing that same ratio to it.

For example, ten compared with one hundred is in the ratio of one tenth.

Below ten, one bears the same ratio to ten, because one is one tenth of ten just as ten is one tenth of one hundred.

Likewise, the ratio of ten to ninety is like the ratio of one and one ninth to ten.

The ratio of ten to eighty is like the ratio of one and one quarter to ten.

The ratio of ten to seventy is like the ratio of one and three sevenths to ten.

The ratio of ten to sixty is like the ratio of one and two thirds to ten.

The ratio of ten to fifty is like the ratio of two to ten.

The ratio of ten to forty is like that of two and one half to ten.

The ratio of ten to thirty is like that of three and one third to ten.

The ratio of ten to twenty is like that of five to ten.

According to this principle all continuous proportions are considered.

The rule for deriving such a proportion is to multiply the given number by itself and divide the product by the greater number. The result is the smaller number in the same proportion.

If the product is divided by the smaller number, the greater number in that proportion is obtained.

For example, if you are told:

“Find me a number whose ratio to ten is like the ratio of ten to eleven,”

multiply ten by itself and divide the result by eleven.

The result is nine and one eleventh.

Thus the ratio of nine and one eleventh to ten is like the ratio of ten to eleven.

One property of this ratio is that whenever two of the terms are known and the third is unknown, the unknown can be discovered from the two known terms.

The rule is to multiply one of the known terms by itself and divide the product by the other.

The quotient is the unknown term sought.

For example, if you are told:

“Find a number whose ratio to four is like the ratio of four to six,”

multiply four by itself, giving sixteen, and divide sixteen by six.

The result is two and two thirds.

Thus the ratio of two and two thirds to four is like the ratio of four to six.

Conversely, the ratio of four to two and two thirds is like the ratio of six to four.

If six is given instead, do with it as you did with four, for the principle is one.

Six multiplied by itself gives thirty-six.

Divide thirty-six by four, and the result is nine.

Thus the ratio of nine to six is like the ratio of six to four, and conversely the ratio of six to nine is like the ratio of four to six.

According to this example, judge similar cases.

Through such proportion, unknown geometrical quantities may be discovered from known ones.

Likewise, unknowns in commercial transactions may be discovered, whether the unknown is a price or the thing priced.

Know that sometimes the unknown is the price and sometimes the priced quantity itself.

One must therefore take care in the calculation not to confuse the price with the thing priced, but to combine each with its corresponding term according to the proportion.

Chapter 3 — On Proportion

Know that **proportion** is the agreement of the measures of numbers with one another.

Two numbers alone do not constitute a proportion.

The least number of terms required for proportion is three.

When three numbers are proportional, the measure of the first relative to the second is like the measure of the second relative to the third, and likewise in reverse.

For every three proportional numbers, the product of the first and third equals the product of the second by itself.

An example is:

4, 6, 9.

Four multiplied by nine equals six multiplied by itself.

Whenever three numbers are proportional and the two extremes—that is, the first and third—are known while the middle is unknown, multiply one extreme by the other and take the square root of the product.

That root is the unknown middle term.

If one extreme and the middle term are known, multiply the middle by itself and divide the product by the known extreme.

The quotient is the unknown extreme.

If four numbers are proportional, their relation is of two kinds: either **successive** or **non-successive**.

When four numbers are successively proportional, the relation of the first to the second is like that of the second to the third, and the relation of the second to the third is like that of the third to the fourth.

An example is:

2, 4, 8, 16.

When four proportional numbers are non-successive, the ratio of the first to the second is like that of the third to the fourth, but the ratio of the second to the third need not be like that of the third to the fourth.

Every four proportional numbers, whether successive or non-successive, possess the property that the product of the first and fourth equals the product of the second and third.

If one of the two extremes is unknown, multiply the two middle terms together and divide the product by the known extreme.

The quotient is the unknown extreme.

If one of the two middle terms is unknown and the remaining three are known, multiply one extreme by the other and divide the product by the known middle term.

The quotient is the unknown middle term.

When there are four successively proportional numbers and two are known while the other two are unknown, the unknown terms can, in certain arrangements, be derived from the known terms.

If the first and second are known, multiply the second by itself and divide the result by the first. What results is the third.

The process is then continued according to the same principle to obtain the fourth.

If the first and third are known, multiply the first by the third and take the square root of the product. The result is the second.

Then multiply the third by itself and divide the product by the second. The quotient is the fourth.

The same method applies to the other numbers.

But if four proportional numbers are non-successive and only two are known, the two unknowns cannot in general be derived from the two known terms alone.

Nevertheless, if the first and second are known and the second is greater than the first, divide the second by the first.

Whatever multiplicity and ratio are thereby obtained, the fourth bears that same multiplicity and ratio to the third.

If the first is greater than the second, divide the first by the second. Whatever quotient is obtained, the third bears that same multiplicity to the fourth.

As for **inverting the proportion**, it consists in arranging the relation so that the ratio of the first to the third corresponds to the ratio of the second to the fourth, together with its inverse.

As for **rearranging the proportion**, it consists in making the ratio of the first to the first and second together like the ratio of the third to the third and fourth together, and similarly in inversion and permutation.

As for **taking the excess of a proportion**, it is to make the ratio of the excess of the first over the second to the second like the ratio of the excess of the third over the fourth to the fourth.

As for **diminishing a proportion**, it is to make the ratio of what remains of the second after subtracting the first from it to the first like the ratio of what remains of the fourth after subtracting the third from it, and similarly in inversion and permutation.

Chapter 4 — On the Excellence of the Science of Numerical, Geometrical, and Musical Proportions

Know, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—that the prophets—God's blessings be upon them—and the philosophers agree that God—mighty and majestic—who has no partner and no likeness, is truly One in every respect, while everything other than Him among all existing things is dual, composed, and compounded.

For when God wished to bring the corporeal world into existence, He first originated the two principles, namely **matter and form**.

Then from them He created body absolutely.

He made certain bodies—that is, the elements—according to the four natures: heat, cold, dryness, and moisture.

The elements are fire, air, water, and earth.

Then from these elements He created all that exists upon the face of the Earth: animals, plants, and minerals.

Know that these elements differ in power, oppose one another in nature, differ in form, occupy different places, and are mutually opposed and discordant.

They cannot come together except through a composer who brings them into harmony.

And whenever composition is not according to proportion, its constituents neither blend nor become united.

One example is found in musical sounds.

The sound of the **zīr** string is fine and light, while the sound of the **bamm** string is thick and heavy.

The fine is contrary to the thick, and the light contrary to the heavy.

They are different and discordant and do not come together or meet except through one who combines and harmonizes them.

If their combination is not according to proportion, they neither blend nor become united, nor does hearing take pleasure in them.

But when they are combined according to proportion, they harmonize and become like a single tone.

The ear no longer distinguishes discord between them, nature takes pleasure in them, and souls rejoice in them.

The same is true of metrical speech.

When it is constructed according to proportion, it is more pleasurable to hearing than unmeasured prose, because of the proportions found within metre.

An example is the metre known as **al-Ṭawīl**.

It consists of forty-eight letters: twenty-eight moving letters and twenty quiescent letters.

Thus the relation of its quiescent letters to its moving letters is like the ratio of five to seven.

Likewise, half a verse contains fourteen moving letters and ten quiescent letters.

A quarter contains seven moving letters and five quiescent letters.

It is also composed of twelve metrical **causes** and eight **pegs**. The twelve causes contain twelve moving and twelve quiescent letters, while the eight pegs contain eight quiescent and sixteen moving letters.

Another example is writing.

Letters differ in shape and form.

When their dimensions and their placement relative to one another are made according to proportion, the handwriting is beautiful.

When they are not proportional, the handwriting is poor.

We have explained elsewhere how the letters should be proportioned to one another.

Likewise, the pigments employed by painters differ in colour and possess contrasting radiance—black, white, red, green, yellow, and all the other colours.

When these pigments are placed beside one another according to proportion, the images become brilliant, beautiful, and luminous.

When their arrangement is not according to proportion, the images become dark, turbid, and unattractive.

We have explained elsewhere how these pigments should be arranged proportionally so that their appearance becomes beautiful.

Another example is found in the limbs and joints of depicted figures.

They differ in shape and magnitude.

Whenever the dimensions of the parts relative to one another and their positions relative to one another conform to the best proportion, the figure is sound, well formed, and acceptable.

When they do not conform to what we have described, it becomes ugly, disordered, and displeasing to the soul.

We have previously explained something of how figures should be measured and how their limbs ought to be positioned relative to one another.

Another example is found in medicinal substances and drugs.

Their natures are opposed, while their tastes, scents, and colours differ.

When they are compounded according to proportion, they become medicines possessing many benefits, such as antidotal compounds, ointments, and similar preparations.

When their weights and quantities are compounded without proper proportion, the source says, they may instead become harmful and deadly poisons.

Likewise, the ingredients used in cooking differ in taste, colour, scent, and quantity.

Whenever their quantities are placed in the pot in proper proportion during cooking, the food becomes pleasant in fragrance, delicious in taste, and excellent in preparation.

When they are not properly proportioned, the result is the opposite.

For this reason, books of medicine and books of the crafts state that medicinal substances, when compounded and prepared according to proper proportion, are sound, whereas when the relation among them is otherwise, they become corrupted and fail.

According to the same principle, the source explains the composition of mineral substances from mercury and sulphur.

It states that when mercury and sulphur are mixed in suitable proportion, and the heat of the mineral environment cooks them in an orderly and moderate fashion over a long period, pure gold is formed.

When their parts do not possess that proportion and the mineral heat falls short in its action upon them, white silver is formed.

When the sulphur is excessive in heat, drying the moisture of the mercury so that dryness predominates, red copper is formed.

When mercury and sulphur are both coarse and impure, iron is formed.

When mercury is more abundant and sulphur less so, while the heat is deficient and cold predominates, lead is formed.

According to the same principle, the source says that the various substances of minerals differ according to the quantities of mercury and sulphur, the proportion in which they mix, their excess or deficiency, and the moderation or excess of the heat acting upon them.

According to this principle also differ the forms of animals and plants, their configurations, colours, tastes, and scents, depending upon the composition of the parts of the four elements—fire, air, water, and earth—and the proportions of the quantities and powers of those parts relative to one another.

One example concerns human beings.

When the quantities of the humours from which their bodies are composed—namely blood, phlegm, and the two biles—possess in their original constitution the best proportion, and no disturbance affects them, their bodies have a healthy temperament, their physical constitution is strong, and their complexions are clear.

Likewise, when their bodily members are measured and positioned relative to one another according to the best proportion, their forms are beautiful, their appearance pleasing, and their character praiseworthy.

When the opposite is the case, their bodies become disordered, their appearance unpleasant, and their character deficient.

The text gives as an example those in whose bodily temperament heat predominates: it describes their bodies as thin, their complexions as brown, their movements and anger as swift, their courage as tending toward rashness, and their generosity toward extravagance.

Those in whose bodies cold predominates are described as slow in movement, thick-bodied, fair in complexion, less prone to anger, and tending toward cowardice and stinginess.

These matters, it says, are explained at length in books of medicine and physiognomy.

Our purpose here is only to mention an example from each genus of existing things so that it may indicate the nobility of the science of proportions known through music, and to show that this science is needed in all the crafts.

It was given the particular name **music**, meaning the harmonization of melodies and notes, because its example is clearest there.

For the ancient sages derived the principles of melodies and musical notes through knowledge of numerical and geometrical proportion.

When they combined the two, musical proportion emerged, as we explained in the chapter concerning the derivation of proportions.

Astronomers and philosophers have also said that between the beneficent planets—their spheres, the magnitudes of their bodies, the speed of their movements, and the four elements—there exists a musical proportion, and that those motions possess delightful tones.

They say that the malefic planets do not possess that same proportion.

Likewise, among the houses of the celestial sphere, those that regard one another possess a noble proportion, while those that do not regard one another do not possess that proportion.

The houses and spheres of the beneficent planets, relative to one another, possess a noble proportion not found between them and the malefics, nor among the malefics themselves in the same manner.

Because of the nobility of the science of proportion and the subtlety of its meanings, Euclid devoted two books of his work to the science of proportions, setting forth examples and demonstrations.

In general, every crafted thing composed of matters whose natures are opposed, whose powers are hostile, and whose forms differ is most perfect and most firmly fashioned when the composition of its parts and the harmonization of its members conform to the best proportion.

Among the remarkable properties of proportion are the benefits that appear in distances and weights.

One such example appears in the **steelyard balance**.

One end of its beam is long and far from the suspension point, while the other is short and near to it.

When a small weight is suspended from the long end and a large weight from the short end, the two balance and become equal whenever the ratio of the small weight to the large weight is like the ratio of the distance of the short end from the suspension point to the distance of the long end.

Another example is found in the proportions appearing in the shadows of upright objects.

Every upright object has a shadow, and the ratio of the length of that shadow to the height of the object is determined by the corresponding celestial altitude at that time.

Such matters are known to geometers and to those skilled in astronomical tables.

This same proportional principle is found in drawing heavy things by lighter ones and in producing motion through the arrangement of weights and distances.

It is also evident in bodies floating upon water and in the relation between their weights and the portions of their bulk immersed in the water.

For every body floating upon water displaces a quantity of water corresponding to its weight.

If the portion displaced cannot equal its weight in water, the body sinks and does not float.

If the displaced quantity equals its weight exactly, the body neither sinks beneath the water nor projects above it, but its upper surface remains level with the surface of the water.

When two bodies float upon water, the ratio between the volumes of their immersed portions is like the ratio between their respective weights.

These matters are known to those who study the science of motions or who understand centres of gravity, spheres, bodies, and distances.

Among the other benefits made known through the science of proportions are the relations between priced things and the prices assigned to them.

Everything is measured by some quantity—weight, measure, cubit, or number—and then a price is assigned to it.

Between the measured thing and the price assigned to it there are two relations: one direct and one inverse.

For example, when it is said:

“Ten for six,”

ten is the measured quantity and six is the assigned price.

Six is half of ten plus one tenth of it.

Conversely, ten is one whole of six plus two thirds of it.

Whenever someone asks about the price or quantity of something, four magnitudes are necessarily implied: three known and one unknown.

Between every pair there are direct and inverse ratios.

For example, if it is said:

“Ten corresponds to six; what corresponds to four?”

then ten, six, and four are known quantities, while the requested quantity is unknown.

The unknown is determined through the corresponding proportion.

Multiply four by ten and divide the result by six.

The result is **six and two thirds**.

Thus the same proportional relation that exists between the given terms is preserved in the unknown sought.

From this example it has become clear that the science of numerical proportion is a noble and exalted science.

All the harmonies and compositions established by the sages in their wisdom were founded and perfected upon this principle.

They judged this science superior to the other sciences because all the sciences require that their works be established upon it.

Were it not for proportion, no work or craft would be sound, nor would anything among existing things subsist in its best condition.

Know this, O brother, and contemplate it with the utmost reflection, for it is a science that guides toward the straight path.

May God benefit you by it and guide us, you, and all our brethren through His grace and mercy.

Epistle 7

On the Scientific Arts and Their Purpose

In the name of God, the Compassionate, the Merciful.

Praise be to God, and peace be upon His servants whom He has chosen. Is God better, or what they associate with Him?

Know, O brother—may God strengthen you and us with a spirit from Him—that we have completed our discussion of numerical proportions. We explained their nature, the number of their genera and the species of those genera, described how they are brought from potentiality into actuality, and made clear that the subjects of all of them are natural bodies, that all the products of their crafts are corporeal substances, and that all their purposes concern the cultivation of the Earth for the completion of the affairs of livelihood in the life of this world.

We now wish in this epistle to discuss the **scientific arts**, whose subjects are spiritual substances, namely the souls of learners. We shall explain that all the effects they produce in learners are spiritual, as we mentioned in the Epistle on Logic.

We shall also explain what the sciences are, mention the number of their genera and the species of those genera, and describe how the sciences that exist potentially within the soul are brought into actuality.

This is the furthest purpose of instruction: the reform of the substances of souls, the refinement of their characters, and their completion and perfection so that they may abide in the abode of the Hereafter, which is truly the abode of life, if only they knew.

Those who desire everlasting permanence in this world are the ones heedless of the affair of the Hereafter.

Chapter 1 — On the Duality of the Human Being

Know, O brother—may God strengthen you and us with a spirit from Him—that since the human being is a composite whole consisting of a corporeal body and a spiritual soul, and since these are two substances differing in their attributes, opposed in their states, yet participating together in accidental actions and transient qualities, the human being, because of his corporeal body, desires to remain in this world and wishes to abide in it forever.

Because of his spiritual soul, however, he seeks the abode of the Hereafter and desires to reach it.

Thus most of the affairs of the human being and the changing conditions of his states are dual and opposed: life and death, sleep and wakefulness, knowledge and ignorance, remembrance and heedlessness, intellect and foolishness, sickness and health, wickedness and chastity, stinginess and generosity, cowardice and courage, pain and pleasure.

He moves between friendship and enmity, poverty and wealth, youth and old age, fear and hope, truth and falsehood, right and wrong, good and evil, ugliness and beauty, and similar opposed and differing characteristics, actions, and sayings that appear from the human being, who is a composite whole consisting of a corporeal body and a spiritual soul.

Know, O brother, that these qualities which we have enumerated are not attributed to the body by itself, nor to the soul by itself, but to the human being who is the totality and combination of them both, and who is **living, rational, and mortal**.

His life and rationality derive from his soul, while his mortality derives from his body. Likewise, his sleep is on account of his body and his wakefulness on account of his soul.

According to this analogy are the rest of his differing and opposed affairs and conditions: some derive from the soul and others from the body.

His intellect, knowledge, forbearance, thought, generosity, courage, chastity, justice, wisdom, truthfulness, correctness, goodness, and similar praiseworthy qualities all derive from his soul and from the purity of its substance.

Their opposites derive from the humours of his body and the temperament produced by their mixture.

Chapter 2 — On the Qualities Proper to the Body and the Soul

Know, O brother, that the qualities proper to the body by itself are these: the body is a natural corporeal substance possessing taste, colour, smell, heaviness, lightness, rest, softness, roughness, hardness, and pliancy.

It is composed of the four humours, namely blood, phlegm, and the two biles, which are generated from nourishment produced from the four elements: fire, air, water, and earth. These possess the four natures: heat, cold, moisture, and dryness.

The body is corruptible, changeable, and subject to transformation. After death—which is the soul's separation from the body and its ceasing to employ it—the body returns to these four elements.

As for the qualities proper to the soul by itself, it is a spiritual, heavenly, luminous substance, alive in itself, knowing potentially, active by nature, receptive to instruction, acting in bodies and employing them.

It perfects animal and plant bodies until an appointed time. Then it leaves these bodies, separates from them, and returns to its element, its source, and its origin as it was before—either with gain and blessedness or with regret, sorrow, and loss.

As God—mighty and majestic—says:

“As We began you, so shall you return: a party He guided, and a party upon whom error was deserved.”

And He—mighty and majestic—says:

“As We began the first creation, We shall repeat it—a promise binding upon Us. Indeed, We shall do it.”

And He Most High says:

“Did you suppose that We created you in vain and that you would not be returned to Us?”

This, O brother, is sufficient as restraint, warning, threat, rebuke, reminder, and admonition, if you are awake from the sleep of heedlessness and have risen from the slumber of ignorance.

I seek refuge for you, O righteous and merciful brother, from being among those whom the Lord of the worlds censured in His saying:

“They have hearts with which they do not understand, and they have eyes with which they do not see, and they have ears with which they do not hear. They are like cattle; rather, they are further astray. Those are the heedless.”

Do you think He censured them because they did not understand the affairs of livelihood in this world?

Rather, He censured them because they did not reflect upon the affair of the Hereafter and the Return, nor comprehend what was said to them concerning the meanings of the Hereafter and the path of return.

Thus He said:

“They know an outward aspect of the life of this world, but of the Hereafter they are heedless.”

And He—mighty and majestic—said:

“Those who do not believe in the Hereafter—their hearts are denying, and they are arrogant.”

Chapter 3 — On the Duality of Human Possessions and the Duality of Actions

Since it has become clear that most human affairs and the changing conditions of human beings are dual and opposed because the human being is a composite whole formed from two differing substances—a corporeal body and a spiritual soul, as we explained previously—his possessions are likewise of two kinds.

One kind is corporeal, such as wealth and the goods of this world.

The other is spiritual, such as knowledge and religion.

Knowledge is a possession of the soul just as wealth is a possession of the body.

Just as through wealth a human being is able to obtain the pleasures of eating and drinking during the life of this world, so through knowledge a human being attains the path of the Hereafter, and through religion he reaches it.

Through knowledge the soul becomes luminous, radiant, and sound, just as through food and drink the body grows, increases, develops, and becomes stout.

Since this is so, gatherings are likewise of two kinds.

One gathering is for eating, drinking, amusement, play, and corporeal pleasures derived from the flesh of animals and the plants of the Earth, for the maintenance of this changing, corruptible, and perishing body.

The other gathering is for knowledge and wisdom and for spiritual audition, which is among the pleasures of souls whose substances do not perish and whose delight does not cease in the abode of the Hereafter.

As God—glorious is His praise—says:

“Therein is whatever souls desire and eyes delight in, and therein you shall abide forever.”

Since gatherings are of two kinds, those who ask are likewise of two kinds.

One asks for some need among the goods of this world in order to maintain the body, bring benefit to it, or repel harm from it.

The other asks a question concerning knowledge in order to reform the condition of the soul and deliver it from the darkness of ignorance, or in order to gain understanding in religion, seeking the path of the Hereafter and striving to reach it, fleeing from the Fire of Hell, escaping from the world of generation and corruption, and attaining the world of the celestial spheres and the vastness of the heavens, roaming through the degrees of the gardens and breathing of that **spirit and fragrant provision** mentioned in the Qurʾān.

Chapter 4 — On Knowledge, the Known, Learning, Teaching, and the Forms of Questioning

Those who seek knowledge and investigate the realities of things ought first to know what knowledge is, what the known is, in how many ways a question may be asked, and what answer corresponds to each question, so that they may understand what they are asking and what they are answering when they are questioned.

For one who asks without knowing what kind of thing he has asked about will not know, when an answer is given, what sort of answer he has received.

Know, O brother, that **knowledge is the form of the known thing in the soul of the knower**.

Its opposite is ignorance, which is the absence of that form from the soul.

Know that the souls of the learned possess knowledge in actuality, while the souls of learners possess knowledge potentially.

Learning and teaching are nothing other than bringing what exists potentially—that is, in possibility—into actuality—that is, into existence.

When this is attributed to the learned person, it is called **teaching**; when attributed to the learner, it is called **learning**.

Know that philosophical questions are of nine kinds, like the nine units:

1. **Is it?**
2. **What is it?**
3. **How much is it?**
4. **How is it?**
5. **Which thing is it?**
6. **Where is it?**
7. **When is it?**
8. **Why is it?**
9. **Who is it?**

As for **"Is it?"**, this is a question that investigates whether a thing exists or does not exist. Its answer is either yes or no. We have explained the meaning of existence and non-existence in the Epistle on the Intellect and the Intelligible.

As for **"What is it?"**, this is a question concerning the reality of a thing.

The reality of a thing is known either through a **definition** (*ḥadd*) or through a **description** (*rasm*).

All things are of two kinds: composite and simple.

A composite thing is like body, while simple things include matter and form. We have explained their meanings in the Epistle on Matter.

The realities of composite things are known when the things from which they are compounded are known.

For example, if it is asked:

"What is the reality of mud?"

The answer is:

"Earth and water mixed together."

Likewise, if it is asked:

“What is the reality of oxymel?”

The answer is:

“Vinegar and honey mixed together.”

According to this principle, whenever a composite thing is asked about, the things from which it is compounded and by which it is characterized must be mentioned.

The sages call such a description a **definition**.

For this reason they said in defining body that it is **a thing possessing length, breadth, and depth**.

By saying “a thing,” they indicate matter.

By saying “possessing length, breadth, and depth,” they indicate form.

For the reality of body is nothing other than what is mentioned in this definition.

Likewise, when defining the human being they say that he is **living, rational, and mortal**.

By “living and rational” they mean the soul, and by “mortal” they mean the body, because the human being is a composite whole consisting of both—a corporeal body and a spiritual soul.

According to this principle the realities of things compounded from other things are known.

As for things that are not compounded from something else but are originated and brought into being as their Maker and Creator—exalted is He—willed, their realities are known through the attributes peculiar to them.

For example, if it is asked:

“What is the reality of matter?”

It is said:

“A simple substance receptive to form, possessing no quality whatsoever in itself.”

And if it is asked:

“What is form?”

It is said:

“That by which a thing is what it is.”

The sages call a description of this kind a **rasm**.

The difference between a definition and a description is that a definition is taken from the things from which the defined object is compounded, as we have explained, while a description is taken from attributes peculiar to the thing described.

There is another difference: the definition informs you of the substance of the thing defined and distinguishes it from everything else, while the description merely distinguishes the thing described from everything else.

Therefore, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—when you are asked concerning the reality of something, do not rush to answer. Rather, consider whether the thing asked about is composite or simple, so that you may answer accordingly.

As for **"How much is it?"**, this is a question concerning the magnitude or quantity of a thing.

Things possessing quantity are of two kinds: continuous and discrete.

Continuous quantities are of five kinds:

the line, the surface, the body, place, and time.

Discrete quantities are of two kinds:

number and motion.

All these things may be asked about with the expression "How much?"

We have explained the nature of number in the Epistle on Arithmetic, the nature of motion, time, place, and body in the Epistle on Matter, and the nature of the line and surface in the Epistle on Geometry.

As for **"How is it?"**, this is a question concerning the quality or attribute of a thing.

Qualities are of many kinds, and we have explained them in the Epistle on the Ten Categories, each of which is a highest genus.

As for **"Which thing is it?"**, this is a question seeking one thing from among a group, or one part from a whole.

For example, if it is said:

"A star has risen,"

one may ask:

"Which star?"

because the stars are numerous.

But if it is said:

“The Sun has risen,”

one does not ask:

“Which Sun?”

because there is no multiplicity within its genus.

The same applies to the Moon.

As for **“Where is it?”**, this is a question concerning either the place of a thing or its rank.

The difference between the two is that place is an attribute of some bodies.

Thus if it is asked:

“Where is Zayd?”

the answer may be:

“In the house,” “in the mosque,” “in the market,” or in some other place.

As for a **locus**, it is an attribute of an accident.

Accidents are of two kinds: corporeal and spiritual.

Corporeal accidents inhere in bodies.

Thus if it is asked:

“Where is blackness?”

it is said:

“It inheres in the black body.”

Likewise all colours, tastes, and smells inhere in bodies possessing colour, taste, and smell.

The same applies to all corporeal accidents.

Spiritual accidents, however, inhere in spiritual substances.

Thus if it is asked:

“Where is knowledge?”

it is said:

“It inheres in the soul of the knower.”

Likewise generosity, courage, justice, and similar attributes inhere in the soul, and the same is true of their opposites.

Many people counted among the learned, however, who have no experience concerning the soul and no knowledge of its substance, have imagined that these accidents inhere in the body, each in a particular bodily organ.

Thus they have said that knowledge is in the heart, desire in the liver, intellect in the brain, courage in the gallbladder, cowardice in the spleen, and similarly with other accidents.

We, however, have explained in the Epistle on the Composition of the Body that these organs are instruments and tools of the soul through which and from which these actions and characteristics become manifest in the body.

As for **rank**, it is an attribute of spiritual substances.

Thus if it is asked:

"Where is the soul?"

it is said:

"It is below the Intellect and above Nature."

Likewise if it is asked:

"Where is five among the numbers?"

it is said:

"After four and before six."

According to this principle are judged the spiritual substances, which are not described by place or locus but by rank, as we explained in the Epistle on the Intellectual Principles.

As for **"When is it?"**, this is a question concerning the time of the existence of a thing.

Times are three:

past, such as yesterday;

future, such as tomorrow;

and present, such as today.

The same applies to years, months, and hours.

We have explained what time is and the disagreement of the learned concerning its nature in the Epistle on Matter.

As for **“Why is it?”**, this is a question concerning the cause of an effect.

Know, O brother, that every artificial effect has four causes:

a **material cause**,

a **formal cause**,

an **efficient cause**,

and a **final cause**.

For example, consider a chair, a door, and a bed.

Their material cause is wood.

Their formal cause is their shape and configuration.

Their efficient cause is the carpenter.

The final cause of the chair is sitting upon it; that of the bed is sleeping upon it; and that of the door is that the house may be closed with it.

According to this principle every effect must possess these four causes.

Therefore, when you are asked concerning the cause of something, first understand which of these causes is being asked about so that the answer may correspond to it.

As for **“Who is it?”**, this is a question seeking the identification of a thing.

The grammarians say that this question is properly directed only toward a rational being. Others say it may be directed toward every being possessing knowledge and discernment.

Its answer identifies the one asked about through one of three things: his country, his lineage, or his craft.

Thus if it is asked:

“Who is Zayd?”

one may say:

“The Basran,” relating him to his city;

“The Hāshimite,” relating him to his lineage;

or “The carpenter,” relating him to his craft.

This is a concise account of the number of questions and their answers, of scientific investigations and inquiry into the realities of things. It is like an introduction and preliminary

foundation, so that investigation of philosophical logic may become easier for learners and so that they may understand these matters before investigating *Isagoge*, which is the introduction to philosophical logic.

Chapter 5 — On the Genera of the Sciences

Since we have completed the discussion of the nature of the sciences, the kinds of questions, and the answer required by each, we now wish to mention the genera of the sciences and the species belonging to those genera.

This will serve as a guide for seekers of knowledge toward their aims and lead them toward what they seek.

For the desire of souls for the different sciences and branches of learning is like the appetites of bodies for foods differing in taste, colour, and fragrance.

Know, O brother, that the sciences practised by human beings are of **three genera**:

the educational sciences,

the conventional religious sciences,

and the true philosophical sciences.

The Educational Sciences

The educational sciences are the branches of learning most of which were established for seeking a livelihood and setting in order the affairs of the life of this world.

They are of nine kinds.

The first is the science of writing and reading.

Among them is the science of language and grammar.

Among them is arithmetic and commercial calculation.

Among them is poetry and prosody.

Among them is the science of augury, omens, and similar matters.

Among them is the science of magic, incantations, alchemy, devices, and similar matters.

Among them is the science of crafts and trades.

Among them is the science of buying, selling, commerce, agriculture, and breeding.

And among them is the science of biographies and historical reports.

The Conventional Religious Sciences

As for the religious sciences established for the healing of souls and the pursuit of the Hereafter, they are of six kinds.

The first is the science of **revelation**.

The second is the science of **interpretation**.

The third is the science of transmitted traditions and reports.

The fourth is the science of jurisprudence, the prophetic customs, and legal rulings.

The fifth is the science of reminder and admonition, asceticism, and Sufism.

The sixth is the science of interpreting dreams.

The scholars of revelation are the reciters and memorizers.

The scholars of interpretation are the Imams and the successors of the prophets.

The scholars of transmitted reports are the people of ḥadīth.

The scholars of legal rulings and prophetic customs are the jurists.

The scholars of reminder and admonition are the worshippers, ascetics, monks, and those similar to them.

And the scholars of dream interpretation are the interpreters of dreams.

The Philosophical Sciences

As for the philosophical sciences, they are of four kinds:

the mathematical sciences,

the logical sciences,

the natural sciences,

and the divine sciences.

The Mathematical Sciences

The mathematical sciences are of four kinds.

The first is **arithmetic**, which is knowledge of the nature of number, the number of its kinds, the properties of those kinds, the manner in which they arise from the one that precedes two, and the meanings that occur among numbers when some are related to others.

The second is **geometry**, which is knowledge of the nature of magnitudes possessing dimensions, the number of their kinds, the properties of those kinds, the meanings that arise among them when some are related to others, and the manner in which they originate from the point, which is the head of the line and which in the art of geometry corresponds to one in the art of number.

The third is **astronomy**, which is knowledge of the number of the celestial spheres, stars, and zodiacal signs; the extent of their distances and the magnitudes of their bodies; the manner of their composition, the speed of their motions, the manner of their revolutions, the nature of their dispositions, and the manner in which they indicate things that come into being before those things occur.

The fourth is **music**, which is the science of harmonic composition.

It is knowledge of the nature of proportions and of how things differing in substance, diverse in form, opposed in power, and mutually repugnant in nature may be gathered together and harmonized so that they cease to repel one another, become concordant and united, become one thing, and perform either one action or several actions.

We have composed an epistle concerning each one of these sciences as an introduction and preliminary foundation.

The Logical Sciences

The logical sciences are of five kinds.

The first is called **Anulūṭīqā**, concerning knowledge of the art of poetry.

The second is **Rīṭūrīqā**, concerning knowledge of the art of oratory.

The third is **Ṭūbīqā**, concerning knowledge of the art of dialectic.

The fourth is **Būlūṭīqā**, concerning knowledge of the art of demonstration.

The fifth is **Sūfisṭīqā**, concerning knowledge of the art of those who employ fallacious argument in disputation and dialectic.

The earlier and later sages discussed these arts and sciences and composed many books concerning them, which remain in the hands of people.

Aristotle also composed three other books and made them introductions to the Book of Demonstration.

The first is the *Categories*.

The second is *Peri Hermeneias*.

The third is the *Prior Analytics*.

He devoted the greatest attention to the Book of Demonstration because **demonstration is the balance of the sages**.

Through it they distinguish truth from falsehood in statements, correctness from error in opinions, truth from falsehood in beliefs, and good from evil in actions.

This is analogous to how ordinary people use balances, measures, and cubits to determine the quantities of things weighed, measured, and measured by length whenever their estimates and conjectures concerning them differ.

Likewise, scholars who know the art of demonstration use it to know the realities of things when the estimations of intellects and the conjectures of opinion differ concerning them.

Similarly, poets skilled in prosody know the correctness or deviation of poetic metres through the art of prosody, which is the balance of poetry.

Porphyry of Tyre composed a book which he called *Isagoge*, an introduction to the art of philosophical logic.

But because they lengthened their discourse in these books, and because people who did not fully know their language and meanings translated them from one language into another, their meanings became difficult for readers to understand and difficult for students to acquire.

We have therefore composed an epistle concerning each of these arts, mentioning in it the essential points required and avoiding excessive length.

We wish, however, to mention here the purpose of each of those epistles so that whoever studies them may know the purpose of each art before investigating it.

The purpose of *Isagoge* is knowledge of the meanings of the six expressions used by philosophers in their discourse:

individual, species, genus, differentia, property, and accident;

the nature of each one;

how they share with one another;

the distinguishing descriptions by which they are differentiated;

and the manner in which they signify meanings existing in the thoughts of souls.

The purpose of the *Categories* is knowledge of the meanings of the ten expressions, each of which is called a **genus of genera**.

One of these is substance and nine are accidents.

It treats the nature of each, the number of its species, the distinguishing description of each by which it differs from the others, and the manner in which they signify all the meanings that exist in the thoughts of souls.

The purpose of *Peri Hermeneias* is knowledge of these ten expressions mentioned in the *Categories* and of the meanings they signify when combined, until they become statements and propositions capable of truth and falsehood.

The purpose of the *Prior Analytics* is knowledge of how these expressions are combined again so that premises are formed from them, the number of their kinds, how they are employed, and how propositions are joined together and conclusions produced.

The purpose of the *Second Analytics* is knowledge of how to employ the true syllogism and the sound demonstration in which there is neither error nor slip.

The Natural Sciences

The natural sciences are of seven kinds.

The first is the **science of corporeal principles**.

It is knowledge of five things:

matter,

form,

time,

place,

and motion,

together with the meanings that arise among them when some are related to others.

The second is the **science of the heavens and the world**.

It is knowledge of the substances of the celestial spheres and stars, their quantities and composition, the cause of their revolution, whether they admit generation and corruption as do the four elements beneath the sphere of the Moon or not, the causes of the motions of the stars and their differences in speed and slowness, the cause of the motion of the spheres, the cause of the Earth's remaining at rest in the centre of the celestial sphere, whether another body exists outside the world, whether there is within the world an empty place containing nothing, and similar questions.

The third is the **science of generation and corruption**.

It is knowledge of the nature of the substances of the four elements—fire, air, water, and earth—how some are transformed into others through the influences of the higher bodies, how from them arise generated things such as minerals, plants, and animals, and how these things return to the elements when they perish.

The fourth is the **science of atmospheric phenomena**.

It is knowledge of how the air changes through the influences of the stars, their motions, and the places upon which their rays fall among these elements, and how the elements are affected by them, especially the air.

For the air is subject to many changes and transformations involving light and darkness, heat and cold, the movements of winds, fog, clouds, rain, snow, hail, lightning, thunder, meteors, thunderbolts, comets, rainbows, whirlwinds, halos, and similar changes and occurrences that take place above our heads.

The fifth is the **science of minerals**.

It is knowledge of mineral substances formed from vapours confined in the interior of the Earth and from condensed juices within cavities, mountain caves, and the depths of the seas.

Among them are sulphurs, mercuries, alums, salts, sal ammoniac, gold, silver, copper, iron, lead, tin, antimony, arsenic, crystal, ruby, bezoars, and similar substances, together with knowledge of their properties, benefits, and harms.

The sixth is the **science of plants**.

It is knowledge of every plant that is planted, sown, or grows upon the surface of the Earth, upon mountain tops, at the bottoms of waters, or along the banks of rivers: trees, cultivated crops, legumes, herbs, grasses, and pasture plants.

It includes knowledge of the number of their kinds and the properties of those kinds; the places where they grow; how their roots extend through the Earth; how their branches and trunks rise into the air; how they spread over the face of the Earth and extend their branches in different directions; the forms of their branches in length and shortness, thinness and thickness, straightness and crookedness; the forms of their leaves in breadth and narrowness, softness and roughness; the colours of their blossoms and flowers; the forms of their fruits, grains, seeds, and gums; their tastes and fragrances; and their properties, benefits, and harms, one by one.

The seventh is the **science of animals**.

It is knowledge of every body that feeds, grows, senses, and moves: whatever walks upon the Earth, flies in the air, swims in water, crawls through the soil, or moves within the body of another creature, such as worms in the bodies of animals or within the pith of plants, fruits, grains, and similar things.

It includes knowledge of the number of their genera, the species of those genera, and the peculiar properties of those species; how they are formed in wombs, eggs, or putrefying matter; how their organs are composed and their bodies constructed; the differences of their forms; the harmony of their pairs; the varieties of their voices; the divergences of their natures and characters and the similarities of their actions; the times of their sexual excitement and mating; their construction of nests; their gentleness in raising their offspring and tenderness toward their young; their knowledge of what benefits and harms them; their habitats, masters, enemies, acquaintances, and similar matters.

Investigation and inquiry concerning all these things belong to the natural sciences.

Likewise medicine, veterinary medicine, the management of riding animals, beasts and birds, agriculture, breeding, and the knowledge of the crafts as a whole fall within the natural sciences.

Chapter 6 — On the Divine Sciences

The divine sciences are of five kinds.

The first is **knowledge of the Creator—majestic is His majesty and universal is His bounty—and of His unity**.

It is knowledge of how He is the cause of existing things, the Creator of creatures, the overflowing source of generosity, the giver of existence, the source of virtues and good things, the preserver of order, the maintainer of permanence, and the governor of the whole.

He is Knower of the unseen and the witnessed.

Not the weight of an atom in the Earth or heaven escapes Him.

He is the First of every thing in beginning, the Last of every thing in ending, the Manifest of every thing in power, and the Hidden of every thing in knowledge.

He is the Hearing, the Knowing, the Subtle, the Aware, the Compassionate toward His servants.

Mighty is His affair, exalted is His power, high is His majesty, and glorious is His praise.

There is no god other than Him.

Exalted is He far above what the wrongdoers say, with a great exaltation.

The second is the **science of spiritual beings**.

It is knowledge of the simple, intellectual, knowing, active substances that are God's angels and His pure servants.

They are forms abstracted from matter, employing bodies and governing through them and within them.

It is knowledge of how these spiritual substances are connected with one another and how some overflow upon others.

They are spiritual spheres surrounding the corporeal spheres.

The third is the **science of souls**.

It is knowledge of souls and spirits flowing through celestial and natural bodies, from the encompassing sphere to the utmost centre of the Earth.

It includes knowledge of how they cause the celestial spheres to revolve, move the stars, nurture animals and plants, inhabit the bodies of animals, and rise again after death.

The fourth is the **science of governance**, which is of five kinds:

prophetic governance,

royal governance,

general governance,

private governance,

and self-governance.

As for **prophetic governance**, it is knowledge of how to establish approved divine laws and pure customs through eloquent discourse; how to treat souls diseased by corrupt religions, foolish opinions, evil habits, and unjust actions; and how to transfer them away from those religions and habits.

It includes knowledge of how to erase such opinions from their consciences by mentioning their defects and making their falsity manifest; how to treat them for the sickness of those opinions and customs by preventing them from returning to them; and how to heal them through sound opinions, beautiful customs, pure actions, and praiseworthy character traits, praising these things and awakening desire for the abundant reward of the Day of Return.

It also includes knowledge of how to govern evil souls when they turn away from the intended path of right guidance and travel through the difficult roads of error, persisting in them: by restraining them, rebuking them, warning them, reproaching them, and threatening them, so that they may return to the path of salvation and desire the abundant reward.

It includes knowledge of how to awaken distracted souls and heedless spirits from their long sleep and from forgetting the remembrance of the Return; and of how to remind them of the covenant of the Day of the Pact, lest they say:

“No messenger or scripture ever came to us.”

This governance belongs particularly to the prophets and messengers—God's blessings be upon them.

As for **royal governance**, it is knowledge of how to preserve the revealed law among the community and revive the prophetic custom within the religious nation through commanding what is right and forbidding what is wrong, establishing the prescribed penalties, enforcing the judgments laid down by the bearer of the revealed law, restoring rights taken through oppression, subduing enemies, restraining evildoers, and supporting the virtuous.

This governance belongs to the successors of the prophets—God's blessings be upon them—and to the rightly guided Imams who judge according to truth and through it establish justice.

As for **general governance**, which is leadership over communities—such as the leadership of governors over countries and cities, the leadership of landed chiefs over the inhabitants of villages, the leadership of military commanders over armies, and similar forms—it consists in knowledge of the classes of those governed, their conditions, lineages, crafts, doctrines, and characters.

It includes arranging their ranks, attending to their affairs, investigating their circumstances, uniting their scattered elements, establishing fairness among them, gathering together those who are divided, employing them in affairs for which they are suited, and assigning each of them to crafts and works appropriate to him.

As for **private governance**, it is knowledge by every human being of how to manage his household and the affairs of his livelihood, to attend to the affairs of his servants, young men, children, dependants, and relatives, to conduct himself properly with his neighbours and associate with his brethren, to fulfil their rights, investigate their circumstances, and consider what serves their interests in the affairs of this world and the Hereafter.

As for **self-governance**, it is every human being's knowledge of himself and his character, his examination of his actions and sayings in states of desire, anger, and contentment, and his consideration of all his affairs.

The fifth of the divine sciences is the **science of the Return**.

It is knowledge of the nature of the second formation, of how spirits are raised from the darkness of bodies, how souls awaken from their long sleep, how they are gathered on the Day of Return, how they stand upon the straight path, how they are assembled for the reckoning of the Day of Judgment, and how those who do good are rewarded and those who do evil are punished.

We have composed an epistle concerning each branch of these sciences mentioned above, and in each we have mentioned something of these meanings. We have completed them in the Comprehensive Epistle so that they may be an awakening for the heedless, guidance for those who desire the path, encouragement for seekers, and a road for learners.

So be happy through it, O brother.

Present this epistle to your brethren and friends, encourage them to seek knowledge, make them renounce excessive attachment to this world, and guide them toward the path of the Hereafter.

Through this you will attain nearness to God Most High, deserve His good pleasure, attain the felicity of the Hereafter, and reach the highest rank, as indicated by the saying of the Prophet—peace be upon him:

“The one who guides to good is like the one who performs it.”

Know, O brother, that this is the path travelled by the prophets—God's blessings be upon them—and followed after them by the virtuous and excellent among the learned and the sages.

Strive, therefore, so that perhaps you may be gathered among their company, just as God Most High has promised, saying:

“Those shall be with those upon whom God has bestowed favour: the prophets, the truthful, the martyrs, and the righteous. Excellent are those as companions. That is the bounty from God.”

And:

“Those who strive for Us, We shall surely guide them in Our ways; and God is indeed with those who do good.”

May God grant you and us, O brother, success in what is right, and may He guide us and you upon the path of right guidance.

Epistle 8

On the Practical Arts and Their Purpose

In the name of God, the Compassionate, the Merciful.

Praise be to God, and peace be upon His servants whom He has chosen. Is God better, or what they associate with Him?

Since we have completed our discussion of corporeal substances, described their matter, forms, and composition, and what accidents occur to composite things, and since we have also explained how they are apprehended by way of the senses through their accidents in our Epistles on Natural Science, we now wish, in the intellectual sciences, to discuss the spiritual substances.

For all existing things are either intelligible or sensible; substances or accidents, or compounds of the two; forms, matter, or compounds of the two; corporeal, spiritual, or joined from the two.

Corporeal substances are all acted upon and are apprehended by way of the senses. Spiritual substances, however, are active and are not apprehended by the senses. They are known only through the intellect and through the intellectual actions that proceed from them, and through the crafts they produce in material things.

We therefore wish to discuss their natures, quantities, and qualities, and the manner in which they manifest their crafts in the materials appointed for them, so that this may provide clearer evidence for the existence of active spiritual beings, and a more evident means of knowing their substances, the varieties of their motions, the wonders of their powers, the marvels of their knowledge, the extraordinary nature of their crafts, and the differences among their actions.

Know, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—that human arts are of two kinds: **scientific** and **practical**. We have already discussed the scientific arts.

We say first: What are the sciences?

The sciences are the forms of known things within the soul of the knower.

Know, O brother, that knowledge does not arise except after teaching and learning. Teaching is the awakening, by a soul that knows in actuality, of a soul that knows potentially; while learning is the soul's conception of the form of the known thing.

Know, O brother, that the soul receives the forms of known things through three paths: one is the way of the senses, another is the way of demonstration, and the last is the way of thought and deliberation. We have composed an epistle concerning each of these.

We now wish to discuss the practical arts.

A practical art is the bringing forth by a knowledgeable artisan of the form existing in his thought and placing it into matter.

The manufactured object is a composite thing made from matter and form together.

The beginning of this proceeds from the influence of the Universal Soul upon matter through the power of the support of the Universal Intellect, by the command of God—glorious is His praise.

Know that manufactured things are of four genera:

human, natural, psychical, and divine.

Human products are such things as the shapes, designs, colours, and dyes that artisans produce in natural bodies in the markets of cities and elsewhere.

Natural products are the forms of the bodies of animals, the various forms of plants, and the colours of mineral substances.

Psychical products include the ordering of the centres of the four elements beneath the sphere of the Moon—fire, air, water, and earth—as well as the composition of the celestial spheres and the ordering of the form of the world as a whole.

Divine products are forms abstracted from matters, originated by the Originator of originated things—exalted is He—brought into existence from non-existence: existence from what was not, and a thing not from another thing, all at once, without time, place, matter, form, or motion, for all of these themselves are among the Creator's originated things, inventions, and products.

Blessed is God, the best of creators, the wisest of judges, and the most merciful of the merciful.

Know, O brother, that every human artisan requires for the completion of his craft six different things, while he himself is the seventh; and he requires seven motions and seven directions.

The six different things are matter, place, time, tool, bodily instrument, and motion; the seventh is the soul.

Every natural artisan requires four of these: matter, place, time, and motion.

Every psychical artisan requires only two: matter and motion.

Every intellectual artisan requires only one form. The First Intellect itself is an effect proceeding from the true Originator of originated things—not from one thing into another.

As for the Creator—glorious is His praise—He has no need whatsoever of any of these, for they are all His inventions and originated things: matter, form, place, time, motion, bodily instruments, and tools altogether.

Chapter 1 — On Form, Matter, and the Tool

Know, O brother, that one and the same body may at one time be called **matter**, at another a **subject**, at another a **form**, at another a **manufactured thing**, at another an **instrument**, and at another a **tool**.

A body is called matter in relation to the form that it receives, such as shapes, designs, colours, dyes, and similar things.

It is called a subject in relation to the artisan who works from it and upon it, producing his craft within it in the form of shapes and designs.

When it receives such a form, it is called a manufactured thing.

When the artisan uses it in his craft or in another craft, it is called a tool.

An example is a piece of iron. It is called matter in relation to every form that it may receive. It is also called the subject of the blacksmith who works his craft upon it.

If the blacksmith makes from it a knife, axe, saw, file, or something similar, it is called a manufactured thing.

If a butcher or someone else uses the knife, it is called a tool. The same applies to the axe and similar objects.

Know, O brother, that the subjects used by human artisans in their crafts are of only two kinds: simple and composite.

The simple are four: fire, air, water, and earth.

The composite are three: mineral bodies, plant bodies, and animal bodies.

All of these are products of Nature, just as all the subjects of Nature are psychical products, and all psychical subjects are divine products.

Know that every human artisan must have some tool or tools, or some bodily instrument or instruments, which he employs in his craft.

The distinction between an **instrument** and a **tool** is this: an instrument is the hand, fingers, foot, head, eye, and in general the bodily organs themselves; a tool is something external to the artisan's own being, such as the carpenter's axe, the blacksmith's hammer, the tailor's needle, the writer's pen, the shoemaker's blade, the barber's razor, and similar implements employed by artisans without which their crafts cannot be completed.

Know that every artisan possesses tools of differing forms and configurations in his craft. This is one of the causes of the diversity of his actions, for through each tool he produces different kinds of motions and various actions.

The carpenter, for example, hews with an axe, whose motion is from above downward. He saws with a saw, whose motion is forward and backward. He bores with a drill: the motion of his hands is arcing right and left, while the drill itself moves circularly.

According to this pattern, every craft contains for its artisan seven motions: one circular and six rectilinear.

This accords with divine wisdom. For since the motions of the upper celestial bodies are of seven kinds—one circular by primary intention and six accidental, as we explained in the Epistle on the Heavens and the World—the motions of individual things beneath the sphere of the Moon likewise resemble them.

Those upper motions are causes, while these lower ones are effects; and it belongs to effects that the marks and influences of their causes appear within them.

For this reason the sages said that later things imitate earlier things, just as children in their games imitate the crafts of their fathers, mothers, and teachers.

Know, O brother, that every human artisan must move one or more of his bodily organs in carrying out his craft: his hand, foot, back, shoulder, knee, or something else.

In general, there is no organ of the body through which the soul does not perform one action or several actions distinct from those performed through another organ.

For the organs of the body are instruments and tools of the soul.

We have explained something of this in the Epistle on the Composition of the Body, the Epistle on Sense and the Sensible, the Epistle on the Intellect and the Intelligible, and the Epistle on the Human Being as a Microcosm.

Chapter 2 — On the Two Kinds of Subjects of the Crafts

Know, O brother, that every craft must have a subject from which and in which the artisan produces his work.

The subjects of human crafts are of two kinds: **spiritual** and **corporeal**.

The spiritual subject belongs to the scientific art, as we explained in the Epistle on Logic.

The corporeal subject belongs to the practical art, and it is itself of two kinds: simple and composite.

The simple subjects are fire, air, water, and earth.

The composite subjects are of three kinds: mineral, plant, and animal bodies.

Some crafts have only water as their subject, such as the crafts of sailors, water-carriers, irrigators, beverage-makers, swimmers, and those like them.

Some have only earth as their subject, such as those who dig wells, rivers, canals, graves, and mines, and everyone who moves soil or extracts stones.

Some have only fire as their subject, such as workers with naphtha, stokers, torch-bearers, and the like.

Some have only air as their subject, such as flute-players, trumpeters, and all who produce sound by blowing.

Some have water and earth together as their subject, such as potters, makers of earthenware and cooking vessels, brick-makers, and everyone who moistens earth.

Some have one of the mineral bodies as their subject, such as blacksmiths, coppersmiths, lead-workers, glassmakers, goldsmiths, and those like them.

Some have the stems and structures of plants—wood, reeds, leaves, and the like—as their subject, such as carpenters, basket-makers, mat-makers, cage-makers, and related craftsmen.

Some work particularly with the bark or fibres of plants, such as workers in flax, hemp, paper, and similar materials.

Others use leaves of trees, grasses, blossoms, flowers, roots, and bark.

Still others use tree fruits and plant seeds, such as millers, oil-pressers, seed-merchants, and everyone who extracts oils from fruits and seeds.

Some crafts have animals themselves as their subject, such as hunting, tending sheep and cattle, managing riding animals, veterinary medicine, the keeping of birds, and similar activities.

Other crafts work upon animal substances such as flesh, bones, hides, hair, wool, and silk: the crafts of butchers, roasters, cooks, tanners, shoemakers, leatherworkers, makers of straps and containers, and related occupations.

Some crafts take as their subject the **measurements of bodies**, such as the occupations of weighers, measurers, and those who measure by the cubit.

Some take as their subject the **value of things**, such as money-changing, brokerage, appraisal, and similar trades.

Some take human bodies as their subject, such as medicine, barbering, and similar occupations.

Some take human souls as their subject, namely all the arts of teachers. These are of two kinds: practical and scientific. The scientific kinds are those we mentioned in the Epistle on the Genera and Species of the Sciences and explained throughout fifty-one of our epistles, while the practical kinds are such as those already described.

Chapter 3 — On the Need for Instruments and Tools

Know, O brother, that among artisans are those whose craft requires the use of one bodily organ or two, together with one external tool or many tools.

Examples include the farmer, builder, tanner, and weaver. Each requires external tools and must move his hands and feet in his craft.

Other crafts require no external tools; one bodily organ suffices. The orator, poet, judge, reciter, and those like them need only the tongue.

Likewise certain guards and overseers require only the two eyes.

Some artisans employ two organs, such as an actor or a professional mourner, using the hand and tongue.

Some require the whole body, such as dancers and swimmers.

Some require walking, such as couriers and surveyors.

Some must remain sitting continually, such as menders and carders.

Some require only one external tool, such as a trumpeter, flute-player, or tambourine-player.

Others require two tools, such as the tailor and the writer. The tailor requires the needle and scissors; the writer requires pen and inkwell.

As for the writer's use of a knife, this does not properly belong to the art of writing but to the carpenter's craft.

Some craftsmen must stand continually during their work, such as cotton-carders, rice-pounders, and those who turn wheels with their feet.

Chapter 4 — On Fire as a Useful Tool in the Crafts

Know, O brother, that most crafts require the use of fire.

Every artisan who uses fire does so for one of three reasons.

Some employ fire upon the material itself, such as blacksmiths, coppersmiths, glassmakers, those who burn gypsum and lime, and similar artisans.

Their purpose is to soften the material so that it may receive forms and shapes. For their materials are hard bodies that cannot receive the intended forms and shapes until they have been softened by fire.

Once softened, the artisan can produce in them the craft that exists in his thought, and the material, after receiving the form, becomes a manufactured thing.

Other artisans use fire to fix the form within matter and make it endure so that the form does not quickly depart from it.

Such are makers of jars, pots, earthenware, and baked bricks.

This is because matter by its nature tends to cast off the form impressed upon it and return to its first condition as a simple substance without composition, quantity, or quality.

Still other artisans use fire upon both their material and their manufactured object, such as cooks, roasters, bakers, and similar workers.

Their purpose is to complete and mature their products so that full benefit may be obtained from them.

Chapter 5 — On the Ranks of the Crafts

Know, O brother, that among these crafts are some for which necessity created the primary need; others follow and serve them; others complete and perfect them; and still others exist for beauty and adornment.

The crafts required by primary necessity are three:

agriculture, weaving, and building.

The remainder either follow, serve, complete, or perfect these.

Human beings were created with delicate skin, naked of the hair, wool, fur, shells, feathers, and similar coverings found upon other animals.

Necessity therefore compelled them to acquire clothing through the art of weaving.

Since weaving cannot be completed without spinning, and spinning cannot be completed without the preparation of fibre, these arts became subordinate to and servants of weaving.

Likewise, since clothing is not completed by weaving alone, tailoring, bleaching and finishing, mending, and embroidery became arts that complete and perfect it.

Again, because human beings require sustenance and nourishment, and nourishment comes from the seeds of plants and the fruits of trees, necessity gave rise to agriculture and planting.

Agriculture and planting require turning the soil and digging waterways, and this cannot be accomplished without spades, ploughs, and similar implements.

Spades and ploughs cannot exist without carpentry and blacksmithing, and so necessity gave rise to those crafts as well.

Iron-working in turn requires mining and other crafts. Thus all of these became subordinate to and servants of agriculture and planting.

Since grain and fruits require pounding and grinding, necessity produced the arts of grinding and pressing.

Since flour does not become complete nourishment until after baking, necessity produced baking and cooking, each of which itself requires other crafts that serve and complete it.

Likewise, because human beings require something to shelter them from heat and cold, protect them from beasts, and preserve their provisions, necessity produced the craft of building.

Building itself requires carpentry and blacksmithing, and each of these requires other arts that assist and complete one another.

As for crafts devoted to beauty and adornment, these include the production of brocade and silk, the making of perfumes, and similar things.

Skill in every craft consists in giving forms to matter, completing them, and perfecting them so that benefit may be obtained from them in the life of this world.

Know, O brother, that people are artisans, merchants, rich, and poor.

Artisans are those who work with their bodies and tools upon their products, producing forms, designs, colours, and shapes. Their purpose is to receive compensation for what they manufacture so as to maintain their livelihood in the life of this world.

Merchants are those who exchange through buying and selling, giving and receiving. Their purpose is to obtain more in what they receive than what they give.

The rich are those who possess these natural and artificial products. Their purpose in gathering and preserving them is fear of poverty.

The poor are those who need them, and what they seek is wealth.

Know that the reason most people are poor and that the wealthy fear poverty is to spur them to exert themselves in acquiring crafts, persevering in them, and engaging in commerce.

The purpose of all these activities is to provide people's needs and convey them to those who need them.

The purpose of this provision is that they may enjoy them for a time.

The purpose of their enjoyment for a time is that the soul may become perfected through true knowledge, beautiful character, sound opinions, and pure actions.

The purpose of perfecting the soul is to enable it to ascend to the kingdom of heaven.

The purpose of its ascent to the kingdom of heaven is deliverance from the sea of matter and captivity to Nature, and departure from the abyss of the world of generation and corruption into the spacious world of spirits, there to remain joyful, delighted, blissful, and immortal forever.

Chapter 6 — On Every Craft's Need for Thought and Intellection

Know, O brother, that we have mentioned these crafts and occupations and included this epistle among the Epistles on the Intellect and the Intelligible because human beings perform these crafts through their intellect, discernment, deliberation, and thought—all of which are spiritual, intellectual powers.

Moreover, every rational person who reflects upon these crafts and upon the actions manifested through human hands knows that alongside this body there exists another substance through which these orderly actions and perfected crafts appear from the body.

For after death the entire body may remain present and complete, nothing having been lost from it, yet all these abilities have disappeared.

From this it is known that another substance had been joined to it and then separated from it, and because of that separation all these excellences disappeared.

That substance was what moved the body and transported it from one place to another in the six directions.

Through the body it also moved external things and carried burdens upon the back and shoulders.

When that substance separates from the body, the body requires four men to carry it stretched upon a bier. It can neither stand, sit, nor move, nor does it perceive its own existence or what is being done to it in washing and burial.

Many people counted among the learned, who have no experience of the soul nor knowledge of its substance, have claimed that the agent responsible for these perfected crafts and precise actions manifested through human hands is this body composed of flesh, blood, fat, bones, and nerves, together with accidents inhering in it, such as life, power, knowledge, and similar qualities.

They did not realize that these accidents do not inhere in the body.

Rather, they are psychical accidents that inhere in the substance of the soul.

Since the human being is composed of a dead body and a living soul, these accidents are present during his life and absent at his death.

Life is nothing other than the soul's employment of the body, and death is nothing other than its ceasing to employ it.

Likewise wakefulness is nothing other than the soul's employment of the five senses, and sleep nothing other than its ceasing to employ them.

Chapter 7 — On the Nobility of the Crafts

Know, O brother, that crafts differ in excellence from one another in several respects.

One craft may be superior because of the matter that is its subject.

Another because of its manufactured product.

Another because of the necessity that calls for its practice.

Another because of the public benefit it provides.

Another because of the craft itself.

Those whose excellence derives from necessity are the three already mentioned:

weaving, agriculture, and building.

Those whose excellence derives from the matter upon which they work include goldsmithing, perfumery, and similar crafts.

Those whose excellence derives from their manufactured product include the crafts of makers of observational instruments such as the astrolabe, armillary instruments, celestial globes fashioned in the likeness of the celestial spheres, and similar objects.

A piece of brass worth five dirhams, for example, when made into an astrolabe may become worth one hundred dirhams.

That value does not belong to the material itself, but to the form introduced into it.

Gold and silver, by contrast, which are the materials employed by goldsmiths and minters, when made into dirhams, dinars, or ornaments do not acquire such a vast difference in value between the raw material and the finished product as occurs in the making of an astrolabe and similar instruments.

As for crafts whose excellence derives from public usefulness, examples include those who operate bathhouses, remove refuse and manure, sweep streets, and similar occupations.

A bathhouse benefits equally the young and old, noble and lowly, citizen and stranger, near and far; they do not differ in their ability to benefit from it.

In most other crafts, however, people differ greatly in the extent of benefit they obtain, as they differ in clothing, foods, drinks, dwellings, and other manufactured goods. The situation of the wealthy differs from that of the poor.

The bathhouse, barber, and similar services are exceptions.

As for those who remove refuse, manure, and filth, the harm resulting from abandonment of their craft would be great and general throughout the city.

For if perfumers, whose materials are the opposite of those handled by refuse-workers, were to close their shops and markets for an entire month, the inhabitants of the city would not

suffer as much harm as they would if the refuse-workers abandoned their craft for a single week.

The city would become filled with manure, dung, carrion, filth, and things that make the lives of its inhabitants unpleasant.

As for crafts whose excellence derives from the craft itself, these include the arts of illusionists, painters, musicians, and those like them.

The art of the illusionist is nothing other than rapid movement and concealment of the causes by which the artisan performs his effects.

Though fools may laugh at such performances, rational people marvel at the practitioner's skill.

The art of painters consists in imitating the forms of existing things, whether natural, humanly manufactured, or psychical.

Their skill can become so great that the eyes of spectators are diverted from looking at the actual existing things because they marvel at the beauty and splendour of the representations.

There may also be an enormous difference in skill among painters.

It is related that a man in a certain place produced painted forms and images in pure pigments and beautiful, gleaming colours. Those who viewed them marvelled at their beauty and splendour.

Yet there remained some deficiency in the workmanship.

Then a highly skilled artist from Persia passed by, examined them, and considered them inferior.

He picked up a piece of charcoal from the road and, beside those coloured images, drew the figure of a Black man who appeared to be gesturing with his hands toward the spectators.

Thereafter the spectators turned their eyes away from the coloured paintings and looked instead at his figure, marvelling at the extraordinary skill of its execution, the beauty of its gesture, and the appearance of its movement.

As for the nobility of the art of music, it arises in two respects: from the craft itself and from its effects upon souls, as well as from the great differences in skill among practitioners.

One musician may perform a melody that moves some listeners, while another performs a melody that moves all who hear it.

It is related that a group of practitioners of this art were gathered at the banquet of a great and eminent man.

A poorly dressed person wearing the clothes of an ascetic entered.

The host seated him above all the musicians, and disapproval appeared upon their faces.

The host wished to make his superiority evident, so he asked him to let them hear something of his art.

The man took out pieces of wood and fitted them together, then stretched strings upon them that he had brought with him.

He played them in one manner, and everyone in the gathering laughed with delight and joy.

Then he changed the arrangement and played in another way, and everyone in the gathering wept from grief and tenderness of heart.

Then he altered it again and played another way, and everyone present fell asleep.

He rose, departed, and no further report of him was known.

Know, O brother, that excellence in every craft consists in imitating the Wise Artisan, who is the Creator—glorious is His praise.

It is said that God Most High loves the excellent and skilful craftsman.

It is related from the Prophet—may God bless him and grant him peace—that he said:

“God Most High loves the artisan who perfects his craft.”

For this reason philosophy has been defined as **becoming like God according to the measure of human capacity**.

By “becoming like” we mean resemblance in knowledge, arts, and the overflowing of good.

For the Creator—glorious is His praise—is the most knowing of those who know, the wisest of the wise, the most excellent of artisans, and the best of those who do good.

Whoever advances by one degree in these things thereby increases in nearness to God.

As God—glory be to Him—said concerning the angels, who are His pure servants:

“They seek the means of approach to their Lord—which of them will be nearer—and they hope for His mercy.”

Know, O brother, that the means of approach can only be through action, knowledge, or worship.

For servants possess nothing except their striving, as God—mighty and majestic—said:

“Man shall have nothing but what he strives for, and his striving shall surely be seen.”

Chapter 8 — On Human Receptivity to the Crafts

Know that children's receptivity to learning crafts differs according to the differences in their natural dispositions, and the differences in those dispositions correspond to their births.

We have explained this in the Epistle on the Influences of the Stars upon Nativities, but we wish to mention something of it here.

Know that among people are those naturally disposed to learn one craft or several crafts with ease.

Many people, because of the excellence of their natural aptitude, learn a craft merely by seeing its practitioners at work and giving it only slight consideration, as though they had already been formally instructed in it.

Others require intensive instruction, continual urging, and encouragement, and even then they may not succeed if that craft does not accord with their nature and with what their nativity has determined for them.

Among people are also those who learn no craft at all and remain entirely without one.

The reason, according to this account, is that a craft comes to the native only through the indication of a planet governing the tenth sign from his ascendant.

If one of three planets predominates there, he will necessarily learn a craft.

These three are **Mars, Venus, and Mercury**.

Every craft necessarily requires motion, activity, and skill.

Motion belongs to Mars.

Activity belongs to Venus.

Skill belongs to Mercury.

As for four other planets, when one of them alone governs the indication, it does not produce a craft but indicates activities resembling its own nature.

These four are the Sun, Saturn, Jupiter, and the Moon.

If the Sun predominates at the tenth degree in a person's nativity, he does not learn a craft because of the loftiness of his self-regard, as with the children of kings.

If Jupiter predominates, he neither learns nor practises a craft because of his asceticism, scrupulousness, contentment with little of the affairs of this world, and his orientation toward seeking the Hereafter, like the prophets—peace be upon them—and those who follow them.

If Saturn predominates, he neither works nor learns because of his laziness and the heaviness of his nature with respect to motion, and he becomes content with humiliation and abasement in seeking his livelihood.

If the Moon predominates, according to this account, he does not work because of weakness, softness of disposition, and deficiency of understanding.

For this reason, the ancient Greeks, when they wished to assign a boy to one of the crafts, would select a particular day, bring him into a temple containing representations of the crafts and images of the planets, and make an offering to the image of the planet associated with his nativity.

If they did not know it from his nativity, they would display before him the crafts represented in that temple.

If, after they explained the circumstances of a particular craft to him, he showed an inclination toward it, they would entrust him to it.

Know, O brother, that the crafts of fathers and grandfathers are more effective in their descendants than the crafts of strangers, especially when a child's nativity indicates that craft. Such children become more skilful and accomplished in them.

For this reason, in the political system of Ardashīr ibn Bābakān, the people of each social class were strictly required to remain in the occupations of their fathers and grandfathers and not pass beyond them.

They claimed that this was a command from God—mighty and majestic—in the Book of Zoroaster.

Know that all of this was intended to preserve kingship from being sought by those who were not of its people.

For when many seek kingship, contention among them increases.

When contention increases, civil strife increases, affairs become disturbed, and order is corrupted.

The corruption of order is followed by ruin and dissolution.

Chapter 9 — On the Purpose of Kingship

Know that the purpose of kingship is to preserve the divine law among its people so that it does not disappear through their neglect of its obligations.

For most adherents of prophetic and philosophical laws, were it not for fear of political authority, would abandon submission to the judgments and limits of the law, the fulfilment of its obligations, the following of its customary practices, avoidance of its prohibitions, and obedience to its commands and restrictions.

Know that the purpose of preserving the law is to seek the welfare of religion and worldly life together.

Whenever the fulfilment of its obligations is abandoned, both become corrupted and wisdom becomes nullified.

But divine governance and providential care do not permit them to become utterly corrupted, for divine governance is the cause requiring their existence, continuance, order, completion, and perfection.

Every form present in a manufactured thing exists first in the thought and knowledge of the artisan.

Chapter 10 — On the Body's Inability to Move Itself

Know, O brother—may God strengthen you and us with a spirit from Him—that the subjects upon which artisans work, their manufactured products, their instruments, their tools, and their own bodies are all bodies.

Body, insofar as it is body, is not self-moving, while actions cannot occur except through motion.

Therefore the mover of bodies is another substance, and this is what we call the **soul**.

Souls, insofar as they are souls, are one substance, just as bodies, insofar as they are bodies, are one substance.

Souls differ according to the differences of their powers, and their powers differ according to the differences of their actions, knowledge, and characters, just as bodies differ according to the differences of their forms, and their forms differ according to the differences of their accidents.

Know that the Soul of the World is one soul, just as the body of the world is one body with all its celestial spheres, stars, elements, and generated things.

But because the Soul of the World has universal actions through universal powers, generic actions through generic powers, specific actions through specific powers, and individual actions through individual powers, and because its motions occur from east to west and conversely, from north to south and conversely, and from above downward and conversely, these powers together with their actions have been called generic, specific, and individual souls.

Thus souls become multiple according to their differing powers, and their powers become multiple according to their varied actions, just as the body of the world becomes multiple according to the differences of its forms, and its forms become multiple according to the differences of its accidents.

The universal actions of the Soul of the World are its turning of the celestial spheres and stars from east to west by primary intention, and its maintaining each in the centre proper to it.

Its generic actions are those belonging particularly to each sphere and each star among the six accidental motions, as we explained in the Epistle on the Heavens and the World, and also

those natural motions proper to the four elements beneath the sphere of the Moon, as we explained in the Epistle on Generation and Corruption.

Its specific actions are those belonging to generated beings: animals, plants, and minerals.

Its individual actions are those that appear from individual animals and those crafts already mentioned which proceed through human hands.

Know, O brother, that the soul is a spiritual substance, living in itself.

When it is joined to a body, it makes that body living like itself, just as fire is a corporeal substance hot in itself, and when it comes into contact with another body it makes that body hot like itself.

Know that the soul possesses two powers.

One is **cognitive** and the other **active**.

Through its cognitive power it abstracts the representations of known things from their matter and conceives them within itself. Its own substance then becomes like matter for those representations, while the representations within it are like forms.

Through its active power it brings forth the forms existing in its thought and impresses them upon corporeal matter, whereupon the body becomes its manufactured product.

Every person learning a science has the form of the known thing potentially within his soul.

When he learns it, that form becomes actual within him.

Likewise every person learning a craft possesses potentially within his soul the forms of the objects made in that craft. When he learns the craft, those forms become actual within him.

Learning is nothing other than the path from potentiality to actuality.

Teaching is nothing other than guidance toward that path.

Teachers are the guides; their teaching is guidance; learning is the path; and the known thing is the sought object toward which guidance is given.

Thus the souls of children possess knowledge potentially, while the souls of teachers possess it actually.

Every soul possessing knowledge potentially requires a soul possessing knowledge actually to bring it from potentiality into actuality.

Know, O brother, that every human artisan must have a teacher from whom he learns his craft or science.

That teacher in turn had a teacher before him, and so on until the chain reaches someone whose knowledge was not learned from another human being.

At that point there are two possibilities.

Either we say that he discovered it through the power of his own soul, thought, deliberation, and exertion, as those devoted to philosophy claim;

or we say that he received it from a teacher who was not human, as the prophets—God's blessings be upon them—say.

Know with certain knowledge, O brother, that no human being encompasses any science completely—not the prophets, not the philosophers, nor anyone else—except to the extent willed by Him whose Throne encompasses the heavens and the Earth, whose preservation of them does not weary Him, and who is the Most High, the Magnificent.

For even those who claimed that they discovered the sciences and crafts through the power of their intellects and the excellence of their thought and deliberation would never have found their way to them had they not seen and observed the products of Nature, reflected upon them, and reasoned by analogy from them.

That observation was like receiving instruction from Nature.

Nature itself, however, could not act were it not supported by the Universal Soul.

And the Universal Soul could not act were it not supported by the Universal Intellect, which is the first of existing things proceeding from the Creator—glory be to Him.

The Creator—glory be to Him—is the One who supports the whole however He wills, the Maker of causes and the supporter of the innermost understanding of those endowed with intellect.

Since we have completed our discussion of human crafts, their subjects, purposes, excellence, and benefits, we have shown that the highest craft attainable by human capacity is the establishment of the **divine law**.

We have explained its manner and conditions in the Epistle on the Divine Law.

So strive, O brother, to understand its mysteries, that perhaps your soul may awaken from the sleep of heedlessness and the slumber of ignorance, and come alive through the spirit of intellectual knowledge.

Then you may live the life of the godly learned and attain the bliss of the world of spiritual beings in the neighbourhood of the angels brought near, abiding forever and ever.

But if that is not attainable for you, then be a servant of the divine law by preserving its judgments and maintaining its limits.

Perhaps, through the intercession of its people, you may escape from the sea of matter, the captivity of Nature, and the abyss of the corporeal world of generation and corruption and its sufferings.

May God grant you and us, O brother, right guidance, and all our brethren wherever they may be in the lands.

Indeed, He is Generous and Bountiful.

Praise be to God, Lord of the worlds, and may God bless His Messenger and his family.

Epistle 9

On Character Traits, the Causes of Their Differences, the Various Kinds of Their Causes, Some Points from the Conduct of the Prophets, and Selections from the Character of the Sages

In the name of God, the Compassionate, the Merciful.

Praise be to God, and peace be upon His servants whom He has chosen. Is God better, or what they associate with Him?

Since we have completed our discussion of corporeal substances and described their matter, their forms, and their composition; and since we have completed our account of the successive states undergone by the human being in the womb, from the day the sperm is deposited until the day the body is born; and since we explained how the spiritual powers of the stars are added to the formation of the embryo, and how differing character traits rooted in nature are impressed upon its constitution month after month during the nine months that constitute the natural period until the birth of the child; and since we explained the continuation of the human lifespan in the life of this world for one hundred and twenty years, which is the natural lifespan according to the Epistle on the Place of the Sperm—we now wish to discuss in this epistle the acquired character traits that are added after birth to those natural dispositions already rooted within the constitution.

These acquired traits arise through repeated habits and through the causes that call them forth and produce them, either increasing what was naturally present or diminishing it throughout the changing days of worldly life until the day of death.

Death is the soul's separation from the body and its second birth, which is the other formation, as God—glorious is His praise—says:

“You have already known the first formation; why then do you not remember?”

meaning the other formation.

And He Most High says:

“And We shall bring you forth in a form you do not know.”

And God—mighty and majestic—says:

“Then God will produce the other formation. Indeed, God has power over all things.”

Chapter 1 — On the Human Being's Receptivity to Every Character Trait

Know, O brother—may God strengthen you and us with a spirit from Him—that when God—glorious is His praise—willed to appoint from among humankind a vicegerent upon the Earth, so that the lower world beneath the sphere of the Moon might be inhabited through the presence of human beings, filled through their hands with marvellous works, and preserved in order and arrangement through legal, royal, philosophical, public, and private forms of governance, so that the world might remain in the most complete condition and attain its most perfect purposes—as is mentioned in the fourth book of the writings of Hermes, who is the prophet Idrīs, peace be upon him, and as we have mentioned in the Comprehensive Epistle and elsewhere in our epistles—our Lord Most High first fashioned for His vicegerent a bodily structure from earth.

He made it wondrous in construction, graceful in constitution, diverse in its organs, and abundant in its powers.

Then He composed and shaped it in the finest form among all animals so that through this constitution the human being might be superior to them, possess them, and exercise authority over them as he wills.

Then He breathed into him of His spirit, joining that earthy body to a spiritual soul, one of the most excellent and noble of animal souls, so that through it he might move, sense, perceive, know, and perform whatever he wills.

Then He strengthened this soul with the spiritual powers of all the stars in the celestial sphere, so that through them it might be prepared and enabled to receive all varieties of character, to learn every science, discipline, mathematical art, branch of knowledge, and form of governance.

Likewise, through the different shapes and structures of the bodily organs, He prepared and enabled the human being to practise all the human crafts, human actions, and royal functions.

For He gathered within the structure of the human body the mixtures of all four elements and all nine temperaments in the utmost balance, so that the human being might thereby be prepared and receptive to all the character traits of animals and the distinctive properties of their natures.

All of this was so that it might be easy and possible for him to manifest every kind of action, marvellous craft, diverse and perfected work, and well-ordered governance.

For it would be impossible for a human being to manifest them all through a single organ, a single tool, a single character, and a single temperament, as we explained in the Epistle on the Human Crafts.

The purpose of all these things is that the human being should become capable and prepared to resemble his God and Creator, whose vicegerent he is upon His Earth: cultivating His world, possessing what is within it, governing its animals, raising its plants, extracting its minerals, and exercising judgment and authority over what it contains.

He is to administer it through political management and govern it with lordly governance, according to what the ordinances of revealed law and the disciplines of philosophy have prescribed for him.

All of this is so that, through such care, governance, and administration, his soul might become an angel among the angels brought near, and thereby attain eternal life in bliss forever and ever.

It is related in some books of the prophets of the Children of Israel that God Most High said:

“O son of Adam, I created you for eternity, and I am the Living who does not die. Obey Me in what I command you, and refrain from what I forbid you, and I shall make you living, never to die. O son of Adam, I am able to say to a thing, ‘Be,’ and it is. Obey Me in what I command you and refrain from what I forbid you, and I shall make you able to say to a thing, ‘Be,’ and it is.”

Since we have now explained the purpose intended by the existence of differing character traits in human constitution and nature, we wish to explain the causes and reasons by which and because of which human character and dispositions differ: how many these causes are, what they are, and how they operate, now that we have already explained why they exist.

Chapter 2 — On the Ways in Which Character Traits Differ

Know, O brother, that people's characters and natural dispositions differ for **four reasons**.

The first arises from the humours of their bodies and the temperaments produced by their mixture.

The second arises from the soil of their countries and differences in their climates.

The third arises from their upbringing according to the religions of their fathers, teachers, masters, and those who raise and educate them.

The fourth arises from the requirements of astrological judgments at the origins of their nativities and at the deposition of their sperm.

This fourth is the root, while the others are branches deriving from it.

We must explain this subject so that the truth of what we have said and the reality of what we have described may become clear.

We begin first with the causes and reasons arising from the bodily humours and the changes in their temperaments through balance, excess, and deficiency, together with the differing and opposing characters and dispositions that follow from them.

Chapter 3 — On Differences of Character Arising from the Humours

Know, O brother, that people of a **hot temperament**, especially when heat predominates in the temperament of the heart, are generally courageous in heart, generous in soul, rash in dangerous affairs, deficient in steadiness and deliberation, swift in movement, intense in

anger, quick to reconciliation, little inclined to rancour, intelligent in soul, sharp in thought, and good in conception.

Those of a **cold temperament** are generally dull in understanding, heavy in spirit, and immature in character.

Those of a **moist temperament** are generally dull in disposition and lacking in constancy in affairs, yet gentle in manner, generous in soul, pleasant in character, readily receptive, and quick to forget, along with considerable impulsiveness in natural matters.

Those of a **dry temperament** are generally patient in their works, firm in opinion, difficult to persuade, and are predominantly characterized by endurance, rancour, stinginess, restraint, and retention.

Chapter 4 — On the Creation of Adam, Peace Be upon Him, as Found in Some Books of the Children of Israel

It is found in some books of the prophets of the Children of Israel, in the description of the creation of Adam and the formation of his body, that when God—mighty and majestic—originated and fashioned him, He said:

“I created Adam and composed his body from four things, and then made them an inheritance in his children and descendants, growing within their bodies and upon them until the Day of Resurrection. I composed his body from moist and dry, hot and cold. For I created him from earth and water, then breathed into him a soul and a spirit. Thus the dryness of his body derives from earth, its moisture from water, its heat from the soul, and its coldness from the spirit.

“Then I placed within the body four other things upon which the affairs of the body depend. The body cannot subsist except through them, nor can any one of them subsist without the others. They are black bile, yellow bile, blood, and phlegm.

“I then lodged some of these within others: I placed dryness in black bile, heat in yellow bile, moisture in blood, and coldness in phlegm.

“Any body in which these four humours, which I made its support and foundation, are balanced so that each constitutes one quarter, neither increasing nor decreasing, possesses complete health and a balanced constitution.

“But if one of them increases beyond its companions, overcomes them, and inclines them toward itself, sickness enters the body from its direction according to the measure of its excess. If one is deficient, its power to resist the others becomes weak, they overcome it, and sickness enters the body from their directions according to the measure of its deficiency and its weakness in resisting them.

“Then I taught him medicine and the manner of treatment: how to increase what is deficient or diminish what is excessive until equilibrium is restored and the body's condition becomes sound. The skilful physician who knows disease and treatment is the one who knows from where sickness has entered the body through excess or deficiency,

and knows the remedy by which it is treated. He increases what is deficient and diminishes what is excessive until the body's condition returns to its natural state and each thing is balanced with its peers.

“Then I made these humours upon which the body was composed foundations and principles upon which the characters of the children of Adam are built and by which they are described. From earth comes determination; from water, gentleness; from heat, sharpness; and from cold, deliberation.

“If dryness inclines excessively within a person, his determination becomes hardness and harshness. If moisture inclines excessively, his gentleness becomes sluggishness and weakness. If heat inclines excessively, his sharpness becomes recklessness and foolishness. If cold inclines excessively, his deliberation becomes slowness and dullness.

“But if they are balanced and equal, his character becomes balanced and his affairs upright. He is resolute while deliberate, gentle while resolute, calm in his gentleness, and deliberate in his sharpness. No single character dominates him, nor does any bodily nature incline him away from the balanced measure. He may increase whichever trait he wishes, diminish whichever he wishes, and moderate them however he wishes.

“Then I breathed into him of My spirit and joined to his body a soul and a spirit. Through the soul the son of Adam hears, sees, smells, tastes, touches, senses, eats, drinks, sleeps, sits, laughs, weeps, rejoices, and grieves. Through the spirit he reasons, understands, knows, learns, feels shame, shows forbearance, exercises caution, advances, restrains himself, acts nobly, halts, and boldly undertakes things.

“From the soul arise his sharpness, lightness, desire, play, amusement, laughter, foolishness, deception, cunning, violence, and rashness. From the spirit arise his forbearance, dignity, chastity, modesty, splendour, understanding, nobility, skill, truthfulness, gentleness, and patience.

“Therefore, when the intelligent person fears that one of the characteristics of the soul will dominate him, he opposes it with its contrary among the characteristics of the spirit and compels himself toward that contrary, thereby balancing and correcting it.

“He opposes sharpness with forbearance; lightness with dignity; desire with chastity; play with modesty; frivolity with gravity; excessive laughter with concern; foolishness with nobility; deception with courage; falsehood with truthfulness; violence with gentleness; agitation with patience; and rashness with deliberation—for every sickness is treated by its contrary.

“From earth arise hardness, stinginess, harshness, avarice, despair, hopelessness, resolve, and persistence. From water arise gentleness, ease, openness, beneficence, nobility, generosity, strength, nearness, receptivity, hope, and gladness.

“Therefore, when the intelligent person fears that one of his earthy qualities will dominate him, he opposes it with its contrary among the watery qualities and compels himself toward it so as to balance and correct himself. He opposes hardness with gentleness, stinginess with giving, harshness with cheerfulness, avarice with generosity,

despair with hope, hopelessness with glad expectation, rigidity of resolve with receptivity, and obstinate persistence with justice."

Know, O brother, that every character trait has related sisters resembling it, opposing contraries differing from it, and distinct and opposing actions.

These require explanation so that they may be distinguished and known, for this subject belongs to the noble sciences and subtle forms of knowledge.

Through this art one comes to know the character of the noble among the children of Adam and the character of the angels who are the inhabitants of the gardens, whom God Most High describes as:

"Noble scribes"

and:

"Noble and righteous."

Through this same subject one also comes to know the character of the devils, who are the people of the fires, as God Most High says:

"Whenever a community enters, it curses its sister."

And:

"No welcome for them; indeed, they shall enter the Fire."

Having explained something of the causes leading to differences of human character through the temperament of the bodily humours, we now wish to discuss some of the causes arising from differences in the soils of countries and changes in their climates.

Chapter 5 — On the Influence of the Nature of Countries upon Character

Know, O brother, that the soils of countries, cities, and villages differ, and their airs vary for many reasons.

Some lie toward the south, others toward the north, east, or west.

Some lie upon mountain summits; others within valleys and depressions.

Some lie upon sea-coasts or riverbanks; others in deserts and barren lands, marshlands and hollows, sandy regions and salt flats, open plains, rocky districts filled with stones, pebbles, and sand, or fertile plains of soft soil amid rivers, trees, crops, gardens, flowers, and blossoms.

The climates of countries and regions also differ according to the changing courses of the four winds and their deviations, according to the rising of the zodiacal signs over them, and according to where the rays of the stars fall upon them from their horizons.

All these things lead, according to the account given here, to differences in the temperaments of the bodily humours.

Differences in the temperaments of the humours in turn lead to differences in the character, natural dispositions, colours, languages, customs, opinions, doctrines, actions, crafts, management, and political practices of their inhabitants.

Thus one nation does not resemble another in all of these matters; rather, each nation possesses distinctive features not shared with others.

For example, those born in hot countries, raised there, and accustomed to that climate are said to have coldness predominantly within the interior temperament of their bodies.

Conversely, those born and raised in cold countries are said to have heat predominantly within the interior temperament of their bodies.

Heat and cold are contraries and do not coexist manifestly in one place at one time. Rather, when one appears externally, the other withdraws inwardly and becomes hidden, so that both may remain present continually, since generated beings cannot exist or subsist without them.

As evidence for this, the text points to the bodily temperaments of peoples inhabiting southern countries, including Abyssinia, the Zanj, Nubia, Sind, and India.

Because heat predominates in the air of those lands, and because the Sun passes over their zeniths twice during the year, their atmosphere becomes hot and the surrounding air heated.

The text explains their external bodily features through this climatic heat, while maintaining that the inner parts of their bodies become correspondingly colder.

Conversely, it attributes the bodily characteristics of inhabitants of northern lands to the coldness of their climate, because the Sun remains distant from the zeniths of those regions in winter and summer.

According to this principle, peoples inhabiting regions opposed in climate and atmosphere are said generally to differ from one another in bodily dispositions and character.

Having mentioned something of the alteration of human character through differences in the soils and climates of countries, we now turn to causes attributed to astrological configurations.

Those born under fiery zodiacal signs at times when fiery stars such as Mars and the Heart of the Lion and similar stars predominate are said to possess bodily temperaments in which heat and yellow bile predominate.

Those born under watery signs at times when watery stars such as Venus and Sirius predominate are said to possess temperaments in which moisture and phlegm predominate.

Those born under earthy signs when Saturn and similar fixed stars predominate are said to possess temperaments dominated by dryness and black bile.

Those born under airy signs when Jupiter and similar fixed stars predominate are said to possess temperaments in which blood and equilibrium predominate.

The practitioners of these arts and those experienced in them, the epistle says, know the truth of these claims and the correctness of what has been described.

Chapter 6 — On the Nature of Character

Having explained the causes and reasons said to produce the character traits rooted in natural constitution, we now wish to explain which traits are innate, which are acquired through repeated habit, what their purpose is, and what benefits arise from them.

Know, O brother, that **character (*khuluq*) is a condition of the soul through which actions proceed from it without deliberation or choice**.

Among these character traits are those rooted naturally in the original constitution; others are acquired through habit and repeated practice.

An example of what is rooted in constitution is the courage found in some people from childhood, the cowardice of others, the generosity of some and stinginess of others, and similarly the remaining dispositions that appear naturally without instruction.

Acquired character, however, arises through repeated practice.

A person may repeatedly compel himself to perform a particular action until it becomes easy for him, and then, through persistence, it becomes a fixed disposition and character.

In this way even a naturally difficult character may be altered by discipline and habituation, especially when this begins in childhood, before another disposition has become firmly rooted.

For this reason the education of children, their discipline, and their habituation to good actions are of the utmost importance.

A child who continually associates with the courageous becomes accustomed to courage; one who associates with the generous becomes inclined toward generosity; and one who grows among the fearful, miserly, quarrelsome, or deceitful may acquire their traits.

The same applies to religions, opinions, doctrines, customs, and ways of life.

Children grow up imitating fathers, mothers, brothers, sisters, companions, teachers, and masters, until repeated imitation becomes a settled habit and nature.

Chapter 7 — On How Some People's Beliefs Follow Their Character, While Others' Character Follows Their Beliefs

Know, O brother, that among people there are those whose **belief follows their character**, while among others their **character follows their belief**.

A person naturally disposed toward a Martian temperament inclines toward opinions and doctrines in which partisanship, argument, and contention are abundant.

A person naturally disposed toward a Jovian temperament inclines toward doctrines in which asceticism, scrupulousness, and gentleness are more prominent.

According to this principle, people's opinions and doctrines may follow their character traits.

As for one whose character follows his belief, when he adopts an opinion or doctrine, conceives it, and becomes firmly convinced of it, his character and habitual dispositions gradually become conformed to that doctrine and belief.

For he directs most of his concern and effort toward defending his doctrine and confirming his belief in all his conduct, until this becomes a fixed character, natural disposition, and habit from which it is difficult to desist.

It is upon this category of acquired character that praise and blame, reward and punishment, promise and threat, encouragement and warning properly fall, because it is something acquired and performed by its possessor.

An example is found in the account of two men who travelled together.

One was a Magian from Kirmān, and the other a Jew from Isfahan.

The Magian rode a mule carrying everything a traveller needed for his journey—provisions, money, and equipment—and travelled comfortably.

The Jew travelled on foot, possessing neither provisions nor money.

As they conversed, the Magian asked the Jew:

“What is your doctrine and belief?”

The Jew answered:

“My belief is that in this heaven there is a god who is the God of the Children of Israel, and I worship Him. I ask Him and seek from Him abundance of provision, long life, bodily health, safety from afflictions, and victory over enemies.

“I desire good for myself and for whoever agrees with me in my religion and doctrine. As for one who opposes my religion and doctrine, his blood and property are lawful to me, and I consider it forbidden to support him, advise him, assist him, show him mercy, or have compassion upon him.”

Then he said to the Magian:

“I have told you my doctrine and belief because you asked me. Now tell me your doctrine and belief.”

The Magian replied:

“My opinion and belief are that I desire good for myself and for all the children of my kind, and I desire evil for no creature—neither one who shares my religion and agrees with me, nor one who differs from me and opposes me in doctrine.”

The Jew asked:

“Even if he wrongs you and transgresses against you?”

He replied:

“Yes, because I know that in this heaven there is a God who is aware, excellent, just, wise, and knowing. Nothing concerning His creatures is hidden from Him. He rewards those who do good for their goodness and requites evildoers for their evil.”

The Jew said:

“I do not see you supporting your doctrine or making your belief true in practice.”

The Magian asked:

“How so?”

The Jew said:

“Because I am one of the children of your kind. You see me walking, exhausted and hungry, while you ride, well-fed and comfortable.”

The Magian said:

“You are right. What do you want?”

He replied:

“Feed me and let me ride for a while so that I may rest, for I am exhausted.”

The Magian dismounted from his mule, opened his provisions for him, fed him until he was satisfied, then mounted him upon the mule and walked beside him for a time while they conversed.

When the Jew had become secure upon the mule and knew that the Magian was tired, he urged the mule onward and left him behind.

The Magian walked after him but could not catch him.

He called out:

“Stop for me! Dismount, for I am exhausted!”

The Jew answered:

“Did I not already tell you my doctrine? You told me yours and then supported and confirmed it. I too now wish to support my doctrine and confirm my belief.”

He drove the mule on.

The Magian ran after him, calling:

“Woe to you! Stop for me a little and carry me with you. Do not leave me in this wilderness to be eaten by beasts or to die of hunger and thirst. Have mercy on me as I had mercy on you!”

But the Jew paid no attention to his cries and continued until he disappeared from sight.

When the Magian despaired of him and came near destruction, he remembered the fullness of his own belief and what he had said: that in heaven there is a knowing, excellent, wise, and just God from whom nothing of His creatures is hidden.

He raised his head toward heaven and said:

“My God, You know that I adopted a doctrine, supported it, confirmed it, and described You according to what I had heard, known, and become convinced of. Confirm before this Jew what I have described of You so that he may know the truth of what I said.”

The Magian had walked only a little farther when he saw the Jew lying on the ground.

The mule had thrown him and broken his neck, while the animal stood some distance away awaiting its owner.

The Magian reached his mule, mounted it, and proceeded on his way, leaving the Jew struggling with pain and confronting death.

The Jew called after him:

“O Magian, have mercy on me and carry me! Do not leave me in this wilderness to be eaten by beasts or to die from hunger and thirst. Confirm your doctrine and uphold your belief!”

The Magian replied:

“I already did so once. But you still did not understand what I told you or comprehend what I described.”

The Jew asked:

“How is that?”

The Magian answered:

“I described my doctrine to you, but you did not believe my words until I confirmed them by my actions. Yet you still failed to understand what I had told you. I told you that in this heaven there is a knowing, excellent, just God from whom nothing is hidden, who rewards those who do good for their goodness and requites evildoers for their evil.”

The Jew said:

“Now I understand what you said and know the truth of what you described.”

The Magian asked:

“Then what prevented you from taking admonition from what I told you?”

The Jew replied:

“A belief upon which I was raised, and a doctrine to which I became accustomed. Through long persistence and frequent practice, following fathers, mothers, teachers, and masters belonging to my religion and doctrine, it became a fixed constitution and nature within me. It is difficult for me to abandon and cast it off.”

The Magian had compassion upon him, carried him with him until they reached the city, and delivered him injured to his people.

He told others what had happened between them, and they marvelled.

Someone asked the Magian:

“How could you carry him after the severity of his cruelty toward you and the ugliness with which he repaid your kindness?”

The Magian replied:

“He excused himself by saying that his doctrine had become a fixed nature through prolonged practice and habit, making it difficult for him to abandon it. I too have adopted an opinion and followed a doctrine that has become for me a habit and fixed disposition, and it is likewise difficult for me to abandon it.”

Having thus explained that the causes producing differences in the characters of souls are only four kinds, as we stated at the beginning of the epistle, we now say that all character traits are of two kinds: either innate and rooted in the natural constitution of souls, or acquired and habitual through repeated practice.

From another perspective, character traits are also of two kinds: some are **roots and fundamental principles**, while others are **branches and consequences**.

We must explain and distinguish these so that one may be known from another, for this branch of knowledge is among the noble and highly beneficial sciences, especially for one concerned with disciplining the soul, refining it, and reforming its character.

For the character traits of souls are among the causes by which souls are distinguished from one another and saved from destruction, as we have explained in the Epistle on Calling to God.

Chapter 8 — On the Ranks of Souls

Know, O brother—may God strengthen you and us with a spirit from Him—that when the Creator—glorious is His praise—originated and fashioned souls and brought forth what had been concealed among generated beings, He arranged and ordered them like the ranks of the individual numbers.

As God Most High relates concerning the angels:

“There is none among us except that he has a known station. Indeed, we are those arrayed in ranks, and indeed, we are those who glorify.”

Know, O brother, that the number of souls is so great that none knows it except God—glorious is His praise—as He says:

“None knows the hosts of your Lord except Him.”

Yet we must mention something of their generic ranks and stations, since their species and individual members cannot be enumerated and are known only to Him.

Know, O brother, that the ranks of souls are of three broad kinds: the rank of human souls, those above them, and those below them.

Below the human rank are seven degrees, and above it are also seven, making fifteen degrees in all.

Of these ranks, five are known to scholars and can be recognized and apprehended by every rational person.

Two lie above the human rank: the **angelic** and **holy** ranks.

The angelic rank is the rank of wisdom.

The holy rank is the rank of prophecy and divine lawgiving.

Two lie below the human rank: the **vegetative** and **animal** souls.

Those who investigate the science of the soul among the sages and philosophers, as well as many physicians, know the correctness of what we have said and the reality of what we have described.

The two ranks above ordinary humanity are wisdom and, above it, prophetic lawgiving.

The human rank is that indicated by God's saying:

“We have certainly created the human being in the finest constitution.”

The rank above it is indicated by His saying:

“When he reached full strength and maturity, We gave him judgment and knowledge.”

And He says:

“Is one who was dead and whom We brought to life and gave a light by which he walks among people like one whose likeness is in darkness, never emerging from it?”

That is, the human being whose soul We revived through the light of guidance.

This is the rank of the souls of knowing believers and firmly established scholars.

Above that is the rank of prophetic souls who establish divine laws, indicated by His saying—glorious is His praise:

“God raises in degrees those among you who believe and those who have been given knowledge.”

This rank approaches the holy angelic rank.

Thus we have explained the five ranks that human beings can know and perceive.

As for the ranks below the vegetative soul and above the holy rank, knowledge of them is difficult even for those trained in the divine sciences, much less for others.

When God—glorious is His praise—bound particular souls to particular bodies for the cause we explained in the Epistle on the Human Being as a Microcosm, He strengthened and assisted them with various kinds of aid and support.

All of this is generosity and kindness from Him toward them, beneficence and favour upon them, and an honour granted to them.

Whenever one of these souls reaches a particular rank, He supplies it with additional bounty and generosity, or transfers it to the rank above it—higher, mightier, nobler, more exalted, and more honoured—until He brings it to the furthest extent of its purposes and the completion of its ends.

The forms of assistance and support given to these ranks include natural powers, innate character traits, corporeal structures, bodily instruments, sensory perceptions, intellectual conceptions, local motions, voluntary actions, deliberate works, philosophical crafts, revealed ordinances, and royal forms of governance.

We shall begin by discussing the desires rooted in natural constitution and the natural powers that assist them, since these are the root and fundamental principle of all powers, characters, qualities, actions, motions, sensations, and perceptions.

Chapter 9 — On the Progression of Souls Through Their Ranks

Know, O brother—may God strengthen you and us with a spirit from Him—that God arranged the vegetative souls beneath the animal souls and made them their servants.

He arranged the animal souls beneath the rational human soul and made them its servants.

He arranged the rational human soul beneath the wise intellectual soul and made it its servant.

He arranged the intellectual soul beneath the lawgiving soul and made it its servant.

And He arranged the lawgiving soul beneath the royal soul and made it its servant.

Whichever soul among these submits to its superior, obeys its command, and accepts its governance is transferred to the rank of that superior and becomes like it in action.

An observable example of this is any pupil or learner in a science or craft who obeys his master, submits to his teacher, and persists in doing so. One day he will reach the rank of his master and become like his teacher.

This is not hidden from any rational person who reflects upon what we have described.

According to this model is the progression of souls through their ranks.

Know, O brother—may God strengthen you and us with a spirit from Him—that among animal souls, those most deserving to be transferred to the human rank are those that serve human beings, become familiar with them, obey their commands, and endure hardship in their service—especially those among them that are sacrificed as offerings.

According to the same analogy is the condition of human souls.

Those most deserving to be transferred to the rank of the angels are those that serve the commands and prohibitions of the divine law, submit to its judgments, and endure hardship in preserving its pillars, as we shall explain after this chapter.

Know, O brother—may God strengthen you and us with a spirit from Him—that human beings are divided into classes and ranks according to their occupations in the affairs of this world, the number of which none knows except God—glorious is His praise—as He Most High says:

“He has created you in stages.”

Yet all of them may be gathered into seven broad classes.

Among them are the people of crafts, trades, and occupations.

Among them are the people of commerce, transactions, and wealth.

Among them are those concerned with buildings, cultivation, and landed property.

Among them are kings, rulers, soldiers, and people of political governance.

Among them are those who serve others and those who live from day to day.

Among them are the chronically ill, the unemployed, and those given to idleness and leisure.

And among them are the people of knowledge and religion and those employed in the service of the divine law.

Each of these seven classes is itself divided into many groups.

Every group has character traits, natural dispositions, habits, aims, works, and forms of conduct acquired through its activities and imposed by its occupations. These do not resemble one another, and none can enumerate their number except God—mighty and majestic.

We wish, however, to mention the character traits, dispositions, qualities, works, manners, and forms of knowledge needed by the people of religion who hold fast to the judgments of the divine law and preserve its pillars, through which salvation is hoped for and success attained.

God—glorious is His praise—says:

“Say: This is my way. I call to God upon clear insight, I and whoever follows me.”

And:

“God shall save those who were mindful of Him by their attainment.”

And He Most High says:

“Whoever opposes the Messenger after guidance has become clear to him…”

to the end of the verse.

There are many verses of the Qurʾān bearing similar meanings.

Chapter 10 — On the Ranks of People in Character According to Their Works

Know, O brother—may God strengthen you and us with a spirit from Him—that when you examine people's conditions and consider their affairs, you find them all like instruments and tools of the establishers of divine laws in founding their structures, completing their judgments, perfecting their conditions, and preserving their pillars.

Then you find them as servants and attendants of the kings who succeed the prophets after them in preserving those laws and guarding their arrangement and order as the lawgivers established them and commanded that they be observed.

In this respect they form classes, orders, and ranks arranged like the successive orders of individual numbers.

For the founder of the law at its beginning is like **one** in number.

His companions and supporters who follow him are like the units.

Those who follow their path are like the tens.

Those who come after them are like the hundreds.

Those after them are like the thousands.

And those who come after them are like the tens of thousands and hundreds of thousands, however far the number may extend until the Day of Resurrection.

Then all of them become one totality.

God—glorious is His praise—indicates this meaning when He says:

"On the Day when the Spirit and the angels stand in ranks, they shall not speak."

And He says:

"We shall gather them and leave none of them behind, and they shall be presented before your Lord in ranks."

Know, O brother—may God strengthen you and us with a spirit from Him—that if you contemplate intelligible matters carefully, reflect deeply upon the ordinances and limits of the divine law, consider the condition of its founder, the force of his commands and prohibitions in the souls of his followers and supporters, their compliance with his commands and prohibitions, and their obedience to him, you will understand that the divine law is a **spiritual kingdom**.

Its existence and subsistence depend upon the preservation of its **eight pillars**.

These pillars are the followers and supporters of the lawgiver, and they are eight classes, each class resembling a standing rank bearing one pillar of the divine law.

The First Class — Reciters and Preservers

The first class consists of the reciters of his revelation and books, those who preserve its wording according to its established forms, and those who teach it to their descendants after them.

They transmit to those who follow them what they received from those before them.

All this is so that those who come afterward will not remain ignorant of it, nor will it be forgotten, causing the signs of religion to disappear and the judgments of the divine law to fade and become void.

The Second Class — Transmitters of Reports

The second class consists of those who transmit reports about him, carry his traditions, preserve accounts of his life, and convey these things to those who come after them until they reach the last of their successors.

This is so that his traces will not become unknown or forgotten and his reports die out and cease to be known.

The Third Class — Jurists

The third class consists of the jurists of the judgments of the law, the scholars of its customary practices, and the preservers of its limits.

Their purpose is that these things should not become unknown and consequently cease to be practised, nor be forgotten so that the signs of religion disappear and the divine law fade and become void.

The Fourth Class — Interpreters

The fourth class consists of those who explain the outward wording of his revelation and the transmitted sayings attributed to him, and who express the different aspects of their meanings for those whose understanding of them is deficient and whose knowledge is limited.

All this is so that those who come after them among their descendants and followers will not remain ignorant of the judgments of the law, nor forget them so that the signs of religion disappear and its judgments fade and become void.

The Fifth Class — Defenders of the Law

The fifth class consists of his supporters who struggle on his behalf, fight his enemies, and guard the frontiers of the lands of the followers and supporters of the lawgiver, lest their enemies overcome them and corrupt their religion.

The text compares this with what Nebuchadnezzar did at Jerusalem in the Temple of the Children of Israel—that is, the Holy House—and with what the Romans did along the Muslim frontiers.

The Sixth Class — The Successors and Political Guardians

The sixth class consists of the successors of the lawgiver within his community, the leaders of congregations, and those who guard his law among his community by commanding what is right and forbidding what is wrong.

They prevent people from following a way other than that of the divine law.

They guard the edges of the kingdom lest rebels arise secretly or openly and corrupt the judgments of the law by misleading and deceiving the hearts of the common people and the ignorant.

The text compares this with what Mazdak did in the kingdom of Qubādh, king of the Persians.

The Seventh Class — Ascetics, Worshippers, and Preachers

The seventh class consists of ascetics and worshippers in mosques, monks and attendants in temples, and preachers upon pulpits who admonish people and warn them against abandoning the judgments of the law.

They condemn worldly affairs and warn against being deceived by worldly hopes.

They encourage those immersed in desires to practise renunciation.

They remind those heedless of the Return and the conditions of the Resurrection.

They awaken longing for the bliss of the Hereafter and affirm its reality.

All this is so that the matter of the Return will not become unknown, nor remembrance of the Hereafter be forgotten, nor preparation for the journey toward it neglected, nor the provision of piety be left aside—for piety is the best provision.

For this is the furthest purpose of establishing the divine law and the ultimate aim sought through philosophical disciplines.

The Eighth Class — Those Established in Divine Knowledge

The eighth class consists of the scholars who interpret the revealed text, those firmly established in the divine sciences and lordly knowledge, who know the hidden mysteries of the divine law.

They are the rightly guided Imams and the rightly guided successors who judge according to truth and establish justice through it.

Chapter 11 — On the Qualities Required of the Eight Classes

Know, O brother, that if you contemplate each of these eight classes and consider their condition, what they undertake, and how they preserve these eight matters with their proper conditions, then look upon all of them with the eye of your heart, the light of your insight, and the purity of your substance, you will see the divine law as a spiritual kingdom.

You will see the followers and supporters of the lawgiver striving within it and carrying out for it whatever is required.

And you will see the founder of the law established upon his throne, his commands and prohibitions effective among them, while they bear his throne, glorify the praise of their Lord, believe in Him, and seek forgiveness for those upon the Earth—that is, for those who come after them among their followers.

For they are like heaven in relation to those who come after them, while those who come after are like earth in relation to them and to those among their forebears who preceded them.

Know, O brother, that each group among these eight classes requires known conditions, praiseworthy qualities, and beautiful character traits in order to preserve the particular pillar of the law entrusted to it.

The reciters and preservers require, first of all, eloquence of expression, correctness of tongue, pleasantness of voice, excellence of articulation, quickness of memory, sound understanding, constant study, eagerness in reading, humility toward those from whom they learn, reverence for them, recognition of their rights and dignity, gentleness toward those whom they themselves teach, compassion for them, and little impatience at the slowness of learners.

They must also possess wakefulness of heart, so that their words and expressions do not contradict the meanings they intend.

Likewise, the interpreter must know the intention of the lawgiver in employing words possessing multiple meanings in his revelation, sayings, expressions, and explanations.

If the interpreter does not know the lawgiver's intention in using such expressions, he may imagine meanings other than those intended and suppose something different from what the lawgiver meant.

He then communicates to his listeners what he himself has imagined and teaches his pupils what he himself has understood.

That then becomes for him a religion and doctrine other than the religion and way of the lawgiver, while he remains unaware that his belief in the revealed law has become contrary to it.

Through this he corrupts the judgments of the law while imagining himself to be among those who reform.

Beware of this, O brother, for much of the corruption that enters the religions of the lawgivers and the judgments of their revealed laws arises from this source.

The Qualities Required of the Defenders

As for the qualities, character traits, and conditions required of the supporters of the lawgiver, those who fight his enemies and guard the frontiers of the lands of his followers and supporters, they must possess zeal for religion, jealousy for the sanctity of the divine law, and protective ardour against corruption entering it.

They must possess anger toward enemies who openly show hostility toward the lawgiver and his religion and who seek to corrupt its judgments; little fear of them; courage when facing them; swiftness of movement in combat; vigilance against an enemy's treachery; caution in times of heedlessness; and freedom from being deceived by the enemy's small number.

They should seek stratagems for gaining victory without battle whenever possible, employ deception in war, hasten in single combat against equals and counterparts, remain patient at the encounter, remember God—mighty and majestic—frequently, and seek His help.

They should be ashamed to flee and of the disgrace associated with flight.

They should have little desire for plunder, refrain from violating sanctities after victory, give abundant thanks to God, avoid corruption after defeating the enemy, show mercy to prisoners, accept peace when a truce is offered, fulfil covenants, and avoid self-admiration when supporters and helpers become numerous.

The Qualities Required of Ascetics and Worshippers

As for the qualities, character traits, and conditions required of ascetics, worshippers, and those who remind people of the Hereafter and the Return, the first of them—and the foundation of religion and support of the whole matter—is contentment with little of the debris of this world and satisfaction with a small share of its goods and pleasures.

They must guard the soul from immersion in its desires and pleasures, abandon pursuit of rank, majesty, and honour, and possess little greed in seeking worldly needs.

They should occupy themselves with the pursuit of knowledge and with worship through fasting and prayer together with their fellow believers.

They should avoid excessive association with those among the children of this world who desire it, seek solitude in retreats, frequently remember death and the passing away of worldly pleasure and dominion, look upon the traces of past generations, and take instruction from ruined dwellings and vanished habitations of former nations.

They should read the books of the sages and the accounts of former kings, reflect upon the parables uttered by wise people of experience concerning the nature of the world, and contemplate the changes of time and the calamities of events.

They should possess certainty concerning the Return and intense longing for the bliss of the Hereafter, the permanent abode, together with the righteous among the prophets, the truthful, the martyrs, and the virtuous:

“Excellent are those as companions.”

The Two Kinds of Successors of the Lawgiver

As for the qualities, character traits, and conditions required of the successors of the founder of the law, these successors are of two kinds.

One group succeeds him in kingship and leadership over worldly affairs, administration, and political governance, preserving the outward judgments of the law among its people.

We have devoted a separate epistle to this subject, because it requires lengthy discourse and extensive explanation.

The other group consists of his successors in the hidden mysteries of the judgments of the law: the rightly guided Imams and the rightly guided successors.

We have explained their character traits, qualities, conditions, sciences, knowledge, and ways throughout the fifty-one epistles we have composed and recorded, of which this epistle is one.

So rise, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—to act according to what they require and fulfil their due.

Inform all our brethren, wherever they may be in the lands, of what is contained in this epistle and in the others, for:

“The one who guides to good is like the one who performs it.”

Having explained something of the qualities of the lawgiver and of the condition of his followers with him in preserving the pillars of the law and the changing circumstances of their lives in this world, we now wish to mention something concerning their condition in the Hereafter and the transformations of its judgments.

For this is the furthest purpose in establishing the divine laws and the prophetic religious traditions.

Chapter 12 — On the Outward and Inward Dimensions of the Divine Law

Know, O brother, that every existing thing in this world possesses an outward and an inward aspect.

The outward aspects of things are like shells and bones, while their inward aspects are like kernels and marrow.

The divine law is one of the existing things found in this world since human beings first existed.

It possesses outward, evident judgments and limits known by the people of revealed law and by the scholars of its rulings, both elite and common.

But its judgments and limits also possess mysteries and inward meanings known only to the elect among them and to those firmly established in knowledge.

Know, O brother, that the divine law was established for the welfare of **religion and worldly life together**.

This world and the Hereafter are two opposite abodes.

Their names are contrary, and their meanings, realities, and descriptions differ and oppose one another.

One is like the shell, namely this world.

The other is like the kernel, namely the Hereafter.

Each has its own people and children, and the people and children of the two possess differing and opposing attributes, characters, dispositions, and actions.

We must explain these, distinguish them, state the difference between them, and clarify their realities so that whoever wishes to understand this knowledge may know them.

For this is among the noblest sciences and most exalted branches of knowledge pursued by human beings.

The word **world (*dunyā*)** is derived from nearness and proximity, while **Hereafter (*ākhira*)** is derived from coming later.

As for their realities: this world consists of the succession of conditions that occur to the human being from the day the body is born until the day of death, which is the birth of the soul through its separation from the body.

The Hereafter consists of the succession of conditions that occur to the human being from the day of death and the soul's separation from the body onward, forever and ever.

Know, O brother, that God—glorious is His praise—called the life of this world an **accidental passing enjoyment for a time**, because the human being's presence in this world is merely something encountered along the road to the Hereafter; permanent residence here was never the purpose.

Likewise, the purpose of one's existence in the womb was not to remain there for a long time, but to use it as a passage and road toward this world.

In the same way, the soul's existence within this body is like a ship, mount, and crossing toward the abode of the Hereafter.

Just as entry into this world could not occur without remaining for a time in the womb so that the construction of the body might be completed and its form perfected, as we explained in the Epistle on the Place of the Sperm, so remaining for a time in this world is likewise a road and passage toward what lies beyond it.

For arrival at the abode of the Hereafter cannot occur without passing through this world and remaining within it for a time so that the states of the soul may become complete and its virtues perfected, as we explained in the Epistle on the Human Being as a Microcosm and in the Epistle on the Wisdom of Death.

For this reason it is said in sermons delivered from pulpits on feast days and Fridays:

“Know, O people, that you were created for eternity, but you are transferred from one abode to another: from loins to wombs, from wombs to this world, from this world to the intermediate realm, and from the intermediate realm to Paradise or the Fire.”

As God—mighty and majestic—says:

“Did you suppose that We created you in vain and that you would not be returned to Us?”

And:

“They desire the passing goods of this world, while God desires the Hereafter.”

And:

“That abode of the Hereafter We assign to those who desire neither exaltation upon the Earth nor corruption.”

There are many verses in the Qurʾān encouraging renunciation of this world and awakening desire for the Hereafter, such as His saying:

“Indeed, the abode of the Hereafter is truly the living life, if only they knew.”

That is, if the children of this world knew it, they would desire it more strongly and seek it more intensely.

But they are heedless, distracted, and ignorant of it.

They do not know what exists there of bliss, pleasure, joy, delight, and rest, as God—mighty and majestic—briefly expressed:

“Therein is whatever souls desire and eyes delight in, and therein you shall abide forever.”

Because the children of this world are ignorant of the affairs of the Hereafter and heedless of them, they occupy themselves instead with seeking this world, its pleasures, delights, and desires, and wish for everlasting life within it.

For this world is sensible to them and they witness it, while the Hereafter is absent from sensory perception.

They therefore abandon investigation of it, desire for it, and seeking it.

It is to them that He—glorious is His praise—refers when He says:

“They are satisfied with the life of this world and feel secure in it, and they are heedless of Our signs.”

Know, O brother, that God—glorious is His praise—called the abode of the Hereafter **the living life** because it is the world of spirits and the dwelling place of souls.

This world, by contrast, is the world of bodies.

Corporeal substances are dead by their own nature; it is souls and spirits, by being within them and joined to them, that give them life, just as the Sun gives light and radiance to the air by shining upon it.

The evidence that souls give life to bodies through their presence with them is what is observed of bodies before death—sensation, movement, awareness, sounds, and activity—and how all these disappear at death, which is nothing other than the soul's separation from the body.

This is evident to every rational and fair-minded person who judges according to the requirements of reason.

Chapter 13 — On the Four Divisions of People with Respect to Happiness

Know, O brother—may God strengthen you and us with a spirit from Him—that although most followers and supporters of the divine laws acknowledge the Hereafter and believe in it, many of them do not know its reality, its nature, its constitution, or when entry into it occurs. Likewise, many of those who philosophize acknowledge the world of spirits and the substantial existence of souls, yet do not know the road leading to that world or how arrival there takes place.

We have explained in our legal and intellectual epistles what each of these groups needs concerning these matters.

Know that all human beings are, in one respect, children of this world and, in another, children of the Hereafter. Among them are the fortunate and the wretched in each.

With respect to happiness, people fall into four categories.

The first consists of those who are happy in this world and happy in the Hereafter. These are people upon whom worldly goods have been bestowed abundantly, yet they take from them only what suffices, are content with little, and send the surplus ahead for the Hereafter. God Most High says:

“Whatever good you send ahead for yourselves, you shall find it with God.”

And:

“They found what they had done present.”

The second consists of those who are happy in this world but wretched in the Hereafter. These are those who have been granted abundance of worldly goods, wealth, rank, authority, and pleasure, and who immerse themselves in these things, compete and boast over them, neglect the judgments of the divine law, exceed its limits, transgress, and squander.

Of such people it is said:

“You exhausted your good things in your worldly life and enjoyed them.”

And:

“Whoever desires the immediate world, We hasten therein whatever We will for whomever We will,”

while he has no share in the Hereafter.

The third consists of those who are wretched in this world but happy in the Hereafter. Their lives are long and filled with hardship, calamity, fatigue, and service to the people of this world. Their bodies are worn down, their souls burdened with concern, and their share of worldly pleasure is slight or nonexistent. Yet they preserve the commandments of the divine law, observe its limits, and remain patient.

Concerning such people God says:

“The patient shall be paid their reward without reckoning.”

The fourth consists of those who are wretched in this world and wretched in the Hereafter. They obtain no worthy portion of this world, yet exhaust themselves in seeking it; their bodies are wearied and their souls troubled, while they attain no good from what they pursue. At the same time they neglect the divine law, abandon its commandments, and fail to preserve its limits.

Thus they lose both this world and the Hereafter.

“That is the manifest loss.”

Chapter 14 — On the Character of the Children of This World and the Children of the Hereafter

Know, O brother, that since no human being falls outside these four divisions, we now wish to describe something of the character traits of the children of this world and of the children of the Hereafter.

The character traits of the children of this world are, for the most part, implanted in natural constitution without acquisition, choice, thought, deliberation, exertion, or burden. By means of them they seek the benefits of their bodies and repel bodily harms, just as the other animals do.

God Most High says concerning some of them:

“They eat as cattle eat, and the Fire shall be their dwelling.”

As for the character traits of the children of the Hereafter, they are acquired through exertion: either through reason, thought, and deliberation, or through following the commands of the divine law and accepting its discipline.

When a person persists in them for a long time, they become habits, dispositions, and character.

It is on account of such acquired traits that reward and recompense are deserved.

God Most High says:

“Man shall have nothing except what he strives for, and his striving shall surely be seen.”

Know, O brother, that most of what the divine law commands is contrary to what natural disposition immediately desires. It commands fasting when the soul desires food and drink; purification when cold causes aversion to water; standing for prayer when sleep is desired; giving when possessions are scarce; chastity when desire is aroused; forbearance at the time of anger; courage when fear appears; forgiveness when one possesses power to retaliate; justice when judging; patience in adversity; satisfaction with bitter decrees; beautiful consolation at calamity; diligence instead of laziness; truthfulness even when afraid; generosity in poverty; fulfilment of covenants in the absence of the other party; and renunciation of the world even when one has power over it.

It is related concerning the saying:

“Take to pardon, command what is recognized as good, and turn away from the ignorant,”

that it gathers seven noble qualities: pardon one who wrongs you, give to one who deprives you, maintain relations with one who cuts you off, do good to one who harms you, sincerely advise one who deceives you, seek forgiveness for one who speaks ill of you, and show forbearance toward one who angers you.

These are among the roots of the noble character traits of God's friends.

They are those described as:

“The servants of the Merciful are those who walk gently upon the Earth, and when the ignorant address them, they say: Peace.”

And:

“Merciful among themselves.”

Such are also the qualities attributed to the angels who bear the Throne.

Strive, therefore, O brother, to imitate them until these qualities become habit and nature within you. For after the soul separates from the body, what remains with it are the qualities it has acquired, its knowledge, its beliefs, and the actions it chose and performed.

It is related:

“They are only your deeds returned to you.”

And God says:

“They found what they had done present.”

The worldly qualities are for the most part natural because people arrive in this world ignorant and unprepared, while the qualities of the Hereafter must be acquired because human beings were informed beforehand, warned and promised, shown the road, granted capacity, guided, commanded, and prohibited, so that:

“People should have no argument against God after the messengers.”

Chapter 15 — On Discipline and Preparation for the Higher Realm

Know, O brother, that acquired traits are praised or blamed according to reason and the divine law.

Consider the difference between the manners required in the courts of kings and those practised by ordinary people in markets and streets. No common person enters the assembly of a king and remains there fittingly unless he has first been disciplined in dignity, composure, restraint, proper speech, cleanliness, dress, and conduct.

So too no soul is suited to ascend to the heavens, enter the world of spirits, and associate with the angels until it has been refined, its character corrected, its opinions purified, and its knowledge perfected.

Because not every human being is capable of discovering all of this by difficult philosophical investigation, God sent the establishers of the divine laws and prescribed temples, mosques, churches, places of prayer, purification, cleanliness, adornment, tranquillity, dignity, reverence, humility, glorification, supplication, and seeking forgiveness.

A person entering such places is even required to refrain from many things otherwise permitted.

All of this is a sign pointing toward what the soul must become throughout its entire life if it wishes to enter Paradise and ascend to the higher world.

God says:

“To Him ascends the good word, and righteous action raises it.”

By the good word is meant, among its meanings, the purified spirit of the believer.

The lawgivers prescribed many different teachings for different classes of people, but their universal beginning is acknowledgment and belief in what they brought concerning matters hidden from the senses.

Thus:

“Say: O people, I am the Messenger of God to you all … so believe in God and His Messenger.”

And among the final admonitions is:

“Fear a day when you shall be returned to God; then every soul shall be paid in full for what it earned.”

The epistle identifies this as the last verse of the Qurʾān to be revealed.

God's discipline of His servants resembles the conduct of a wise king who has a son or servant in whom he perceives fitness for future rule. He trains him, restrains him from play and excessive pleasure, teaches him good conduct, and accustoms him to endurance so that he may eventually be worthy of kingship.

Likewise God disciplines His prophets, messengers, friends, and righteous servants.

“As for one who feared the station of his Lord and restrained the soul from desire, Paradise shall indeed be the refuge.”

But one who refuses discipline resembles a royal son or servant who loses the rank prepared for him and becomes a captive or a dependent.

Similarly those who follow desire and abandon guidance deprive themselves of the honours, proximity, and degrees of the Hereafter.

“Have you seen the one who takes his desire as his god?”

The promises and threats of the law are like the warnings of a compassionate physician to an ignorant sick child. The physician threatens him concerning what harms him and encourages him toward what will restore his health, not because the physician benefits from his obedience, but because the sick person himself benefits.

Chapter 16 — On Those Who Deal with God Through Certainty

Know, O brother, that among sincere believers are an elect whose dealings with God are founded upon truth and certainty.

They examine themselves night and day as though they beheld God, and they perceive within this very life the fruits of obedience and the punishments of wrongdoing.

God says:

“Those who are mindful of God, when an impulse from Satan touches them, remember, and behold—they see clearly.”

And:

“Indeed, My servants—you shall have no authority over them.”

And Iblīs said:

“Except Your purified servants among them.”

It is related that one of these people once passed by a monk dwelling in a hermitage upon a mountain.

He asked him:

“What is the road to God?”

The monk replied:

“Opposition to desire.”

He asked:

“What is the best provision for that road?”

The monk replied:

“Piety.”

He asked him:

“Why have you withdrawn from people?”

He replied:

“Because I feared their corruption of my heart and intellect. I sought relief from the burden of managing bad company, and I made my dealings entirely with my Lord.”

The monk then asked:

“How have the followers of the Messiah found their dealings with God?”

He answered:

“The most difficult of dealings. He has commanded the body to labour, the soul to struggle, the day to be spent fasting, and the night in vigil. He has commanded us to abandon desires implanted in nature, oppose desire, fight an overpowering enemy, endure hardship in livelihood, and remain patient under adversity, while the reward is deferred until after death in the Hereafter. The road is long, and doubts and perplexities are many.”

Then the monk asked:

“And how have the followers of Aḥmad found their dealings with God?”

He replied:

“The finest of dealings.

“He bestowed upon us beforehand gifts and blessings too numerous to count. Night and day we live amidst His favours. He created us before we had done anything deserving them,

perfected our bodies, gave us intellect, senses, livelihood, knowledge, and guidance, and then promised us what is greater still.

“Since this perishable, heavy, dark body composed of contrary elements cannot inhabit that pure and everlasting world, divine wisdom requires another formation.”

God says:

“You have already known the first formation; why then do you not remember?”

And:

“We shall bring you forth in what you do not know.”

And:

“Then God shall produce the other formation.”

Thus, through His kindness, He sent His prophets and messengers to awaken desire for it, show the road leading to it, and prepare people for it before they arrive there.

Through this hope, separation from familiar worldly pleasures becomes easier, worldly hardships become lighter, and the soul looks forward to a bliss that overwhelms and effaces both the pleasures and miseries that preceded it.

“This is our opinion and belief concerning our dealings with our Lord. Through this belief our life in the world has become pleasant, renunciation easy, our longing for the Hereafter intense, and the labour of worship light. Indeed, we regard our ability to remember Him as itself a blessing, honour, dignity, and nobility.”

The monk said:

“May God reward you! How eloquent an admonisher, how excellent a reminder of blessings, how perceptive a guide to right conduct, how skilled a compassionate physician, and how tender a sincere brother!”

Chapter 17 — On Nature as a Womb for the Soul

Know, O brother—may God strengthen you and us with a spirit from Him—that natural conditions encompass us and surround our souls just as the womb surrounds the embryo and the shell surrounds the yolk of the egg.

Nature does this in order to complete, perfect, and preserve what is within it from accidents until the appointed term.

When the time comes for the embryo to emerge, after its constitution and form have become complete, it begins to move its limbs, kick with its feet, and strike with its hands until the membranes and bonds that held it are broken and it becomes possible for it to leave the womb.

The chick acts similarly within the egg.

This is an analogy and indication for every soul that wishes to leave this world and pass from the world of bodies into the world of spirits.

We must move and strive until we cast off the blameworthy natural traits implanted in our constitution that prevent souls from rising out of the world of generation and corruption into the world of the spheres, the expanses of the heavens, the dwelling place of spirits, and the abode of souls.

Because it is not within the power of every human being to understand so great a matter, God in His generosity sent prophets and messengers, supported them, and commanded them to teach people these things, awaken them, summon them toward them, cause them to desire them, and urge them to strive for their attainment.

This is among God's greatest universal blessings upon His servants.

Yet among His blessings are also particular favours that He grants to some servants according to their exertion, striving, and excellence of conduct, while withholding them from others in accordance with their contrary conduct.

This belongs to His justice, for although His gratuitous bounty encompasses all, the rewards earned through effort are not equal when people's efforts are unequal.

Chapter 18 — On Faith, Testing, and Advancement Through Degrees

Know, O brother, that when God sent His prophets and messengers to nations ignorant and heedless of this tremendous affair, He did not burden them with anything beyond their capacity in word, action, intention, or inward resolve.

The first thing required was faith: acknowledgment with the tongue of what the prophets reported concerning realities absent from the senses, and refraining from denial.

Thus:

“Say: O people, I am the Messenger of God to you all … so believe in God and His Messenger.”

Whoever acknowledged this with the tongue, remained firm, and did not turn back was immediately rewarded in this world: God guided his heart with the light of certainty, expanded his breast toward belief in what had been reported of the unseen, delivered his heart from the pain of denial, and freed his soul from the torment of doubt, uncertainty, and bewilderment.

God says:

“Whoever believes in God, He guides his heart.”

And:

“Those who are guided—He increases them in guidance and gives them their piety.”

The one who acknowledges with his tongue while denying inwardly remains doubtful, suspicious, perplexed, and bewildered. All these are pains of the heart and torments of the soul.

God therefore prescribed actions for those who acknowledged and prohibited other actions, testing them thereby.

Whoever accepts His commandments, acts upon them, and remains steadfast is rewarded in this world before reaching the Hereafter through increased certainty and release from the constriction of doubt, denial, hypocrisy, and confusion.

But whoever abandons the covenant, deceives, conceals the contrary of what he displays, hides something other than what he declares, and breaks promises is left wandering in doubt.

God says:

“He caused hypocrisy to follow in their hearts until the day they meet Him because they broke what they promised God and because they were lying.”

And:

“We turn their hearts and their sights, as they did not believe in it the first time, and We leave them wandering blindly in their rebellion.”

And:

“They are the enemy, so beware of them.”

Know, O brother, that God imposed duties and prohibitions upon believers as causes through which He raises them from state to state and rank to rank until He brings them to the perfection of their condition and the completion of their end.

Whoever reaches a rank, remains firm in it, fulfils its right and its conditions, is rewarded by being transferred to what lies above it.

Whoever fails to recognize the value of the blessing, does not give thanks, and does not strive toward what lies beyond it is left where he is, and deprivation of further advancement becomes his punishment.

God has described the marks of sincere believers and the marks of hypocrites in many places, especially in the Sūras of al-Anfāl, al-Tawba, and al-Aḥzāb.

It is related that ʿUmar ibn al-Khaṭṭāb used to command people to read, memorize, and study these sūras and to examine themselves according to the characteristics mentioned therein.

Therefore, O brother, make this a measure for your dealings with your Lord throughout your life if you desire Him to raise you through the degrees.

“God raises in degrees those among you who believe and those who have been given knowledge.”

Chapter 19 — On the Excellence of Seeking Knowledge

Know, O brother—may God strengthen you and us with a spirit from Him—that although God has imposed many duties upon believers and prohibited many things, there is no obligation after acknowledging Him and believing His prophets and messengers more necessary, excellent, noble, beneficial, or conducive to nearness to Him than **knowledge, seeking it, and teaching it**.

It is related from the Prophet—may God bless him and his family and grant them peace—that he said:

“Learn knowledge, for learning it for God's sake is reverence; seeking it is worship; discussing it is glorification; searching for it is striving; teaching it to one who does not know it is charity; and giving it to its people is an act of nearness.”

Knowledge marks out what is lawful and unlawful; it is the beacon upon the road to Paradise, a companion in loneliness, a friend in estrangement, a guide in prosperity and adversity, a weapon against enemies, and an adornment among companions.

Through it God raises people and makes them leaders in goodness whose example is followed, whose works are trusted, and whose opinions are sought.

The angels desire their company, touch them with their wings, and seek forgiveness for them, as do all moist and dry things, the fish and creatures of the sea, the beasts and cattle of the land, and the heaven and its stars.

Knowledge is the life of the heart from ignorance, the lamp of sight against darkness, and strength against weakness.

Through it the servant reaches the stations of the free, the assemblies of kings, and the highest degrees in this world and the Hereafter.

Reflection upon knowledge is likened to fasting, and studying it together to standing in prayer. Through it God is obeyed and worshipped; through it good is known, piety practised, kinship maintained, and lawful and unlawful distinguished.

Knowledge is the leader of action, and action follows it.

God inspires it in the fortunate and deprives the wretched of it.

Chapter 20 — On the Qualities Required of a Seeker of Knowledge

Know, O brother, that the seeker of knowledge requires seven qualities: questioning together with silence; then listening; then reflection; then acting upon what has been learned; then demanding truthfulness from oneself; then frequently remembering that knowledge is one of God's blessings; and finally abandoning self-admiration concerning whatever one has mastered.

Knowledge, in turn, grants its possessor many praiseworthy qualities: honour though he was lowly, dignity though humiliated, wealth though poor, strength though weak, nobility though insignificant, nearness though far away, rank though deficient, generosity though formerly miserly, modesty though coarse, awe though humble in station, and well-being though afflicted.

God says:

“Are those who know equal to those who do not know? Only those possessing understanding take heed.”

And:

“Only the learned among His servants truly fear God.”

And:

“Whoever is given wisdom has been given abundant good.”

Yet scholars, despite the excellence of knowledge, have diseases and defects from which they must guard themselves.

Among them are pride, self-admiration, and boasting.

It is related:

“Whoever increases in knowledge without increasing in humility before God, compassion toward the ignorant, and affection toward the learned increases only in distance from God.”

Among these diseases are excessive contention and disputation over knowledge, seeking leadership through it, partisanship, enmity, and hatred among scholars.

Luqmān the Wise said to his son:

“My son, sit with the learned and press your knees against theirs, for God revives dead hearts through the light of knowledge just as He revives dead earth through abundant rain. But beware of quarrelling with scholars. Wisdom descended from heaven pure, but when men learned it, they turned it toward their own desires.”

Among their afflictions are plunging into insoluble questions, granting licence in doubtful matters, failing to act according to the requirements of knowledge, and excessive desire for the world.

The scholars of the divine law are physicians of souls.

A scholar greedy for worldly pleasure resembles a physician treating others while suffering from a disease from which no cure is expected.

It has been said that one learned person who renounces the world, understands God's religion, and sees clearly the road of the Hereafter is better than a thousand learned people who desire the world.

The Messiah—peace be upon him—said:

"O scholars and jurists, you have sat upon the road to the Hereafter: neither do you travel it and enter Paradise, nor do you allow another to pass you and reach it. The ignorant person has a greater excuse than the learned, though neither possesses an excuse."

Know, O brother, that every science and discipline that does not lead its possessor toward the Hereafter or assist him in reaching it becomes a burden against him and an argument against him on the Day of Resurrection.

Kings, tyrants, Pharaohs, and former nations possessed strong intellects, remarkable disciplines, political wisdom, and marvellous arts, as did their ministers, secretaries, officials, commanders, scholars, and men of letters.

Yet they perished because they devoted these powers, intellects, understandings, thoughts, and deliberations to obtaining worldly desires and pleasures and yearning for permanence here.

They cultivated the world while neglecting the Hereafter.

Thus their blessings became a burden against them.

For this reason the Qurʾān repeatedly warns against being deceived by worldly life:

"Let not the life of this world deceive you, nor let the deceiver deceive you concerning God."

And:

"The life of this world is only play, amusement, and adornment…"

And:

"Beautified for people is the love of desires—women, sons, heaped-up treasures…"

And:

"Wealth and children are the adornment of worldly life, but enduring righteous deeds are better with your Lord in reward and better in hope."

Chapter 21 — On Praiseworthy and Blameworthy Acquired Character

Know, O brother—may God strengthen you and us with a spirit from Him—that among acquired character traits are praiseworthy qualities attributed to the angels and blameworthy qualities attributed to the devils.

We must explain something of them so that our noble brethren may recognize the difference, abandon the character of devils, adopt the character of the noble angels, prefer it, and strive to acquire it.

For character is one of four things that never leave the soul after its separation from the body.

These four are: acquired habitual character, learned knowledge, firmly held beliefs, and actions acquired through choice and will.

According to these the soul is recompensed after separation—good for good and evil for evil.

Among the first characteristics of devils are **the pride of Iblīs, the greed of Adam, and the envy of Cain**.

Know, O brother, that these three are the mothers of disobedience and roots of evil.

Pride gives rise to self-admiration, refusal to accept truth, refusal to acknowledge it, disobedience toward rightful authority, transgression of limits, injustice when possessing power, refusal to deal fairly, neglect of obligations, shameless rejection of evident truth, coarse speech, quarrelsomeness, obstinacy, harshness in companionship, rashness, deception in transactions, contempt for one's fellow human beings, boasting over gifts one has received, refusal to acknowledge another's excellence, oppression, and aggression.

Greed gives rise to false hopes, intense craving, relentless seeking, bodily fatigue, mental distress, exhausting accumulation and hoarding, fear of poverty, stinginess, withholding, avarice, meanness, deprivation of benefit from what one already possesses, harsh bargaining, suspiciousness toward the trustworthy, betrayal of trusts, seeking unlawful gain, deception in buying and selling, fraud in goods, lack of sincerity in crafts, false oaths, false testimony, and aggression.

Envy gives rise to rancour, malice, resentment, open hostility, hatred, anger, aggression, hardness of heart, lack of compassion, harshness, cursing, obscenity, quarrels, warfare and killing; and where open hostility cannot be pursued it leads to scheming, deception, treachery, betrayal, slander, backbiting, tale-bearing, falsehood, hypocrisy, and ostentation.

Through these, communities are scattered, families divided, brothers separated, homes ruined, and the soul filled with sorrow, anxiety, and torment.

We seek refuge in God from these characteristics, evil dispositions, ugly actions, and base works rejected by sound intellects, disciplined souls, and purified spirits.

It is said that pride that refuses truth is an enemy of obedience, while humility before truth is its opposite.

“Whoever humbles himself for God, God raises him; whoever acts arrogantly, God lowers him.”

It is also related in some books of the Children of Israel:

“Pride is My cloak and greatness My garment; whoever contends with Me over them I cast face-down into the Fire.”

God says:

“Is there not in Hell a dwelling for the arrogant?”

Severe greed may itself become the cause of deprivation.

And the envious person is an enemy of God's blessings.

“Or do they envy people for what God has given them of His bounty?”

Yet these natural impulses have purposes when employed in balance.

Magnanimity is implanted in the soul so that some people may possess high aspiration and become fit for leadership and governance. Used properly, at the proper time, in the proper measure, and for the proper purpose, it becomes nobility rather than arrogance.

Desire and striving for possessions were implanted because the human being needs provisions to preserve his body and his offspring. When one seeks what is needed, gathers only what suffices, preserves it until the time of need, and spends it properly, this is praiseworthy. When he seeks what he does not need, accumulates excessively, withholds when expenditure is required, or spends where he should not, it becomes blameworthy.

It is related:

“Whoever seeks worldly provision in order to refrain from begging, provide for his family, and show kindness to his neighbour shall meet God on the Day of Resurrection with his face like the full moon. But whoever seeks the world in rivalry, boasting, and ostentation—God shall place poverty before his eyes.”

As for envy, its proper root is competition for desirable blessings. God's blessings are innumerable and are distributed among His servants. No created being possesses every blessing, nor is anyone entirely deprived of them.

Therefore, if you see upon another a blessing not given to you, look also at what God has given you that He has not given him, and give thanks.

If you desire a blessing possessed by your brother, ask God for His bounty rather than wishing that the blessing disappear from your brother.

For desiring its disappearance is envy itself.

Chapter 22 — On Greed, Renunciation, and the Degrees of People

Know, O brother—may God strengthen you and us with a spirit from Him—that if you contemplate worldly affairs carefully and consider people's changing conditions, you will find that most evils occurring among them arise from intense desire for this world, greed for its pleasures, appetites, and leadership, and the wish to remain in it forever.

And if you consider carefully, you will find that the root of every good and foundation of every virtue is **renunciation of the world**, diminished desire for its pleasures and delights, desire for the Hereafter, frequent remembrance of the Return by night and day, and preparation for the journey toward it.

All creatures are servants of God and subject to Him willingly or unwillingly, but among them are common people and elect, with many degrees between.

First among the elect are rational people to whom the address of command and prohibition, promise and threat, praise and blame, encouragement and warning is directed.

Above them in rank are believers who accept His commandments and prohibitions.

Among believers God raises the learned and jurists:

"God raises in degrees those among you who believe and those who have been given knowledge."

From among the learned He raises the repentant, worshippers, righteous, scrupulous, God-fearing, and charitable.

Above these are the renunciants who know the defects of this world, desire the Hereafter, possess certainty concerning it, and are firmly grounded in knowledge of it.

These are God's sincere friends and chosen servants, those whom He calls people of understanding, people of sight, and people of intellect:

"Indeed, with Us they are among the chosen and excellent."

And:

"Indeed, My servants—you shall have no authority over them."

Know, O brother, that believers possess many virtues, but after knowledge and faith there is no character more noble than renunciation of this world and longing for the Hereafter.

Renunciation means abandoning what is superfluous among worldly goods, abandoning pursuit of excessive desires, being satisfied with little, and remaining content with what is indispensable.

Among its marks are little eating and abandonment of excessive appetite.

It is related:

“Keep your souls hungry, and the inhabitants of heaven will rejoice in you.”

Little eating, the epistle says, makes the body healthier, memory stronger, understanding purer, the heart clearer, sleep lighter, dreams truer, the soul lighter, sight sharper, thought subtler, hearing more attentive, sensation sounder, opinion firmer, learning easier, movement quicker, nature healthier, needs fewer, generosity broader, companionship more enduring, and the person sweeter in people's hearts.

When accompanied by contentment, little eating becomes a field for thought, a spring of wisdom, the life of intelligence, the lamp of the heart, medicine for the body, a destroyer of excessive desire and whispering, a place of inspiration, protection from the evil of the soul, and security from severe reckoning.

Chapter 23 — On the Harms of Satiety and Excessive Eating and on the Qualities of Renunciants

It is related from ʿĀʾisha—may God be pleased with her—that she said:

“The first affliction to arise in this community after the departure of its Prophet was satiety and excessive eating. When people's bellies became full, their bodies grew fat, their hearts hardened, their souls became unruly, and their desires intensified.”

Among the harms attributed here to satiety and excessive eating are corruption of the heart, sickness of the body, loss of radiance, forgetfulness of the Lord, blindness of the heart, weakening of the spirit, strengthening of satanic impulses, constriction of religion, loss of certainty, forgetfulness of knowledge, diminution of intellect, hostility toward wisdom, loss of generosity, increase of stinginess, neglect of discipline, commission of sins, contempt for the poor, heaviness of the soul, arousal of desires, increase of ignorance and idle speech, increase of love for the world, decrease of fear, excessive laughter and sleep, forgetfulness of death, destruction of worship, loss of sincerity and modesty, growth of bad habits, heedlessness, division among companions, corruption of works, disturbance of inward purity, strengthening of pride and envy, decrease of gratitude, and loss of patience.

The epistle counts fifty such consequences.

It is said that the stomach is the cooking-pot of food and its fire is the heat of the liver. If food is not properly digested it becomes the cause of various illnesses.

It is enough for the son of Adam to eat what maintains his body. If his appetite overcomes him, then:

one third for food, one third for drink, and one third for breath.

Among the qualities and distinguishing marks of renunciants are chastity and self-restraint. From these follow restraint, scrupulousness, preservation, dignity, piety, trustworthiness,

noble conduct, generosity, gentleness, tranquillity, watchfulness, caution, health, safety, good reputation, love in people's hearts, confidence, honour, and respect.

Among their qualities are generosity, nobility, open-handedness, giving, sharing, beneficence, preferring others, favour, compassion, mercy, affection, kindness, recognized goodness, charity, and gift-giving.

Among their qualities are forbearance, patience, deliberateness, firmness, gravity, gentleness, tact, tranquillity, dignity, modesty, overlooking faults, forgiveness, compassionate disregard, mercy, justice, fairness, love, acceptance, readiness to answer, humility, and endurance.

Among their qualities are satisfaction, contentment, dignified restraint, sufficiency, freedom from greed, relief from toil, surrender to divine decree, patience in hardship and trial, and beautiful consolation.

Among their distinguishing marks are reliance upon God, trust in Him, tranquillity in Him, sincerity toward Him in action and prayer, truthfulness in speech and inward belief, sincere counsel toward brethren, fulfilment of covenants, resolution and determination in goodness, beneficence, righteousness, and hastening toward good deeds in hope and fear.

“They are apprehensive from fear of their Lord.”

These are God's friends and His sincere believing servants:

“Those who believe are stronger in love for God.”

They long to meet Him because they hope for the greeting concerning which He says:

“Their greeting on the day they meet Him shall be: Peace.”

Would you, O brother—may God strengthen you and us with a spirit from Him—desire their companionship, pursue their path, follow their traces, assume their character, and live according to their conduct, so that perhaps you may attain their attainment?

“No evil shall touch them, nor shall they grieve.”

The path toward these qualities begins with the prophetic law: acting according to the counsels of its founder as they are preserved in the books of the divine laws.

What we particularly counsel you to do is strip from your soul the shells that have adhered to it through companionship with the body. Remove from it the garment of natural conditions and bodily attributes surrounding it. Polish away the rust arising from bodily humours, bad character, accumulated ignorance, and corrupt opinions.

Then the kernel and marrow will become pure: the luminous, transparent, spiritual substance of your soul, which is a word among God's words and a spirit from Him breathed into the body, bringing it to life.

God says:

“The likeness of a good word is as a good tree: its root firmly fixed and its branch in heaven.”

And:

“To Him ascends the good word, and righteous action raises it.”

That is, the spirit of the believer, when it separates from the body, ascends through the expanses of the heavens and celestial spheres.

It is related that the spirits of martyrs are within green birds that roam by day through Paradise and at night take refuge in lamps suspended beneath the Throne.

As for the spirits of unbelievers, wicked people, sinners, and hypocrites, they do not ascend there but are barred beneath heaven and wander in the abyss of the intermediate realm until the day they are raised.

“The gates of heaven shall not be opened for them, nor shall they enter Paradise.”

If you wish, O brother, for your spirit to ascend there after leaving the body, wash it beforehand from the filth of evil character and corrupt opinions, draw it out of the darkness of accumulated ignorance, keep it from evil actions, clothe it in the garment of piety, and restrain it from immersion in bodily desires and deception by corporeal pleasures.

Chapter 24 — On the Signs of God's Friends and His Righteous Servants

Know, O brother—may God strengthen you and us with a spirit from Him—that God's friends possess many qualities and signs by which they are recognized and distinguished from others. God's enemies likewise possess distinguishing signs.

The intelligent and perceptive person is one who distinguishes resembling things from one another through their particular signs.

Among the signs of God's righteous friends is what He said to Iblīs:

“Indeed, My servants—you shall have no authority over them.”

And Iblīs replied:

“By Your might, I shall mislead them all, except Your purified servants among them.”

Among their signs is preservation of the bodily organs from everything unlawful under the revealed law, forbidden by prophetic custom, or unworthy of noble conduct.

They preserve the tongue from lying, backbiting, slander, false testimony, tale-bearing, obscenity, foolish speech, defamation, idle talk, and attacking any creature, whether enemy or friend, opponent or companion.

The chief foundation of all their virtues is **soundness of the breast** from rancour, deceit, hidden corruption, envy, hatred, arrogance, greed, covetousness, scheming, hypocrisy, ostentation, and similar blameworthy qualities with which the hearts of the worldly are filled.

Among their signs are mercy, tenderness, and softness of heart toward every living being capable of feeling pain.

Among their traits are sincere counsel, compassion, gentleness, tact, kindness, and affection toward all those with whom they associate.

Among their most distinctive qualities is knowledge of the reality of the angels and of how angelic inspiration occurs.

Among their subtle sciences is knowledge of the reality of devils, the armies of Iblīs, and the manner of their whispering and touching.

God says:

“Those who are mindful of God, when an impulse from Satan touches them, remember—and behold, they see clearly.”

Among their subtle sciences is knowledge of resurrection, rising, gathering, reckoning, the balance, the path, and passage.

Many scholars of the prophetic laws, the epistle observes, are perplexed concerning the reality of Iblīs and his speech with the Lord of the worlds, while many philosophers deny the story of his enmity with Adam.

These matters are treated more fully in the Epistle on Resurrection and Rising.

Chapter 25 — On the Inner Struggle Against the Armies of Iblīs

It is related that one of God's friends was asked by a brother:

“How did you come to know the devils and their whisperings?”

He replied:

“When I grew up, acquired some discipline and knowledge, understood something of livelihood and of benefit and harm, and learned what the divine law required of me—its commands, prohibitions, customs, duties, judgments, limits, promises, threats, praise, and blame—I undertook them according to my ability and according to what God enabled and facilitated for me.

“Then I reflected upon God's saying:

‘Indeed, Satan is an enemy to you, so take him as an enemy.’

“And:

‘Satan has always been a manifest enemy to the human being.’

“I reflected also upon the saying attributed to the Prophet:

‘We have returned from the lesser struggle to the greater struggle,’

meaning struggle against the soul.

“And upon:

‘Whoever strives, strives only for himself.’

“And upon the sayings that every human being has devils that seek to mislead him, that Satan runs through the son of Adam like blood, and upon:

‘From the evil of the whisperer who withdraws, who whispers in the breasts of people.’

“And:

‘He and his tribe see you from where you do not see them.’

“When I examined outward affairs, I saw no human being whose condition in this respect differed from mine, for the address applied to all the children of Adam.

“I therefore looked more deeply and discovered that the meaning of the devils and the armies of Iblīs includes hidden inward things implanted in human constitution: blameworthy character traits, corrupt natural dispositions, accumulated ignorance from childhood, corrupt beliefs adopted without knowledge or insight, and the evil actions acquired from these through habit.

“These are associated with the appetitive and irascible souls.

“I saw that the rational, discerning soul, by virtue of beautiful character, true knowledge, correct opinions, and pure actions, is like an angel in relation to the appetitive and irascible souls.

“And I saw those two lower souls, with their accumulated ignorance, blameworthy character, natural inclinations, and ugly actions performed without reflection, as two devils in relation to the rational soul.

“I then understood that all pure actions arise in the rational soul through correct opinions and beautiful beliefs; these beliefs are strengthened by praiseworthy character traits acquired through striving, reflection, and balanced habits.

“Thus the root of every good in the human being is praiseworthy character, while the root of evil is blameworthy character.”

He continued:

“I then understood the saying:

‘We have returned from the lesser struggle to the greater struggle.’

There are two enemies and two struggles.

One is outward and visible: conflict with external opponents.

The other is inward and hidden: opposition to the devils of corrupt nature.

The inward struggle is the more essential because defeat there brings the misery of the Hereafter.

“If those enemies conquer me, enslave me to their desires, and transform their actions into habits and a second nature, my noble rational soul becomes satanic like them.

“But if I accept my Lord's counsel and my Prophet's advice, seek God's assistance, oppose my appetitive soul, struggle against my irascible soul, and fight what opposes my rational soul, then through God's power I conquer them.

“They become servants beneath the command of the rational soul.

“Then the rational soul becomes angelic through its good actions, pure deeds, beautiful character, correct opinions, and true knowledge.

“The other two souls become subjected servants governed through just governance.”

He then examined his own constitution and found its mixed humours and desires like fires hidden in sulphurous stones.

Worldly pleasures were their fuel.

The desire for food and drink when hunger and thirst arose appeared like an unquenchable flame; his appetitive soul in eating and drinking resembled dogs tearing at carrion.

Covetousness appeared like a fire that would consume the whole world and yet leave the soul as a vessel that could never be filled.

Anger appeared like a blazing fire casting sparks.

When pride and boasting arose, the soul imagined itself the best and noblest of God's creatures.

When desire for leadership arose, it regarded all people as its slaves and servants.

When desire for honour arose, it imagined honour as a debt necessarily owed to it.

When it desired the service of dependants, it regarded their obedience as an unavoidable religious obligation.

When required to discharge the rights of others, it moved sluggishly, as though carrying mountains.

In amusement it became like one mad and intoxicated.

When praised, it imagined itself the wisest and most excellent of all.

When envy arose, it became like an enemy wishing the destruction of the world, removal of blessings from others, and descent of calamity upon them.

He realized that all these blameworthy dispositions were fires that did not go out, enemies that did not make peace, a war that did not cease, a disease that did not heal, and labour from which there was no rest until death.

So he girded himself with firm resolve and sincere intention, took up the weapon of striving, clothed himself in scrupulousness and modesty, placed upon his head the crown of renunciation, planted his feet upon piety, leaned upon God through trust, made fear and hope his emblem, restrained his powers through prohibition, followed the guidance of the Teacher, took a good opinion of his Lord as his guide, followed the path of the prophetic custom, and set out upon the straight path toward meeting his Lord.

He called upon God like one drowning, prayed like one in desperate need, confessed his weakness and deficiency, and cast himself before Him, saying:

“There is no power and no strength except through God, the Most High, the Magnificent.”

Then, he says, his Lord heard him, answered him, had mercy upon his weakness, sent him His hosts, revealed the stratagems of his enemies, assisted him against them, protected him from their deception, and granted him victory.

“God repelled those who disbelieved in their rage; they attained no good. God spared the believers from fighting, and God is Strong and Mighty.”

God's party became victorious and Satan's party the losers.

“This is of my Lord's bounty, to test me whether I give thanks or am ungrateful.”

Chapter 26 — Another Account Concerning Trial and Obligation

It is related that another of God's friends reflected upon the meaning of religious obligation and trial and could not at first discern their wisdom.

He said in intimate prayer:

“My Lord, You created me without asking my permission, take me in death without consulting me, command and forbid me without giving me a choice, empower over me a

harmful desire and a misleading Satan, implant desires within my nature, place before my eyes an adorned world, then frighten me with threats and say:

‘Be upright as you have been commanded; do not follow desire lest it lead you from My path; beware of Satan lest he mislead you; do not let the world deceive you; avoid your desires lest they destroy you; do not let your hopes distract you. Deal properly with your fellow human beings; seek your livelihood lawfully; do not forget the Hereafter.’

“My Lord, I find myself among opposing forces, contending powers, and competing states. I do not know what to do. Take me by the hand and guide me to my salvation, or I shall perish.”

God—glory be to Him—inspired him inwardly:

“My servant, I did not command you to do anything because I needed your assistance, nor did I forbid you anything because your doing it could harm Me.

“I commanded you so that you might know that you have a Lord and God who is your Creator, Fashioner, Provider, Nurturer, Preserver, Guide, Helper, and Supporter; and so that you might know that in everything I command you, you need My assistance, success, guidance, facilitation, and care.

“And in everything I prohibit you, you need My protection, preservation, and guardianship.

“In every one of your states, by night and day, in this world and the Hereafter, you need My support.

“Nothing concerning you, small or great, secret or public, is hidden from Me.

“Know that you are poor and needy before Me and cannot dispense with Me.

“Then you will not turn away from Me or forget Me. At every moment you will remember Me; in every state you will call upon Me; in every need you will ask Me; in every solitude you will commune with Me, witness Me, and remain watchful before Me.

“You will turn away from all creation toward Me and become joined to Me apart from them, knowing that I am with you wherever you are: I see you though you do not see Me.

“When you truly know these things, you will leave everything behind and turn toward Me alone.

“Then I shall bring you near, unite you with Me, raise you in My presence, and make you among My friends, My chosen servants, and the people of My Paradise, dwelling near Me among My angels, honoured, preferred, joyful, delighted, secure, and blissful forever.

“So do not think evil of Me, My servant. Remember My former favours: I created you when you were nothing remembered; fashioned you soundly; gave you subtle hearing, sharp sight, perceptive senses, an intelligent heart, penetrating understanding, clear mind, subtle thought, eloquent tongue, firm intellect, complete constitution, beautiful form, sound organs, and obedient limbs.

“I taught you speech, benefits and harms, crafts and occupations. I opened your eyes so that you might behold My kingdom, the succession of night and day, the revolving spheres and wandering stars. I taught you the reckoning of times, months, and years. I subjected for you what is on land and sea of minerals, plants, and animals.

“When I saw you transgressing and exceeding proper measure, I taught you limits, judgments, measure, justice, fairness, truth, correctness, goodness, and upright conduct so that My favours might remain with you and punishment be turned from you.

“I prepared you for what is better, nobler, more honourable, more pleasant, and more blissful—and yet you think evil thoughts about Me.”

Then He instructed him:

“When fulfilling My command seems difficult, say:

‘There is no power and no strength except through God, the Most High, the Magnificent.’

“When calamity strikes, say:

‘Indeed, we belong to God, and to Him we return.’

“When your foot slips into disobedience, say as Adam and his wife said:

‘Our Lord, we have wronged ourselves…’

“When a matter confuses you and you desire guidance, say as Abraham said:

‘He who created me guides me, and He who feeds me and gives me drink, and when I am ill He heals me…’

until:

‘Except one who comes to God with a sound heart.’

“When sorrow afflicts you, say as Jacob Israel said:

‘I complain of my anguish and grief only to God, and I know from God what you do not know.’

“When a sin comes from you, say as Moses said:

‘This is of Satan's work.’

“When sin is turned away from you, say as Joseph the truthful said:

‘I do not declare my soul innocent…’

“When you are tested, do as David did:

‘He sought forgiveness from his Lord, fell down bowing, and turned in repentance.’

“When you see sinners among My servants and do not know My judgment concerning them, say as the Messiah said:

‘If You punish them, they are Your servants; and if You forgive them, You are the Mighty, the Wise.’

“When you ask My forgiveness, say as My Prophet Muḥammad said:

‘Our Lord, do not take us to account if we forget or err; our Lord, do not place upon us a burden as You placed it upon those before us…’

to the end of the sūra.

“And when you fear the final outcome, say:

‘Our Lord, do not cause our hearts to deviate after You have guided us, and grant us mercy from Yourself; indeed, You are the Bestower.’”

Chapter 27 — On the Excellence of Repentance, Seeking Forgiveness, and Supplication

Know, O brother, that when God relates the slips and sins of prophets, saints, or righteous servants, He does not do so to disgrace them.

Rather, He teaches His servants through them how to repent, regret, return, seek forgiveness, and humble themselves.

Thus He says:

“Turn to God in repentance, all of you, O believers.”

And:

“Indeed, God loves those who repent and loves those who purify themselves.”

And:

“Say: O My servants who have transgressed against themselves, do not despair of God's mercy.”

It is related that if the children of Adam did not sin and then repent and seek forgiveness so that God forgave them, He would bring forth another people who sinned, repented, sought forgiveness, and were forgiven.

The purpose of these accounts is that sinners should not despair of God's mercy.

For some harsh literalists and disputants condemn believers for sins and declare that sinners must remain eternally in punishment. Through such opinions they drive souls toward despair.

Yet every religious class has its particular craft, and the craft of God's friends and righteous servants is to summon people toward God by awakening renunciation of the world and desire for the Hereafter upon insight and certainty.

The Qurʾān records examples of their speech: the believing man from Pharaoh's family; the man who said, **"Would that my people knew!"**; the company of jinn who said, **"O our people, answer God's summoner"**; the youths of the Cave; the believing companion who admonished his companion; Luqmān advising his son; Pharaoh's magicians after faith; the people of knowledge who warned those wishing for Qārūn's wealth; the companions of Ṭālūt who said, **"How many a small company has overcome a great company by God's permission"**; the disciples who said, **"We are God's helpers"**; and the believers who pray:

"Our Lord, do not cause our hearts to deviate after You have guided us."

These and their like knew the reality of the Return and the Hereafter.

They are the inheritors of prophets, inheriting knowledge, faith, worship, receptivity to divine support and inspiration, renunciation of the world, and longing for the Hereafter.

They imitate the angels by abandoning bodily desires even while capable of satisfying them and despite the strong pull of nature.

Thus they are angels **potentially** while joined to bodies; when their souls separate from their bodies, they become angels **actually**.

This is among the purposes of the rational soul's connection to the body: that it may become actually angelic after having been potentially so.

Were it not within the capacity of the rational soul to become angelic, it would not have been commanded to imitate the angels in their conduct and character.

God says:

"The angels descend upon them, saying: Do not fear and do not grieve, but rejoice in the Paradise you were promised."

And:

"Those whom the angels take in death while they are pure, saying: Peace be upon you; enter Paradise for what you used to do."

And:

"The angels enter upon them from every gate: Peace be upon you for your patience; excellent is the final abode."

It is related that the Prophet said to Abū Hurayra that there would be people of his community at the end of time who would be gathered in the manner of prophets, such that people would suppose them prophets from the light and dignity of their state.

When asked how to reach them, he described a difficult road of hunger after abundance, thirst after drink, simplicity after clothing, abandoning even lawful pleasures out of concern for reckoning, and living physically in the world while hearts remained unattached to it.

And it is related that he said:

"Blessed are my brethren."

When the Companions asked, "Are we not your brethren?" he replied:

"You are my Companions. My brethren are people who shall come at the end of time, believe in me though they have not seen me, affirm me, and follow me."

In counsel attributed to him for Usāma ibn Zayd, he urged fasting, thirst in the heat, breaking the soul from worldly pleasure, and companionship with those whose hearts had turned toward God.

Such people may be unknown upon Earth yet known to the inhabitants of heaven.

They wear coarse garments while others wear soft clothing; others enjoy worldly ease while they find their delight in hunger, thirst, worship, and humility.

The Earth mourns their loss, angels surround them, and their presence is described as protection for the people among whom they live.

One of them was heard saying in solitude:

"My Lord, how can I be heedless when You are not heedless of me? How can life be pleasant when the difficult Day lies before me? How can my grief not be long when I do not know what will become of my sin? How can I postpone my work when I do not know when my appointed term will come? How can I be at ease in a world that is not my abode? How can I accumulate it when my residence and refuge are elsewhere? How can I desire it greatly when little of it suffices me? How can I feel secure in it when my condition within it does not remain? Why should I leave to another what cannot benefit me after I leave it?"

It is related concerning the earlier scriptures of Abraham and Moses:

"I marvel at one who is certain of the Fire—how can he laugh? I marvel at one certain of reckoning—how can he commit evil? I marvel at one certain of decree—how can he exhaust himself? I marvel at one who sees how the world overturns its people—how can he feel secure in it? And I marvel at one certain of Paradise—how can he fail to perform good deeds?"

There is no god but God; Muḥammad is the Messenger of God.

It is related from Abū Dharr that he asked the Messenger of God for counsel.

He said:

“Hold fast to fear of God, for it is the head of your affair.”

He asked for more.

“Remember God, for remembrance is the head of every good, and recite the Qurʾān, for it is light for you in heaven and remembrance of you upon Earth.”

He asked for more.

“Strive, for striving is the monastic discipline of this community.”

He asked for more.

“Look toward those below you, not toward those above you.”

He asked for more.

“Speak little except in remembrance of God; through that you overcome Satan.”

He asked for more.

“Love the poor and sit with them.”

He asked for more.

“Be in this world as though you were a stranger, and count yourself among the dead.”

He asked for more.

“Speak the truth even when it is bitter.”

He asked for more.

“Let no critic's blame turn you away from God.”

He asked for more.

“Be content from this world with a morsel that sustains your body, a cloth that conceals your nakedness, and a shade beneath which you can rest.”

He asked for more.

“Restrain anger and do good to one who does evil to you.”

He asked for more.

“Beware love of the world, for it is the head of sins. The world destroys its possessor; its possessor does not destroy it.”

He asked for more.

“Give sincere counsel to people as you counsel yourself, and do not blame them for something of which you possess the like. O Abū Dharr, there is no intelligence like sound management, no scrupulousness like restraint, and no nobility like good character.”

And it is related:

“Whoever longs for Paradise hastens toward good deeds; whoever fears the Fire turns away from desires; and whoever renounces the world finds calamities easy.”

It is said that renunciation of the world is the key to every good, while desire for it is the key to every evil and sin.

And wisdom says:

“The world is a bridge: cross over it toward the Hereafter and do not build upon it. You were created for the Hereafter, not for the world. The world is the abode of action, while the Hereafter is the abode of recompense, permanence, residence, bliss, and immortality.”

Chapter 28 — On the Goodness of Divine Obligation

Know, O brother—may God strengthen you and us with a spirit from Him—that God Most High spoke to Moses son of ʿImrān and communed with him in twelve thousand words, saying after every discourse:

“O Moses, draw near to Me and know My worth, for I am God.

“O Moses, do you know why I spoke to you from among My creation and chose you for My message from among the Children of Israel?”

Moses said:

“By what favour, my Lord?”

He said:

“Because I looked into the secrets of My servants and saw no heart purer in love for Me than yours.”

Moses said:

“My Lord, why did You create me after I had been nothing?”

He replied:

“I desired good for you.”

Moses asked:

“What will You do for me?”

He replied:

“I shall lodge you in My Paradise and bring you into the abode of My honour among My angels, where you shall remain in bliss, pleasure, and joy.”

Moses asked:

“What should I do?”

He replied:

“Let your tongue remain moist with My remembrance, your heart fearful in awe of Me, and your body occupied in My service. Do not feel secure from My plan until you see your foot within Paradise.”

Moses asked:

“My Lord, why did You test me through Pharaoh?”

He replied:

“I fashioned you so that through your tongue I might address the Children of Israel. Make them hear My words, teach them the law of the Torah and the religious way, and guide them toward the Hereafter, together with whoever follows you, whoever he may be.

“O Moses, tell the Children of Israel that when I created the heavens and the Earth I appointed inhabitants for them. The inhabitants of My heavens are My angels and My pure servants, who do not disobey Me and do what they are commanded.

“Tell the Children of Israel that whoever accepts My counsel, fulfils My covenant, and does not disobey Me, I shall raise to the rank of My angels, admit into My Paradise, and recompense with the best of what he did.

“And tell them that when I created jinn, human beings, and animals, I inspired in them what benefits their worldly lives and taught them how to seek benefit and flee harm through the hearing, sight, hearts, discernment, and perception I gave them.

“Likewise I inspired My prophets, messengers, and chosen servants and taught them the Beginning, the Return, and the other formation, and showed them the road and how to reach it.

“Tell the Children of Israel to accept My counsel through My prophets and act upon it, and guarantee to them on My behalf that I shall suffice them in what they need for the welfare of this world and the Hereafter.

“Whoever fulfils My covenant, I fulfil his covenant, whoever he may be among the children of Adam, and I join him to My prophets and angels in the permanent abode.”

Moses said:

“My Lord, would it not have been better if You had simply placed us in Paradise and spared us the trials, calamities, and afflictions of the world?”

He replied:

“O Moses, I did that with your father Adam. But he did not recognize My right or the worth of My blessing, did not preserve My counsel or fulfil My covenant, but disobeyed Me, so I expelled him from it.

“When he repented and returned, I promised to return him to it, and I bound Myself that none of his descendants would enter it except one who accepted My counsel and fulfilled My covenant.

“My covenant does not reach the wrongdoers, and the arrogant do not enter My Paradise, for I have made it for those who desire neither exaltation upon the Earth nor corruption.

“The final outcome belongs to the God-fearing.

“O Moses, call My servants and remind them of My blessings. They remember from Me nothing but good, former and later, immediate and deferred.

“Woe to the one who misses My Paradise! What grief and regret shall be his when regret no longer benefits him.

“O Moses, I created Paradise when I created the heavens, adorned it with every kind of beauty, and made the bliss and joy of its inhabitants spirit and fragrant provision. If the people of this world could see it even once from afar, worldly life would never again be pleasant to them.

“It is stored up for My friends and the righteous among My servants. Their greeting on the day they meet Him is Peace. Blessed are they, and excellent is their return.”

Moses said:

“My Lord, You have made me long for it. Show it to me so that I may look upon it.”

He replied:

“O Moses, worldly life would no longer be bearable to you after seeing it. You remain one of the children of this world until an appointed time. When the spirit separates from the body, you shall see it, reach it, enter it, and dwell there as long as the heavens and Earth endure.

“Do not be hasty, O Moses. Act as you have been commanded, give the Children of Israel the glad tidings I gave you, summon them toward it, awaken their longing for it, and cause them to renounce the world.”

Chapter 29 — On the Incompatibility of Desire for the World and Desire for the Hereafter

Know, O brother, that strong desire for the world and true seeking of the Hereafter do not coexist.

Whoever renounces the Hereafter desires the world, and whoever desires the Hereafter renounces the world.

The Messiah—peace be upon him—said in one of his admonitions to the Children of Israel:

"Know that your world in relation to the Hereafter is like your east and west: the more you approach the west, the farther you become from the east; and the more you approach the east, the farther you become from the west."

It is said in some books of the Children of Israel:

"We awakened desire in you for the Hereafter, but you did not desire it. We warned you away from the world, but you did not renounce it. We frightened you with the Fire, but you did not fear it. We awakened longing in you for Paradise, but you did not long for it. We rebuked you, but you did not weep."

And God Most High is represented as saying:

"O son of Adam, My good continually descends upon you, while your evil continually rises to Me. I draw near to you through blessings, while you make yourself hateful to Me through disobedience. Every day a noble angel comes to Me carrying your ugly deeds.

"O son of Adam, do you not watch yourself before Me? Do you not know that you are before My sight?

"Remember Me in solitude and when forbidden desires present themselves. Ask Me to remove them from your heart, protect you from disobedience to Me, make it hateful to you, make obedience easy for you, make you love it, and beautify it in your eyes.

"O son of Adam, I commanded and prohibited you so that you would seek My help and hold fast to My rope, lest you imagine yourself independent and turn away from Me, whereupon I would turn away from you.

"I am independent of you, while you are poor before Me.

"I created you in this world and subjected it to you so that you might prepare to meet Me and take provisions from it for your coming to Me, not so that you would turn away from Me and cling permanently to the Earth.

"Know, O son of Adam, that the Hereafter is better for you than the world. Do not choose other than what I have chosen for you.

“And do not hate meeting Me, for whoever hates meeting Me, I hate meeting him, and whoever loves meeting Me, I love meeting him.”

Chapter 30 — Various Admonitions

Reflect, O brother—may God strengthen you and us with a spirit from Him—upon what you see of worldly affairs and take instruction from the transformations you witness among their people, state after state.

Reflect upon what we have related in this epistle concerning the prophets of God, His friends, and His righteous servants, and what we have described of their beautiful character, just conduct, and noble actions.

Strive to imitate them and travel their road.

Seek God's assistance and ask Him for success.

If it is possible for you to occupy the highest rank, do not be satisfied with a lower one.

Beware of opposing them and abandoning their example, for they are the Imams of guidance, lamps in darkness, callers and guides to His path through wisdom and beautiful admonition, God's arguments against His creatures, and His chosen servants.

Successful is the one who follows them, and lost is the one who opposes their path.

Know, O brother, that there is no kinship between God—mighty and majestic—and any one of His creatures.

The most honoured of His servants before Him is the most God-fearing; the most beloved to Him is the most obedient, the one who remembers Him most, acts with the greatest intelligence, strives most intensely, prepares most seriously for the journey from this world to the Hereafter, and gathers the greatest provision for the Return.

Know that the person whose worldly burden is lightest and whose heart is most at rest is the one who renounces the world.

So hasten, O brother, and take provisions from the world for the road to the Hereafter, for:

“The best provision is piety.”

Hasten toward good deeds and compete for the higher degrees before life is exhausted, the appointed term ends, and the opportunity passes.

Know, O brother, that the finest excellence of the human being is intellect and the greatest of his qualities is knowledge.

Everything has its peculiar property, and the peculiar property of intellect is sound discrimination, knowledge of realities, just conduct, and good choice.

If you possess intellect, then choose the finest among things, the most beautiful among character traits, the best among actions, the noblest among ranks, and the most universal and enduring among benefits.

Know, O brother, that the Hereafter is better than this world; its people are better than the people of this world; their character is nobler; their conduct more just; their ranks more exalted; their bliss more enduring; their joy more permanent; and their pleasures purer.

Consider, then, what you will choose and for which of the two you will work.

If you are rational, let your preference be for the Hereafter.

Right guidance has been distinguished from error; misguidance from guidance; correctness from mistake; truth from falsehood.

The excuse has been removed.

“So that whoever perishes may perish upon clear evidence and whoever lives may live upon clear evidence.”

And:

“So that people may have no argument against God after the messengers.”

“The Messenger's duty is only clear conveyance.”

But if, after all that we have explained, none of these descriptions awakens you from the sleep of heedlessness and the slumber of ignorance, and nothing we have mentioned heals or benefits you; if you insist upon immersion in the rebellion of the children of this world who are deceived by it and heedless of the Hereafter; if you insist upon competing with them for what they compete over and imitating their bad character, accumulated ignorance, corrupt opinions, evil deeds, ugly actions, unjust conduct, hostility toward one another, envy, oppression, arrogance, rivalry, boasting, and deception—then know what company you have chosen.

Their hearts are filled with deceit, rancour, envy, arrogance, greed, covetousness, hatred, hostility, schemes, and tricks.

Their religion becomes partisanship, their belief hypocrisy, their works ostentation, and their choice worldly desire.

They wish to remain here forever though they know there is no road to permanence.

They gather what they will not eat, build what they will not inhabit, hope for what they will never reach, acquire unlawfully and spend in disobedience, boast of their favours, and commit every evil.

Intoxicated and rebellious, they wander blindly in transgression.

They do not hear the call or see guidance.

Neither admonition nor remembrance benefits them; neither command nor prohibition; neither promise nor threat; neither encouragement nor warning; neither rebuke nor intimidation.

They continue wandering in error, turning away from the Hereafter and falling upon the world like dogs upon carrion, immersed in desires and abandoning prayer.

They are given respite for a little while and permitted a brief enjoyment.

Then the stupor of death comes to them with truth, whether they wish it or refuse it.

They separate unwillingly from what they loved and leave to others everything they collected.

Another enjoys the wealth one of them gathered—his wife's next husband, his son's wife, his daughter's husband, or another heir.

The enjoyment belongs to others, while the burden remains upon him.

His back is heavy with his loads and his soul tormented by what his hands acquired.

What regret shall be theirs when resurrection rises upon its people!

May God grant you, O brother, success in correctness and guide you to right guidance, together with all our brethren wherever they may be throughout the lands.

Indeed, He is Compassionate toward His servants.

The Epistle on Character Traits is complete. Praise be to God, and blessings be upon His Messenger, the one who drew forth the springs of wisdom through the purity of his substance, who struck down the arrogance of those who denied its beginning and source, who made its wonders clear, and upon his family. Peace be upon them.

God is sufficient for us, and He is the best Trustee; the best Protector and the best Helper. There is no power and no strength except through God, the Most High, the Magnificent.

Epistle 10

On Isagoge

The First Epistle on Logic

In the name of God, the Compassionate, the Merciful.

Know, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—that since the human being is the most excellent of the beings beneath the sphere of the Moon, and since among his excellences are the sciences and arts, and since speech and rational expression are among the most excellent of the human arts, we wish to explain the nature of speech, its quantity, and its qualities. For through it the human being is distinguished from the other animals, as is said in his definition: **he is a living, rational, mortal being**. All the other animals are living and mortal, but they are not rational.

Of all the human arts, speech is also among those nearest to the spiritual realm. This is because the subjects of the other arts are natural bodies, and all their subjects are corporeal substances, as we explained in the Epistle on the Arts. Speech, however, has as its subject the substances of living particular souls, and the effects it produces within them are spiritual, such as promises and threats, encouragement and warning, praise and satire. The proof of this is what we observe of the effects of words upon souls, just as we observe the effects of bodies upon one another.

The effects of bodies upon one another are of two kinds: corrupting and rectifying. The rectifying include food and drink, which preserve the bodies of animals, and drugs and medicines, which restore the bodies of the sick. The corrupting include fire, which destroys animal and plant bodies, and blows from swords, knives, and similar bodies that injure and destroy animal bodies.

So too words and statements have two kinds of effects upon souls: rectifying and corrupting. Rectifying speech includes praise and beautiful commendation, which arouse souls toward noble character, as well as admonitions and warnings that restrain souls from ugly actions and bad character. Speech that corrupts souls includes abuse, threats, and ugly statements that bring hostility and hatred into souls. Thus it is said, “How often has a single word brought about sedition and wars.” It is also said in a proverb that the hostility between the crows and the owls arose from a word spoken by a crow on the day when the birds assembled to make the owl their king.

And how often has a single word extinguished the fires of war, as was said in verse:

A word that establishes awe within the souls
may suffice in place of the commander of commanders;
what swords accomplish through destruction,
pens may accomplish through warning.

Another excellence of speech is that it almost corresponds to all existing things just as number corresponds to numbered things. Evidence for this lies in the multitude of languages,

the diversity of statements, and the countless forms in which speech is inflected and arranged—something whose full extent no one knows except God, mighty and majestic.

We therefore wish to mention a portion of this as an introduction, so that it may become easier for students and may facilitate the understanding of the meanings of logic for those who study it.

Chapter 1 — On the Derivation of Logic and the Division of Speech into Two Kinds

Know, O brother—may God strengthen you and us with a spirit from Him—that *manṭiq*, logic or speech, is derived from *naṭaqa*, "to speak." Speech is an activity of the human soul, and this activity is of two kinds: intellectual speech and uttered speech.

Uttered speech is a sensible corporeal matter, while intellectual speech is an intelligible spiritual matter. Uttered speech consists of audible sounds composed of letters. They emerge from the tongue, which is an organ of the body, and pass to the hearing through the ears, which are organs of other bodies. Investigation of this form of speech, its various transformations, and the meanings indicated by it is called **linguistic logic**.

Intellectual speech, however, is a spiritual and intelligible matter. It consists in the soul's conceiving within itself the meanings of things, beholding within its own substance the forms impressed by sensible things, and distinguishing them in thought.

It is through this speech that the human being is defined as "a living, rational, mortal being." His rationality and life belong to him through the soul, while his mortality belongs to him through the body, for the name "human being" applies to soul and body together.

Know that investigation of this intellectual speech consists in examining how the soul apprehends within itself the meanings of existing things through the senses, how meanings are kindled within its thought from the direction of the Intellect—which is called revelation and inspiration—and how the soul expresses these meanings through words in whatever language may be used. This is called **philosophical logic**.

Since uttered speech is corporeal, manifest, evident, and sensible, and was established among people so that each human being might express to others the meanings within his soul when questioned or addressed, we must first mention something of this uttered speech as an introduction. In this way philosophical logic will be easier for students to understand and easier for investigators to contemplate.

Since uttered speech consists of expressions composed from alphabetic letters, we must first discuss letters.

Letters are of three kinds: intellectual, uttered, and written.

Intellectual letters are spiritual forms within the thoughts of souls, pictured within their substances before their meanings are expressed in words.

Uttered letters are sounds carried through the air and perceived through the ears by the faculty of hearing, as we explained in the Epistle on Sense and the Sensible.

Written letters are marks traced by pens upon the surfaces of tablets and the pages of scrolls, perceived by the faculty of sight through the eyes.

Know that written letters were established as signs through which uttered letters are indicated; uttered letters were established as signs through which intellectual letters are indicated; and intellectual letters are the foundation.

As the poet said:

Speech is truly within the heart;
the tongue was merely made an indication of the heart.

We shall explain their nature in another chapter.

Know that uttered letters are sounds produced in the throat and palate, between tongue and lips, when breath leaves the lungs after being refreshed by the innate heat residing in the heart. In the Arabic language they are twenty-eight letters, while in other languages they may be more or fewer. We have explained the reason for this in the Epistle on the Differences of Languages.

When letters are joined together, they become expressions; when expressions contain meanings, they become names; when names follow one another, they become speech; and when words are arranged coherently, they become statements.

Statements are of two kinds: metrical and prose. Metrical speech includes poetry, rajaz, and rhymed compositions. Prose is of two kinds: one consists in eloquence and rhetoric, and the other in addresses and conversations.

Address itself is of two kinds. One is the ordinary speech people use among themselves in pursuing their needs without argument or dispute. The other is the speech they use in claims and disputes, employing argument and proof.

Claims and disputes are likewise of two kinds: those concerning worldly affairs, and those concerning religions, doctrines, and sciences.

Proofs establishing worldly claims consist in witnesses, contracts, and written documents. Proofs establishing claims concerning religions, doctrines, and sciences consist in citing what is contained in divine scriptures, transmitting reports from founders of religious laws, appealing to agreement among the disputants, or invoking the testimony of reason through sound syllogism, which is the balance of truth.

When people differed through estimation and conjecture concerning the quantities of weighed and measured things, this led them to establish balances and measures so that disagreement caused by estimation might be removed. Likewise, when scholars differed in judging through estimation and conjecture concerning matters hidden from the senses, this led them to establish syllogisms so that disagreement might be removed through investigation.

Just as correct weighing and measuring require conditions such as properly calibrated weights, sound measuring vessels, a sound balance, and proper use of these instruments, so too syllogisms through which truth is distinguished from falsehood, correctness from error, and good from evil require certain conditions if their judgments are to be sound.

These matters are explained at length in the books of philosophical logic. Here we wish to mention only a portion of them so that their understanding may be easier for students.

We now return to the expressions that indicate meanings within the thoughts of souls.

Chapter 2 — On Expressions That Indicate Meanings

First we ask: what is a name? What is the namer? What is naming? What is the named thing? Likewise: who is the describer? What is the described? What is description? And again: who is the qualifier? What is the qualified thing? What is qualification?

Their explanation is as follows.

A **name** is every expression indicating a meaning without indicating time.

The **namer** is the speaker.

Naming is the speech of the speaker.

The **named thing** is the meaning indicated.

The **describer** is the speaker.

The **description** is the speaker's utterance.

The **described thing** is the entity indicated.

The **attribute** is a meaning attached to the described thing.

The **qualifier** is the speaker.

The **qualification** is the speaker's utterance.

The **qualified thing** is the entity indicated. There is no fourth corresponding expression here indicating a meaning attached to the qualified thing in the same way that an attribute is attached to the described thing.

Chapter 3 — On the Six Expressions

Know that the expressions used by philosophers in their statements and in indicating meanings within people's thoughts are six kinds.

Three indicate entities that are described, and three indicate meanings that are attributes.

The three indicating described entities are **individual, species, and genus**.

The three indicating attributes are **differentia, property, and accident**.

An **individual** is every expression by which a single existent, distinct from all other existents and perceptible through one of the senses, is indicated. Examples are: “this man,” “this animal,” “this tree,” “this wall,” and “that stone.” Expressions of this kind point to one determinate thing.

A **species** is every expression indicating a plurality whose members share a single form, such as “human being,” “horse,” “camel,” “sheep,” “cow,” and “fish.” In general, it is every expression encompassing a number of individuals agreeing in form.

A **genus** is every expression indicating a plurality whose members have different forms but are all encompassed by another form, such as “animal,” “plant,” “fruit,” “grain,” and similar terms. For example, the term “animal” encompasses all human beings, wild beasts, birds, fish, and aquatic animals. These possess different forms, yet all are encompassed by animality, which is a spiritual form completing the body.

As for **differentia, property, and accident**, these are expressions indicating attributes by which genera, species, and individuals are described.

Know that attributes are of three kinds.

The first kind are attributes whose disappearance entails the disappearance of the thing described. These are called **essential substantial differentiae**. Examples include the heat of fire, the moisture of water, and the dryness of stone. If the heat of fire disappears, the existence of fire as such disappears; likewise with the moisture of water and the dryness of stone. Every attribute related to its subject in this manner is called an essential substantial differentia.

The second kind consists of attributes whose disappearance does not entail the disappearance of the subject, though they disappear only slowly. Examples include the blackness of pitch, the whiteness of snow, the sweetness of honey, and the fragrance of musk and camphor. It is not necessary that pitch itself cease to exist if its blackness disappears, or that snow itself cease to exist if its whiteness disappears. Attributes of this kind are called **properties**.

The third kind consists of rapidly changing attributes, which are called **accidents**, such as the redness of embarrassment, the pallor of fear, standing, sitting, sleeping, waking, and similar conditions. They are called accidents because they occur in a thing and depart from it without the thing itself departing.

Slowly changing attributes are called properties because they belong particularly to one species rather than others.

Essential substantial attributes are called differentiae because they divide a genus and cause it to become species.

Know that properties are of four kinds.

One is a property belonging to a species while being shared by another species. For example, among animals it is a property of the human being to have two legs, though birds share this with him.

Another is a property belonging to one species and not shared by another, but which is not found in all individuals of that species. Writing, commerce, and most crafts are examples: they are properties of the human species, but they are not found in every human being.

A third is a property found in all individuals of a species, but not at every time. Grey hair, for example, is peculiar to the human being among animals, yet it appears only toward the end of life.

A fourth is a property peculiar to one species alone, present in all its individuals and at every period. This is called the **property in the strictest sense**. Laughter and weeping are examples, for these belong particularly to human beings rather than other animals and are possible for all human individuals throughout life. Likewise neighing belongs to the horse, braying to the donkey, and barking to dogs.

In general, every species of animal has some property peculiar to it, and likewise every existent has some characteristic that distinguishes it from what is other than it. Such distinguishing characteristics are called its defining marks, whether people know them or not.

Know that through differentiae genera are divided and become species, and species are defined through them because they are composed of them. Through defining properties species differ from one another. Through properties that are slowly changing accidents, individuals beneath one species differ from one another—for example blue eyes, dark-blue eyes, a flattened nose, thinness, brown complexion, tallness, shortness, and similar attributes by which individual people differ.

Through accidents the changing states of individuals differ, such as standing and sitting, anger and satisfaction, and similar conditions that do not endure and are succeeded by their opposites.

Know that every attribute belonging to a genus belongs necessarily to all its species, and every attribute belonging to a species belongs necessarily to all its individuals. But it is not necessary that every attribute of an individual belong to the whole species, nor that every attribute of a species belong to the whole genus.

Chapter 4 — On How All Things Are Forms and Individual Realities

Since we have mentioned something of uttered speech by way of introduction, we now wish to mention something concerning intellectual speech, for intellectual speech is the foundation while uttered speech is derived from it.

Words are signs indicating meanings within the thoughts of souls. They were established among human beings so that each person might express to another the meanings within himself when speaking and asking questions.

We say that all things without exception are **forms and individual realities distinct from one another**.

The Creator—exalted is He—emanated these forms upon the Active Intellect, which is a simple substance apprehending the realities of things, as we explained in the Epistle on the Intellectual Principles.

From the Intellect they emanated upon the Universal Celestial Soul, which is the soul of the entire world, as we explained in the epistle in which we interpreted the philosophers' statement that the human being is a small world and the world a great human being.

From the Universal Soul they emanated upon Prime Matter, whose nature we have explained in the Epistle on Matter and Form.

And from matter they reach the particular human soul in the form of what people conceive within their thoughts after having witnessed things in matter through the senses, as we explained in our epistle entitled *The Human Being Is a Small World*.

Whoever wishes to understand how the forms of things existed in the Universal Soul before their emanation upon matter should consider how the forms of human artifacts exist within the souls of craftsmen before they bring them forth into the material subjects of their crafts, as we explained in the Epistle on the Arts.

Whoever wishes to understand how the forms of things existed in the Active Intellect before its emanation upon the Universal Soul, and how the latter receives these forms and representations, should consider the representations of knowledge within the souls of scholars, how scholars communicate them to students, and how students receive them, as we explained in the Epistle on Teaching.

And whoever wishes to understand how the objects of knowledge are present in the knowledge of the Creator—mighty and majestic—before their emanation upon the Intellect should consider how number was within the One before two, and how two arose from it, as we explained in the Epistle on the Properties of Number.

Chapter 5 — On Knowledge, Learning, and Teaching

Know that knowledge is nothing other than **the form of the known thing within the soul of the knower**, and that an art is nothing other than bringing forth the form existing within the soul of the knowledgeable craftsman and placing it into matter.

Know, O brother, that the souls of scholars are knowing **in actuality**, while the souls of learners are knowing **in potentiality**.

Teaching is nothing other than bringing what is potential into actuality, and learning is the passage from potentiality into actuality.

Nothing that exists potentially passes into actuality except through something already actual that brings it forth into actuality.

The Universal Celestial Soul is knowing in actuality, while particular souls are knowing in potentiality. Therefore, the more knowledge a particular soul possesses and the more perfectly ordered its works are, the nearer it is to the Universal Soul because of the closeness of its relation and the strength of its resemblance to it.

Thus philosophy has been defined as:

"Becoming like God according to human capacity."

Strive, therefore, to acquire much knowledge and to make all your actions wise and pure, for knowledge is spiritual wealth, just as the children of this world strive to acquire money, which is bodily wealth.

Know that just as through wealth a human being gains access to the pleasures of this world and agreeable living, so through knowledge the soul gains access to pleasures in the abode of the Hereafter.

Through knowledge the children of the Hereafter draw near to God, and through it they surpass one another in rank.

God Most High says:

"Say: Are those who know equal to those who do not know?"

Know that through knowledge souls are brought to life from the death of ignorance and awakened from the sleep of heedlessness.

God says:

"Is one who was dead and We gave him life, and made for him a light by which he walks among people…"

Knowledge guides you toward the road to the Kingdom of Heaven and assists you in ascending there.

God says:

"To Him ascends the good word, and righteous action raises it."

Concerning the people of ignorance, He says:

"The gates of heaven shall not be opened for them, nor shall they enter Paradise until the camel passes through the eye of the needle."

This is a warning that they should despair of ascending to the Kingdom of Heaven.

I seek refuge for you, O brother, from being content to belong to them or to be among them.

It has been said, "A person is with those whom he loves."

Rather, be among those concerning whom the Messenger of God said:

“Be a scholar, or a learner, or sit with scholars, or love the scholars—and beware of being the fifth.”

Chapter 6 — On Homonymous Expressions and Their Related Kinds

Since we have finished discussing meanings and explained that they are all forms and representations within the thoughts of particular souls, and that particular souls receive them from matter through the senses; and since we have also said that the forms within matter emanated upon it from the Universal Celestial Soul, those within the soul emanated from the Active Intellect, and those within the Intellect were emanated upon it by the Creator—mighty and majestic—we now return to expressions themselves.

We have said that individual letters, which are separate sounds, become expressions when joined together; expressions become names when meanings are placed within them; names become speech when arranged one after another; and speech becomes statements when composed together.

Know that meanings are like spirits, while expressions are like bodies for them. Every expression possessing no meaning is like a body without a spirit. And every meaning within the thought of a soul for which there is no expression is like a spirit without a body through which it may appear.

Statements differ sometimes with respect to their expressions, sometimes with respect to their meanings, and sometimes with respect to both together. They are of five kinds.

One kind consists of expressions that are **the same in wording but different in meaning**, such as the Arabic word *ʿayn*, which may mean “the eye of a person” or “a spring of water.” Opposed to these are **synonymous expressions**, which differ in wording while agreeing in meaning, such as two different terms referring to wheat.

Another kind consists of expressions **different both in wording and meaning**, such as “stone” and “tree.” Opposed to these are expressions that are **the same in wording and agree in meaning**, as when one says, “This is a human being named Zayd, and this is a human being named ʿAmr”: the word “human being” is predicated of each in the same meaning.

Another kind consists of **derived names**, such as “the striker” and “the struck,” and similar names derived from actions.

Chapter 7 — On How All Things Are Substances and Accidents

Know, O brother, that scholars have said that all things are of two kinds: **substances and accidents**.

They say that all substances constitute one genus and subsist by themselves, whereas accidents comprise nine genera, exist within substances, and are attributes of them.

They also say that the Creator—mighty and majestic—is described neither as accident nor substance; rather, He is their Creator and their efficient cause.

We say that all things are forms and individual realities distinct from one another, ranked beneath one another as numbers are ranked, and that the existence of some is dependent upon that of others in a manner resembling the existence of number from the One that precedes two, as we explained in the Epistle on Number.

The Creator—majestic is His majesty—is their cause and the one who brings them into existence, as we explained in the Epistle on the Intellectual Principles.

Know that form is of two kinds: **constitutive** and **perfective**.

Scholars have called constitutive forms “substances” and perfective forms “accidents.”

We have explained the difference between constitutive and perfective forms in the Epistle on Matter and Form and in the Epistle on Generation and Corruption. Learn their distinction there, God willing.

Chapter 8 — On the Human Need for Logic

Know, O brother, that if people could understand from one another the meanings contained in their souls' thoughts without expressions of the tongue, they would have no need for statements made from audible sounds.

For hearing them and understanding them imposes effort upon souls: one must learn languages, discipline the tongue, and acquire clarity and eloquence.

But because the soul of every human being is submerged within the body and covered by the darkness of corporeality, one soul cannot see another. People see only the outward structures—the bodies possessing length, breadth, and depth—and no one knows what sciences and meanings another possesses except insofar as each person expresses what is within his soul to others of his kind.

He cannot do this without instruments and organs such as tongue and lips, the drawing in and expelling of air, and other conditions needed for making another understand one's knowledge and for understanding knowledge from him.

For this reason uttered speech and its teaching became necessary, as did investigation of its conditions, which would require lengthy discussion.

Pure souls that are not embodied, however, have no need for speech and statements in order to communicate to one another the sciences and meanings contained within their thoughts.

These are the celestial souls.

They have been purified from the defilement of bodily desires, escaped the sea of matter and the captivity of nature, and become independent of existence together with dark bodies belonging to the lowest of the low—the world of generation and corruption.

They have ascended to the highest horizon of the higher world and move among luminous, transparent substances, namely the stars and celestial spheres.

This accords with divine wisdom and providence, for they are not joined to obscuring bodies and have no need to conceal their secrets or hide what is within their hearts. They are purified of malice and corruption and free from concealing evil intentions.

Thus they are joined to luminous substances and transparent spheres in which the part is reflected in the whole and the whole in the part, just as polished mirrors reflect one another, and just as the faces of a group standing opposite one another are reflected in the eye of one person while the face of that one person is reflected in the eyes of them all.

They therefore have no need to tell one another what they conceal or to question one another about hidden secrets, for they dwell amid radiance and lights, the dwelling place of the excellent and righteous.

Strive, O brother, so that perhaps your soul may become pure and your aspiration may rise above desire for this lowly world, which the Lord of the Worlds condemned when He said:

“The life of this world is only play, amusement, adornment, and boasting…”

until His saying:

“The life of this world is nothing but the enjoyment of delusion.”

And He says:

“Beautified for people is the love of desires—women…”

And He says:

“Say: Shall I tell you of something better than that? For those who are mindful of their Lord are gardens…”

And He says:

“That abode of the Hereafter We appoint for those who desire neither exaltation upon Earth nor corruption; and the final outcome belongs to the God-fearing.”

Know that if a genus ceases to exist, all its species cease together with it; and if a species ceases to exist, all its individuals cease together with it. But it is not necessary that when one individual exists, the entire species exist, nor that when one species exists, the whole genus exist in all its members.

Know also that the word **genus** is used in four ways. Three usages belong to the linguist, while one belongs to the philosopher.

The three used by the linguist are the **regional genus**, the **occupational genus**, and the **genealogical genus**.

The regional genus is exemplified when one points to groups and says: “Baghdadis,” “Basrans,” “Khurasanians,” and the like.

The occupational genus is exemplified by saying of groups: “carpenters,” “blacksmiths,” “bakers,” and the like.

The genealogical genus is exemplified by saying: “Hāshimites,” “ʿAlids,” “Rabīʿites,” and similar designations.

As for the genus employed by the philosopher in his discourse, its analysis belongs to the **ten expressions**, which we have explained in *Categories*.

Here ends Epistle 10, on Isagoge.

Epistle 11

On the Ten Categories, Which Are *Categories* (*Qāṭīghūriyās*)

The Second Epistle on Logic

In the name of God, the Compassionate, the Merciful.

Since we have completed our discussion of the six expressions mentioned in *Isagoge*, and explained one by one the meanings indicated by them, we now wish to discuss the ten expressions contained in *Categories*, explain their meanings, describe their nature, show that each of them is the name of a genus among existing things, and explain how all meanings fall under these ten expressions.

Know, O righteous and merciful brother—may God strengthen you and us with a spirit from Him—that when the ancient sages looked with their eyes upon outward things and perceived manifest things through their senses, they then reflected with their intellects upon the meanings concealed within them, investigated hidden matters through deliberation, and apprehended the realities of existing things through discernment.

It became clear to them that all things are distinct individual realities, ordered in existence like the ordering of numbers and mutually linked and connected in their continuance and permanence through the First Cause, who is the Creator—glory be to Him—just as numbers are connected and linked to one another through the One that precedes two, as we explained in the Epistle on Number.

When these matters became clear to them, they gave names to what is prior in existence and called it **matter**, and they called what is posterior in existence **form**.

When it became clear to them that form is of two kinds, constitutive and perfective, as we explained in the Epistle on Generation and Corruption, they called the constitutive forms **substances** and the perfective forms **accidents**.

When they further saw that constitutive forms all follow one and the same general rule, they said that all substances belong to one genus.

But when they saw that perfective forms differ in their modes, they said that accidents belong to different genera, and that these are nine genera, like the nine units following one.

Thus substance among existing things is like the number one, while the nine accidents are like the nine units that follow one. All existing things therefore become ten genera corresponding to the ten units.

The accidents are ranked one beneath another like the ordering of number and its dependence in existence upon the One that precedes two.

The ten expressions encompassing the meanings of all existing things are:

substance, quantity, quality, relation, where, when, position, possession, acting, and being acted upon.

Chapter 1 — Each of the Ten Expressions Is the Name of a Genus of Existing Things

Know, O brother, that each one of these expressions is the name of a genus among existing things.

Every genus is divided into several species, every species into further species, and so on continually until division reaches individual things, as we shall explain.

Know, O brother, that when the sages examined existing things, the first things they observed were individuals such as Zayd, ʿAmr, and Khālid.

Then they reflected upon all human beings whom they had not seen, both those of the past and those yet to come, and realized that the human form encompasses all of them, even though they differ in attributes such as tallness and shortness, blackness and whiteness, brown complexion, blue eyes, mixed eye-colour, flat noses, aquiline noses, and similar attributes by which individuals are distinguished from one another.

They therefore said: all of these are **human beings**, and they called the human being a **species**, because it is the totality of individuals agreeing in form while differing in accidents.

They then observed other individuals, such as Zayd's donkey, ʿAmr's she-donkey, and Khālid's foal, and understood that the asinine form encompasses them all, so they likewise called it a species.

Then they observed Zayd's horse, ʿAmr's stallion, and Khālid's colt, and understood that the equine form encompasses them all, so they likewise called it a species.

By the same analogy, with every class of animals—livestock, beasts of prey, birds, aquatic animals, and terrestrial creatures—every group encompassed by one form was called a species.

Then they reflected upon them all together and understood that **life** encompasses them all. They called this **animal**, and designated it the genus encompassing many groups differing in form, each of which is a species beneath it.

Then they examined other individuals such as plants and trees and their various species, and saw that growth and nourishment encompass them all. They called this **growing body**, and said that it is a genus, while animal and plant are two species beneath it.

Then they observed other things such as stones, water, fire, air, and stars, and saw that all of them are bodies. They therefore called body a genus.

They understood that body, insofar as it is body, neither moves itself, nor reasons, nor senses, nor knows anything. Yet they found bodies moving, being affected, and having forms, images, and figures produced within them.

They therefore understood that together with body there is another substance which acts within bodies and produces these actions and effects, and they called it **spiritual**.

Then they gathered all of these under one expression, namely **substance**.

Thus substance became a genus, while spiritual and corporeal are two species beneath it.

Body is a genus beneath which are the growing and the inanimate, both of which are species of body.

The growing is a genus beneath which are animal and plant, both of which are its species.

Animal is a genus beneath which are human beings, birds dwelling in the air, swimming creatures dwelling in water, walking creatures dwelling upon land, and creeping things inhabiting the earth. All of these are species of animal, while animal is their genus.

Thus the human being is the **species of species**, and substance is the **genus of genera**.

Body, growing body, and animal are relative genus and species: when considered in relation to what lies beneath them, they are called genera; when considered in relation to what lies above them, they are called species.

This is a concise account of the meaning of one of the ten categories, namely **substance**, together with its divisions, species, and individuals.

Substance has no definition, but its description is:

that which subsists by itself and receives contrary accidents.

When the sages observed that substance may be described as three cubits, four ratls, five measures, and similar things, they gathered all such meanings together and called them the genus of **quantity**. All these are accidents existing in substance.

When they observed other things that were neither substance nor quantity, such as whiteness, blackness, sweetness, bitterness, fragrance, and similar things, they gathered all of them together and called them the genus of **quality**.

These accidents are attributes of substance; substance is described through them, they subsist in it, and all of them are forms perfecting it, as we explained in the Epistle on Generation and Corruption.

Then they found many different terms applied to one and the same thing without that thing itself changing, but merely because of its relation to different things.

For example, one man may be called a **father, son, brother, husband, neighbour, friend, or partner**, and similar names that occur only between two things sharing some meaning.

That meaning does not exist in either of their individual substances in itself, but within the soul of the one who thinks of the relation.

They called all these the genus of **relation**.

Those concerned with the doctrine of attributes call such meanings **states**.

Then they found other names whose meanings differ from those already mentioned, such as **above, below, here**, and similar expressions. They gathered them together and called them the genus of **where**.

Then they found other names whose meanings again differ, such as **day, month, year, moment, duration**, and similar terms. They gathered them together and called them the genus of **when**.

Then they found other names with still different meanings, such as **standing, sitting, sleeping, bent over, reclining, leaning, lying down**, and similar terms. They gathered them together and called them the genus of **position**, meaning bodily posture.

Then they found other expressions such as **having, possessing, from him, upon him, with him**, and similar expressions. They gathered them together and called them the genus of **possession**.

Then they found other expressions such as **struck, acted, made**, and similar terms indicating the influence of an agent. They gathered these together and called them the genus of **acting**.

Then they found expressions such as **being cut, being broken, being impelled, bursting forth**, and similar expressions. They gathered them together and called them the genus of **being acted upon**.

They then contemplated all things and found no meaning outside these categories.

Thus all the meanings of things were gathered for them under only ten expressions, just as they had found that the ranks of units are encompassed by ten numerical places.

Know, O brother, that these genera encompass every existing thing among substances and accidents, whatever has existed and whatever will exist.

No one can conceive anything that falls outside these genera and the species and individuals contained beneath them.

Know that these meanings may all be gathered in a single individual.

For example, Zayd is a **substance**.

He possesses **quantity**, because he is tall.

He possesses **quality**, because he is dark-complexioned.

He possesses **relation**, because he is a son.

He possesses **where**, because he is in a place.

He possesses **when**, because he exists in a time.

He possesses **position**, because he is standing or sitting.

He possesses **possession**, because he owns wealth.

He **acts** when he strikes.

And he **is acted upon** when he is struck.

Since we have completed our brief account of the ten genera, we shall now mention something of how they are divided into species, so that this may guide students toward one of the methods of teaching.

The methods of teaching are four: the method of definitions, the method of demonstration, the method of analysis, and the method of division.

The Division of Substance

Substance is of two kinds: **corporeal** and **spiritual**.

Corporeal substance is of two kinds: **celestial** and **natural**.

Natural body is of two kinds: **simple** and **composite**.

Simple natural bodies are four: fire, air, water, and earth.

Composite natural bodies are of two kinds: **inanimate** and **growing**.

The inanimate are mineral bodies.

The growing are of two kinds: plant and animal.

Plants are of three kinds: those produced by planting, like trees; those produced from seed, like crops; and those that grow of themselves, like grasses and pasture.

Animals are of two kinds: rational, such as the human being, and non-rational, such as all other animals.

Non-rational animals are of three kinds: those generated within wombs, those generated within eggs, and those generated from putrefying matter, such as creeping creatures.

Under each of these species are further species, and beneath those species are still others until division reaches individual things.

As for spiritual substances, they are divided into two: **matter** and **form**.

Form is of two kinds: separated form, such as soul and intellect, and inseparable form, such as shapes and colours.

The Division of Quantity

Quantity is of two kinds: **continuous** and **discrete**.

Continuous quantity is of five kinds: line, surface, body, place, and time.

Discrete quantity is of two kinds: number and motion.

A line is of three kinds: straight, arched, and curved.

Surfaces are of three kinds: plane, convex, and concave.

The divisions of body have already been mentioned.

Place has seven kinds: above, below, in front, behind, right, left, and middle.

Time has three kinds: past, future, and present.

Each of these is divided according to years, months, days, and hours.

Number is divided in one respect into even and odd; in another into integers and fractions; and in another into units, tens, hundreds, and thousands.

Motion is of six kinds: generation and corruption, increase and decrease, alteration and locomotion.

The property of this genus is **equality and inequality**.

The Division of Quality

Quality is of two kinds: **corporeal** and **spiritual**.

Corporeal quality is what is apprehended by the senses.

Spiritual quality is what is known by the intellect, such as knowledge, power, courage, and beliefs.

Corporeal qualities are of two kinds: simple and composite.

Simple qualities are of two kinds: active and passive.

The active are heat and cold.

The passive are dryness and moisture.

Composite qualities are of two kinds: enduring and separable.

Enduring qualities include tastes, colours, smells, blue-eyedness in the blue-eyed, and flat-nosedness in the flat-nosed.

Separable qualities include standing and sitting, the pallor of fear, and the redness of embarrassment.

Spiritual qualities are of four kinds: character traits, sciences, opinions, and actions.

The characteristic of this genus is **similarity and dissimilarity**.

The Division of Relation

Relation is of two kinds: **correlative through the same designation** and **correlative through different designations**.

The first is where the two relatives are equal in naming, such as brother and brother, neighbour and neighbour, friend and friend.

The second is where the names of the two relatives differ, such as father and son, slave and master, cause and effect, first and last, half and double, smaller and greater.

All these exist together in relation.

As for their own existences, they are of two forms.

In the first, one exists before the other, such as father and son, or cause and effect.

In the second, both exist before the relation is established, such as slave and master, neighbour and neighbour, and friend and friend.

When the genus of relation is considered broadly, all the remaining genera enter into it accidentally, though not essentially.

For substance is described by accidents, and accidents are attributes of substance; the attribute belongs to the described thing, and the described thing is described through the attribute, just as the father is father of the son and the son is son of the father.

The property of this genus is that the two relatives reciprocally imply one another and do not negate one another, and they exist together in relation.

These four genera—substance, quantity, quality, and relation—are called **simple**.

The Six Composite Categories

The remaining six are called **composite**.

The first is **where**, which is composed from substance together with place. Places are seven, as we explained under quantity.

The second is **when**, which is composed from substance together with time. We have already explained the divisions of time under quantity.

Position is composed from one substance together with another substance, as one who reclines upon a couch or one who leans upon something.

Possession is likewise composed from substance together with another substance.

Possession is of two kinds: internal and external.

Internal possession may be in the soul, as when one is said to possess knowledge, intellect, or forbearance; or in the body, as when one is said to possess beauty, attractiveness, or splendour.

External possession is of two kinds: living and inanimate, as when one is said to possess slaves, riding animals, dirhams, landed properties, or merchandise.

The genus of **acting** is of two kinds.

In one, the effect of the agent remains in the manufactured thing, such as writing, building, and similar crafts.

In the other, no enduring trace of the agent remains, such as dancing and singing.

The genus of **being acted upon** is likewise of two kinds: one occurs in bodies, as we explained in the Epistle on the Practical Arts, and the other occurs in souls, as we explained in the Epistle on the Scientific Arts.

Chapter 2 — On the Ways in Which Things Are Opposed

Since we have completed our account of the ten genera and explained how they are divided into species, we must now mention certain matters that necessarily belong to this discussion.

When things are opposed to one another, their opposition must occur either **in discourse** or **in the things themselves**.

Opposition in discourse consists of **affirmation and negation**.

Affirmation is establishing an attribute for a subject.

Negation is denying an attribute of a subject.

The particular property of this opposition is truth and falsehood.

As for opposition in the things themselves, it is of three kinds: opposition between contraries, opposition among relatives, and opposition between possession and privation.

Contraries

Two contraries are two things each of which excludes the other, while neither is dependent upon the other as a relative is.

Contraries are of two kinds: those having an intermediate state and those having none.

Those having intermediates include black and white, which are contraries but between which lie colours such as red, yellow, green, and others.

Likewise sweet and bitter are contraries, but between them lie other tastes such as sourness, saltiness, insipidity, and other tastes.

Contraries without an intermediate include health and sickness.

One property of contraries is that if one exists in a body, the other also belongs to the domain of body; and if one exists in a soul, the other likewise belongs to the soul.

Another property is that if one is perceived through a particular sense, its contrary is likewise perceived by that sense.

Thus blackness exists only in a body and is apprehended only through sight, and the same applies to whiteness.

Knowledge exists only in the soul and is apprehended only by intellect; ignorance likewise follows this same rule.

Relatives

Relatives are opposed but do not exclude one another.

Each reciprocally implies the other, as we explained previously.

Possession and Privation

Possession and privation resemble both contraries and relatives.

Privation is spoken in relation to possession, but possession is not spoken in relation to privation.

Thus one says **blindness of sight**, but does not say **sight of blindness**.

Possession and privation cannot coexist, just as contraries cannot coexist.

If the possession is corporeal, its privation is also corporeal; and if the possession is spiritual, its privation is likewise spiritual.

A thing is not described as deprived of a possession until the time has arrived when it could naturally possess it.

Thus an infant is not called toothless in the privative sense until the time has come when its teeth should emerge.

Likewise someone is not called one who has “abandoned” an action until the time when he was capable of performing it.

Chapter 3 — On the Meaning of the Priority of Things

Know that one thing may be prior to another in five ways.

The first is **priority in time and coming-to-be**, as when one says that Moses is earlier than Jesus.

The second is **priority by nature**, as when one says that animal is prior to human being.

The third is **priority in nobility**, as when one says that the Sun is prior to the Moon.

The fourth is **priority in rank**, as when one says in number that five precedes six.

The fifth is **priority in essence**, as with cause and effect.

A thing may also be **in** another thing in many senses.

A thing may be in a place, in time, or in a vessel.

An accident is in a substance, and substance is in an accident in another sense.

An individual is in a species, and a species is in a genus, and conversely in their appropriate senses.

A governor is in governance, and governance is in the governor.

A thing is in completion, and the part is in the whole, and there are other similar meanings.

Likewise, one thing is said to be **with** another in three senses.

It may be simultaneous in time, like shadow with light.

It may be with another as one relative is with its correlative, as explained above.

Or species may all exist together beneath one genus.

Know, O brother, that these ten expressions and the meanings contained within them—the ten genera that encompass all meanings of things, together with the species beneath each and the individuals beneath those species—are like a garden containing ten trees.

Upon every tree are many branches and boughs; upon each bough are numerous twigs; upon each twig are many leaves; and beneath each leaf are blossoms and fruits, each fruit possessing a taste, colour, and fragrance different from another.

The soul, when it understands the meanings of these ten genera, forms them within itself, considers their various transformations and all the forms of knowledge they contain—differing in form, varied in configuration, and diverse in colour—is like the owner of such a garden when he opens its gate, looks upon its colours and flowers, smells the fragrances of its blossoms, takes from its fruits, tastes its flavours, and enjoys the produce of the garden.

Strive, therefore, O brother, in seeking the sciences and the varieties of disciplined learning.

For the sciences are **gardens of souls**, and the varieties of their meanings, benefits, and fruits are like the diverse fruits of gardens.

Knowledge is the nourishment of the soul just as food is the nourishment of the body.

Through knowledge come the soul's life, the delight of its existence, its joy, and its bliss after separation from the body, as we explained in the Epistle on the Return.

May God grant you, O righteous and merciful brother, success in sound judgment and right guidance, together with all our brethren wherever they may be throughout the lands.

The Eleventh Epistle on Philosophical Logic is complete.

Praise be to God, Lord of the worlds, and blessings be upon His Prophet Muḥammad and upon all his family.

Epistle 12

On the Meaning of *Peri Hermeneias*

The Third Epistle on Logic

In the name of God, the Compassionate, the Merciful.

Since we have completed our discussion of the ten expressions that the logical sages call **the Ten Categories**, and have explained the extent of the genus of meanings contained under each of them—these meanings being forms abstracted from matter and representations pictured within the thoughts of human souls, as exemplified in the Epistle on *Categories*—and since before this we discussed in another chapter the six expressions used by philosophers in their discourse, and in a chapter preceding that explained how isolated letters, when combined, become expressions; how expressions, when they contain meanings, become significant terms; and how significant terms, when placed one after another, become meaningful speech—we now say concerning this subject:

All speech is of three kinds.

One kind consists of significant terms indicating individual entities. Logicians and grammarians call these **nouns**.

Another consists of significant terms indicating the effects that entities produce upon one another. Logicians call these **verbs**.

The third consists of significant terms indicating meanings that function like instruments for speakers, joining some parts of speech to others—nouns to verbs and verbs to nouns. Grammarians call these **particles**, while logicians call them **connectives**.

A noun is every expression that signifies a meaning without signifying time, such as “Zayd,” “ʿAmr,” “stone,” “wood,” and similar expressions.

A verb is such as “he struck,” “he strikes,” “he understood,” and “he understands.” It is every expression signifying a meaning together with time.

Particles include expressions such as “from,” “in,” “upon,” and similar terms, whose explanation is given in books of grammar.

In general, whoever wishes to investigate philosophical logic ought first to have trained himself in the science of grammar.

Know, O brother, that when verbs and nouns are arranged together they become **statements**.

Statements are of two kinds. Some admit truth and falsehood; others admit neither truth nor falsehood.

Those that admit neither truth nor falsehood are of four kinds: **command, question, address, and wish**.

That which admits truth and falsehood is called **assertion**.

Assertions are of two kinds: either an attribute is affirmed of a subject, or it is denied of it.

For example:

“Fire is hot.”

and:

“Fire is not hot.”

The statement “is not hot” is a negation.

An affirmation may be either true or false, and so may a negation.

If you say:

“Fire is hot,”

that is true.

If you say:

“Fire is cold,”

that is false.

If you say:

“Fire is not cold,”

that is true.

If you say:

“Fire is not hot,”

that is false.

Thus it has become clear to you how affirmation and negation may each sometimes be true and sometimes false.

Know that affirmation and negation are sometimes expressed as categorical judgments and sometimes through condition and exception.

A categorical affirmation is like saying:

“The Sun is above the Earth, and it is daytime.”

A conditional statement is like saying:

“If the Sun is above the Earth, then it is daytime.”

The same applies to negation.

An example of categorical negation is:

“The Sun is not above the Earth, and it is not daytime.”

An example in conditional form is:

“If the Sun is not above the Earth, then it is not daytime.”

Know that judgments are of two kinds. Sometimes their truth and falsehood are evident; at other times truth and falsehood are concealed.

When a speaker's statement admits interpretation, its truth and falsehood do not become clear. But whenever it does not admit interpretation, its truth or falsehood becomes evident.

A statement does not admit interpretation when it is **quantified**.

A quantified statement is one to which a quantifier is attached.

Quantifiers are of two kinds: universal and particular.

A universal quantifier is exemplified by:

“Every human being is an animal.”

This is clearly true because it possesses a universal quantifier.

A clearly false universal statement is:

“No human being is an animal.”

Its falsehood is evident because it possesses a universal quantifier.

A particular quantifier is exemplified by:

“Some human beings are writers,”

and:

“Some human beings are not writers.”

The truth of both is evident because each possesses a particular quantifier.

Statements that are not quantified are those that possess no quantifier.

They are of two kinds: **indefinite** and **singular**.

An indefinite statement is like saying:

“The human being is a writer,”

or:

“The human being is not a writer.”

Its truth or falsehood is not immediately determined, because the speaker may intend only some human beings.

A singular statement is like saying:

“Zayd is a writer,”

or:

“Zayd is not a writer.”

Its truth and falsehood may likewise remain unclear if the individual designated by the name has not been precisely identified, for the speaker may say, “I meant this particular Zayd.”

But when the speaker places upon his assertion a universal quantifier of the kind we have described, the judgment becomes clear, because he can no longer say that he intended something other than what the judgment itself requires.

Know that the listener must hold the speaker to what his words necessarily entail and demand of him what those words require—not what may lie concealed in his intention.

For no one knows what lies within consciences except God Most High.

Thus it is clear from this example that whenever speech is not determined by a quantifier, its truth and falsehood are not outwardly evident.

Know also that quantifiers delimit the attribution of qualities to their subjects.

The subject itself must also be determined through known and recognizable descriptions.

For if the subject is not known by a definite designation, truth and falsehood cannot be clearly determined in a statement.

Examples include saying:

“What is not human is an animal,”

or:

“Someone other than Zayd is a writer,”

or:

“Everything other than animal consists of lifeless substances,”

and similar expressions that designate unspecified things shared by everything except that from which they are excluded.

Know, O brother, that **negation and affirmation are two judgments contradictory both in expression and in meaning**.

They cannot both be true or both be false with respect to one and the same attribute, at one and the same time, from one and the same aspect, and under one and the same relation.

For negation removes from a thing the very attribute that affirmation assigns to it, in precisely the manner, time, aspect, and relation in which it was assigned.

Whenever one of these conditions changes, however, both judgments may be acceptable in different respects.

For example:

“Some human beings are writers,”

and:

“Some human beings are not writers.”

Both are true.

Likewise a child may be a writer **potentially** while not being a writer **actually**.

To this is related the saying attributed to the Prophet—peace be upon him:

“I was a prophet while Adam was between water and clay,”

meaning: I was a prophet potentially, not yet actually.

Likewise one and the same man may know one thing and not know another.

He may be fasting by day in Ramadan but not fasting by night.

He may be large in relation to something smaller than himself but not large in relation to something larger.

Thus whenever aspect, time, relation, or meaning changes, affirmation and negation are no longer contradictory in the strict sense.

Know, O brother, that when a judgment is made concerning a subject by assigning an attribute to it, this produces a proposition composed of two terms.

For example:

“Zayd is a writer.”

It is possible that he is a writer or is not a writer. When you decide firmly upon one of these two alternatives, the statement becomes an assertoric judgment and a decisive proposition.

When one of the three times is attached to such a proposition, it becomes a proposition involving three elements, as when you say:

“Zayd wrote yesterday,”

or:

“Zayd will write tomorrow,”

or:

“Zayd is writing today.”

If you add to one of these propositions one of the three modalities—**possible, impossible, or necessary**—it becomes a proposition involving four elements.

For example:

“It is possible that this boy will one day become a strong man.”

“It is impossible for him to carry a thousand ratls.”

“It is necessary that he will die one day.”

Know that affirmation and negation are each divided into universal and particular.

A universal affirmative proposition is like saying:

“Every fire is hot.”

Its universal negative counterpart is:

“No fire is hot.”

When these two stand opposed, they are called the **greater contraries**.

A particular affirmative is like saying:

“Some human beings are writers.”

Its corresponding negative is:

“No human being is a writer.”

When these stand opposed, they are called the **lesser contraries**.

When two affirmative propositions, or two negative propositions, stand in relation to one another through universality and particularity, they are called **subaltern propositions**.

For example:

“Some human beings are animals; indeed, every human being is an animal.”

And:

“Some human beings do not fly; indeed, no human beings fly.”

Two propositions that agree in meaning while differing in wording are called **equivalent propositions**.

For example:

“Every fire is hot,”

and:

“No fire is cold.”

Likewise:

“Some human beings are writers,”

and:

“Some human beings are not illiterate.”

Know that the attribute in a proposition is called the **predicate**, while the thing described is called the **subject** upon which it is predicated.

When there are several subjects but only one predicate, there are several propositions.

For example:

“Zayd is a writer. Khālid is a writer. ʿAmr is a writer.”

When there are several predicates but only one subject, there are likewise several propositions.

For example:

“Zayd is a writer, a blacksmith, and a carpenter.”

But when the expressions for the attributes are numerous while their meaning is one, the proposition is one.

For example:

“Zayd is understanding, learned in jurisprudence, and knowledgeable.”

Know that propositions differ sometimes by negation and affirmation and sometimes by universality and particularity.

Difference by affirmation and negation is called **quality**.

Difference by universality and particularity is called **quantity**.

When two propositions differ both in quality and quantity, they are called **contradictories**.

When they differ only in quality, they are called **contraries**.

Contradictories are more strongly opposed than contraries.

An example of contraries is:

“Every human being is a writer.”

“No human being is a writer.”

An example of contradictories is:

“Every human being is a writer.”

“Not every human being is a writer.”

Know that what is **necessary in existence** is naturally prior to what is possible, and what is possible is prior to what is impossible.

For if there were nothing necessary in existence, what is possible could not be known; and if there were nothing possible, what is impossible could not be known.

Know, O brother—may God strengthen you and us with a spirit from Him—that every proposition, whether universal or particular, affirmative or negative, is composed of two terms.

One of them is called the **subject**, and the other the **predicate**.

For example:

“Fire is hot.”

Fire is the subject, and heat is the predicate.

Know that sometimes the subject may be made the predicate and the predicate made the subject.

For example, after saying:

“Fire is hot,”

one may say:

“The hot thing is fire.”

This is called the **conversion of the proposition**.

Know that a proposition may sometimes be true before conversion and false afterward.

For example:

“Every human being is an animal,”

while:

“Every animal is a human being”

is false.

Sometimes it is true both before and after conversion.

For example:

“Every human being is capable of laughter,”

and:

“Everything capable of laughter is a human being.”

And sometimes it is false in both forms.

For example:

“Every human being is a bird,”

and:

“Every bird is a human being.”

This is the end of the Epistle on *Peri Hermeneias*.

It is followed by the Epistle on the *First Analytics*.

Praise be to God, Lord of the worlds, and may God bless our master Muḥammad and his family.

Epistle 13

On the Meaning of *Analytics* (*Anulutika*)

The Fourth Epistle on Logic

Chapter 1 — On the First Analytics

Know, O brother, that whenever two propositions are joined together and another judgment necessarily follows from them, the two propositions are called **premises**, and that judgment is called their **conclusion**.

An example is when it is said:

Every human being is an animal.

Every animal is a growing being.

From these two it follows that:

Every human being is a growing being.

Know that two premises cannot be joined unless they share one term while differing in two other terms.

That shared term must be either the subject in one proposition and the predicate in the other, or the predicate in both, or the subject in both.

If it is the subject in one and the predicate in the other, this is called the **first figure**.

An example is:

Every human being is an animal.

Every animal is moving.

Here “animal” is the term shared by both premises. It is the predicate in the first and the subject in the second.

If the shared term is the predicate in both propositions, this is called the **second figure**.

An example is:

Every human being is an animal.

Every bird is an animal.

The shared term, “animal,” is the predicate in both.

If the shared term is the subject in both, this is called the **third figure**.

An example is:

Every human being is an animal.

Every human being is capable of laughter.

Know, O brother, that whenever these premises are joined according to these conditions and some judgment is derived from them, the entire figure is called **syllogismos**, meaning a productive syllogism.

Know, O brother, that some combinations of premises are productive and others are not productive.

The productive kind is what we have already mentioned.

The nonproductive kind is that which possesses no common term, as when you say:

Every human being is an animal.

Every stone is dry.

Although these two premises are true, they produce no conclusion, because they possess no common term.

Know, O brother, that a common term is required between the premises so that a joining or pairing may occur between them.

The purpose of their pairing is that the conclusion may come forth, for that conclusion is the purpose for which the premises are put forward.

It resembles the purpose of pairing male and female animals, from whom offspring like themselves are produced.

The relation of the two premises and their conjunction is similar: their purpose is to produce from them a judgment concerning something that was not evident to the intellect.

For this reason the conjunction of premises is required.

Know, O brother, that not every conjunction is productive, just as not every mating results in offspring.

For when it is said:

Every human being is an animal.

Every bird is an animal,

these two premises share a term, yet no conclusion results from their conjunction, because they belong to the second figure.

Likewise, when it is said:

No human being is a bird.

No human being is a stone,

these two premises share a term, yet nothing results from their conjunction because they belong to the third figure.

These two figures are not to be trusted in their results unless they are examined through the first figure, as is explained at length in the books of logic.

Know, O brother, that the premises of the first figure are all productive, whether universal or particular, negative or affirmative.

An example is when it is said:

Every human being is an animal—a true universal affirmative.

Every animal is moving—a true universal affirmative.

These produce:

Every human being is moving—a true universal affirmative.

And when it is said:

No human being is a stone—a true universal negative.

No stone is a bird—a true universal negative.

Their conclusion is:

No human being is a bird—a true universal negative.

And:

Some human beings are writers—a true particular affirmative.

Some writers are calculators—a true particular affirmative.

Their conclusion is:

Some human beings are calculators—a true particular affirmative.

And:

Some human beings are not writers—a true particular negative.

Some writers are not calculators—a true particular negative.

Their conclusion is:

Some human beings are not calculators—a true particular negative.

Thus it has become clear that this figure and its premises ought to be carefully preserved, that their use in syllogisms should be understood, that one should know how their conclusions are derived, and that one should guard against inadvertence and error in them.

For defects may enter into them just as they enter into all other balances and measures, either intentionally on the part of those employing them or through inadvertence occurring in their use.

Sometimes the premises are true while their conclusions are false.

Sometimes the premises are false while their conclusions are true.

Sometimes both premises and conclusion are all false, and sometimes they are all true.

Know, O brother, that this subject ought to be investigated carefully, the place where sophistry enters it should be examined, and one should guard against it.

For those who sought to invalidate logical syllogism approached it from this direction.

When Aristotle composed the Book of Syllogism and explained within it the sound syllogism into which error and slipping do not enter, he said that it was a balance by which truth is distinguished from falsehood in statements, correctness from error in opinions, truth from falsehood in beliefs, and evil from good in actions.

At that time many people became desirous of it and sought it. They abandoned other books of disputation, and the disagreements that had existed among them disappeared because they returned to a balance that showed them the truth.

They trusted it and became certain that no other judgment was permissible, just as people who disagree concerning the weight of something come to know it with certainty when they test it on a balance. They then return to the balance and abandon dispute and contention.

When disagreement among them disappeared, a group among Aristotle's fellow philosophers became envious of him and sought to invalidate his work by this route.

They produced true premises whose conclusions were false, false premises whose conclusions were true, and false premises whose conclusions were false, and confronted Aristotle's pupils with them so as to drive them away from the art and make them renounce it.

Among their examples was:

No human being is a stone—a true negative.

No stone is an animal—a true negative.

Their conclusion:

No human being is an animal—a false negative.

Another:

Every human being is a bird—a false affirmative.

Every bird is rational—a false affirmative.

Their conclusion:

Every human being is rational—a true affirmative.

And:

Every human being is a bird—a false affirmative.

Every bird is a stone—a false affirmative.

Their conclusion:

Every human being is a stone—a false affirmative.

Know, O brother, that sophistry of this kind enters the art in two ways.

One is when the person undertaking the art is ignorant of the science of syllogism or deficient in it, so that he commits sophistry without knowing from where it entered, how it entered, or why. He resembles someone who calculates without knowing arithmetic, or weighs or measures without knowing how weighing and measuring are performed.

The other is when a person knows the art but deliberately and obstinately intends deception for some purpose, just as a calculator, weigher, or measurer may deliberately use fraud, deception, and trickery.

Because of this sophistry employed by those people, Aristotle instructed his pupils concerning conditions that must be preserved in demonstrative syllogisms: they should not employ two negative premises, whether universal or particular, nor rely upon indefinite premises or those forms through which such sophistical arguments arise.

Rather, they should confine themselves to true premises whose conclusions are true.

Premises that remain true together with their conclusions in every subject and at every time, both before and after conversion, are explained fully in the *Second Analytics*.

Chapter 2 — On the Cause That Led to the Composition of Logical Syllogisms

Know, O brother, that when the ancient sages investigated the varieties of the sciences and perfected them, discovered the wondrous arts and brought them to perfection, they also established for every science and craft a principle from which its species branch out.

They established for each a measure by which its branches are known, and a balance by which what is excessive, deficient, or properly proportioned may be distinguished.

An example is the art of prosody, which is the balance of poetry. Through it correct verses are distinguished from defective ones.

Likewise grammar is the balance of inflection. Through it error in speech is distinguished from correct expression.

The astrolabe is a balance by which times are known in the science of the stars.

The ruler, compass, and similar instruments are balances used in many crafts by which straightness is distinguished from crookedness.

Measures, cubits, steelyards, and balances are standards by which excess, deficiency, and equality are known in buying, selling, and commercial transactions.

Arithmetic is the balance employed by administrators and officials of the registers.

Know, O brother, that these standards and balances are judgments among people.

God the Creator—glorious is His praise—has set them among His creatures as judges and just arbiters, judging according to truth in matters concerning which people differ through estimation and conjecture.

When people appeal for judgment to balances, measures, and standards, these judge between them according to truth; the matter is settled, the dispute is decided, and disagreement is removed.

When the logical sages saw the disagreement among scholars concerning statements and judgments about objects of knowledge, their reliance upon estimation and conjecture arising from false imaginings, their disputes concerning these matters, their mutual accusations of falsehood, and each person's claim that his own judgment was true while that of his opponent was false, they found no human judge whose judgment all parties would accept, since such a judge would himself be one of the disputants.

They therefore considered it sound judgment and consummate wisdom to derive, through the natural powers of their intellects, a **straight balance and sound measure** that would judge among them in matters concerning which they disagreed, into which no defect could enter.

When they appealed to it, it would judge according to truth and decide with justice, showing favour to no one.

This is the syllogistic measure called **logical demonstration**, corresponding to geometrical demonstration, which in turn resembles numerical demonstration.

Chapter 3 — On Logical Syllogism

Know that since the standard belonging to every art and the balance belonging to every craft are fashioned from things resembling the subjects of that art, weights are measured through standard weights that themselves possess heaviness, while the dimensions of things possessing dimensions are measured by measures such as the cubit and similar standards. Straight things are known by means of a ruler.

Those who devised logical demonstration reasoned in the same manner.

They said: disagreement among scholars concerning what they claim to be truth and falsehood, correctness and error within their minds, becomes evident to us only through the truth and falsehood of their statements.

True and false statements therefore require a balance and standard through which they may be weighed and measured.

A balance itself must also be composed from things gathered and combined in a certain manner until they form an instrument by which weighing and measuring can be carried out.

For example, a balance used to determine weights is composed of two pans, a beam, cords, and standard weights.

The sages followed the same procedure in constructing the logical balance called **demonstration**.

First, in *Categories*, they discussed the things from which both the balance and that which is weighed are composed.

Then, in *Peri Hermeneias*, they explained how those things are combined and composed so that from them a balance and standard may arise.

Then, in the *First Analytics*, they explained how that balance is tested so that there should be no fraud or crookedness within it.

Then, in the *Second Analytics*, they explained how weighing is to be performed with it so that the weighing is sound and no defect enters it.

Chapter 4 — On Judging Things by Intellect and the Exhortation to Seek What Is Correct

Know, O brother, that a human being is capable of saying something contrary to what he knows, but he is incapable of knowing something contrary to what his intellect apprehends.

For he may say:

“Zayd is standing and sitting at the same time,”

but he cannot know this to be so, because his intellect rejects it.

Since this is the case, judgment should not rest upon the statements uttered by speakers, but upon the judgment of intellects.

Know, O brother, that the practitioners of every art are careful to preserve themselves from error and slipping in their craft.

Those who possess every science avoid error, seek correctness and truth, and exert themselves in doing so.

Therefore our brethren—may God strengthen them and us with a spirit from Him—and those among them who undertake philosophical logic ought to preserve their statements from contradiction from their beginning to their end.

Some speakers preserve their statements from contradiction during a single gathering or several gatherings, but few preserve the entirety of their statements from beginning to end so that no part contradicts another.

An example is one who says in one of his books:

“The nature of the soul is to follow the temperament of the body.”

Then he says in another book:

“The soul is the temperament of the body.”

Then in yet another book he says:

“I do not know what the soul is.”

Another example is one who believes that God—mighty and majestic—created creatures in order to benefit them, then says and believes that He never forgives them and never brings them out of the Fire.

Another is one who believes that place is a body or an accident inhering in body, then believes that the body may cease to exist while the place remains empty.

Another is one who says that the indivisible part cannot be divided, then believes that it has six directions and occupies a spatial extent.

Similar to these are contradictory statements and corrupt opinions that a single person may hold within himself and then, despite this, undertake philosophical logic and true demonstration.

Know with certainty, O brother, that if the practitioners of any art or science have no sound principle in their art from which their knowledge branches, and no straight measure according to which they measure what they know—as in the science of number, which we have explained previously—they cannot protect themselves from error or avoid falsehood.

For if the root is erroneous, the branches follow it.

Know that if a person does not perceive contradiction within his own statements, how can he be trusted concerning his opinions and beliefs?

How can one be sure that he does not hold contradictory opinions while opposing himself without knowing it?

And how can agreement with others be expected from him when he disagrees with himself, contradicts his own belief, and remains ignorant concerning his own objects of knowledge?

Chapter 5 — On Logic as the Instrument of the Philosopher

Know, O brother, that the logical sages established logical syllogism and derived sound demonstration so that the person practising logic might first begin with himself and establish demonstration concerning his own beliefs.

When those beliefs have become sound within himself, he may then seek to establish their soundness before others.

Before everything else, O brother, you need to learn how to preserve your own statements from contradiction.

If you accomplish this, you have mastered the art of philosophical logic.

Know that logic is the **balance of philosophy**, and it has been said that it is **the instrument of the philosopher**.

Since philosophy is the noblest of human arts after prophecy, it necessarily follows that the balance of philosophy should be the soundest of balances and the philosopher's instrument the noblest of instruments.

For philosophy has been defined as:

“Becoming like God according to the measure of human capacity.”

Know that by their expression “human capacity” they mean that the human being should strive to guard himself against falsehood in his speech and statements, against error and falsehood in his beliefs, against error in his knowledge, against baseness in his character, against evil in his actions, against slips in his works, and against deficiency in his craft.

This is the meaning of their saying:

“Becoming like God according to the measure of human capacity.”

For God—mighty and majestic—speaks only truth and does only good.

Strive, therefore, O brother, to imitate Him in these things. Perhaps you may be granted success in doing so and thereby become fit to meet Him.

For none is fit to meet Him except those refined through the discipline of the divine law and the exercises of philosophy.

Since we have now completed, in concise expression, what we needed to place at the beginning of this epistle, we turn to the epistle devoted to demonstration.

Here ends Epistle 13.

The next epistle is:

Epistle 14 — On the Meaning of the Second Analytics.

Epistle 14

On the Meaning of the *Second Analytics*

The Fifth Epistle on Logic

In the name of God, the Compassionate, the Merciful.

Since we have completed our discussion of the ten categories, the number of their kinds, the manner in which they are joined together, and the varieties of the conclusions resulting from them, we now wish to explain what a demonstrative syllogism is, how many kinds it has, how it is composed and employed, and how its conclusions are derived.

Before all this, however, we must first explain the purpose of the philosophers in employing demonstrative syllogism.

Know, O brother, that the paths by which sciences, knowledge, awareness, and perception are attained are many, as we have explained partly in the Epistle on Sense and the Sensible, partly in the Epistle on Intellect and the Intelligible, and partly in the Epistle on the Kinds of Sciences.

The paths which the philosophers follow in instruction and in seeking knowledge of the realities of things are four: **division, analysis, definition, and demonstration**.

It is therefore necessary for us to discuss each of these individually, to explain how one proceeds by means of them, how objects of knowledge are known through them, and why there are four paths—neither fewer nor more.

Since it was made clear in the *Categories*, through the method of division, that all existents must be genera, species, differentiae, or individuals, it necessarily follows that the manner of knowing each of these differs from that of knowing the others.

Through division, the realities of genera are distinguished through their species, and the species through their individuals.

Through analysis, the reality of individual things is known—that is, what each is composed of, from what things it is constituted, and into what it is dissolved.

Through definitions, the reality of species is known: to which genus each belongs and by how many differentiae it is distinguished from others.

Through demonstration, the realities of genera that are universal intelligible entities are known, as we shall explain.

We shall first explain the path of analysis, since we have already completed the discussion of division in the *Categories*. There is also another reason: analysis is nearer to the understanding of learners, because it is the path by which the realities of individual things are known, and individuals are particular sensible things.

Definition and demonstration are subtler and more delicate, for through them intelligible things—species and genera—are known.

Chapter 1 — On the Path of Analysis, Definition, and Demonstration

Know that when we say “an individual,” we indicate a totality gathered from many different things, or composed of several distinct parts, separate and distinguished from other existents.

Individuals are of two kinds.

Some are aggregates of similar parts, such as this ingot, this stone, this piece of wood, and similar individuals whose parts are all of one substance.

Others are individuals composed of parts differing in substance and accidents, such as this body, this tree, this city, and other such aggregates of diverse things.

When we wish to know the reality of one of these individuals, we first examine the things from which it is composed—what they are—and then investigate the parts from which it is constituted and how many they are.

Know, O brother, that composite things are of innumerable kinds, whose number none knows but God—mighty and majestic—but they are all gathered into three genera: **natural bodily things, artificial corporeal things, and psychic spiritual things**.

We shall give one example of each so that the rest may be judged by analogy.

An example of a natural bodily individual is the human body. It is a collected whole composed of organs of different forms: the head, hands, feet, neck, chest, and the like.

Each of these organs is itself composed of parts differing in substance and accidents, such as bone, nerves, veins, flesh, skin, and the like.

Each of these is formed from the four humours. Each humour has a temperament produced from chyle; chyle comes from the purified portion of food; food comes from the substance of plants; plants arise from the subtle portions of the elements; the elements arise from absolute body through the qualities peculiar to them; and body is composed of matter and form, which are the first two simple principles.

Thus the body is the final composite, while the things between are simple or composite only in relation to one another.

An example of an artificial corporeal thing is what we call a **city**. By this we indicate a totality of markets and quarters; each quarter comprises houses, dwellings, and shops; each of those is composed of walls and roofs; and these in turn are composed of plaster, bricks, timber, and similar materials. All of these arise from the elements; the elements from body; and body from matter and form.

An example from spiritual and psychic things is **singing**. Singing signifies harmoniously composed melodies. A melody is composed of proportionate notes and metrically measured verses. Verses are composed of metrical feet; the feet are composed of pegs and causes; and these in turn are composed of vocalized and unvocalized letters.

These matters are known by the master of prosody and by one who examines musical proportions.

According to these examples, the path of analysis is to be applied until it becomes clear from what composite things are composed and constituted. Then their reality becomes known.

As for the path of definition, its purpose is knowledge of the realities of species.

The manner of proceeding is to indicate a particular species, investigate its genus and the number of its differentiae, gather all of them into the briefest expression, and state them when asked.

For example, if it is asked:

What is the definition of the human being?

It is said:

A rational mortal animal.

If it is asked:

What is the definition of animal?

It is said:

A sensing, self-moving body.

If it is asked:

What is the definition of body?

It is said:

A composite substance possessing length, breadth, and depth.

If it is asked:

What is the definition of substance?

It is said:

It has no definition, but it has a description:

That which exists subsisting through itself and is receptive of contrary qualities.

If it is asked:

What are contrary qualities?

It is said:

Accidents inhering in substances, but not as parts of them.

According to this pattern the method of definition is to be understood. We have devoted a separate epistle to it.

As for the path of demonstration, its purpose is to know the constitutive forms by which existing entities are what they are, and to distinguish them from the completing forms that are merely attributes, descriptions, and states successively attached to them.

The senses cannot distinguish these because the essential forms are submerged beneath and covered by those descriptions.

For this reason subtle investigation and complete inquiry are required in order to know them and distinguish them from what accompanies them and follows upon them, by means of syllogism and demonstration.

Chapter 2 — On the Essence of Syllogism

Know, O brother, that since most human knowledge is acquired by the path of syllogism, while a syllogistic judgment is sometimes correct and sometimes erroneous, we must explain the cause of this so that error may be avoided when syllogism is employed.

We say: **syllogism is the composition of premises**, and its employment consists in deriving their conclusions.

The premises of syllogism are taken from things known in the first principles of intellect, while the beginnings of those objects of knowledge are themselves taken through the senses, as we explained in the Epistle on Sense and the Sensible.

Chapter 3 — On the Human Need to Employ Measurement and Syllogism

Know, O brother, that the senses perceive individual things composed of simple substances in different places and of particular accidents in distinct subjects, and through this they know only that they are existing individual entities.

Their quantities and qualities, however, cannot be known precisely except by established measures.

For example, when a person knows through the senses that certain bodies are heavy, numerous, or large, he cannot know the amount of their weight except by a balance, their quantity except by a measure, or their magnitude except by a cubit or similar standard.

All of these are balances and measures by which a person learns what he cannot know through mere estimation and conjecture.

Chapter 4 — On the Ways Error Enters Syllogism

Know, O brother, that error enters syllogism in three ways.

The first is that the measuring instrument itself is crooked, deficient, or excessive.

The second is that the person employing it is ignorant of the manner of its use.

The third is that the measure is sound and the person knows its use, but he deliberately employs sophistry, fraud, and deception to achieve some purpose.

Chapter 5 — On Error Arising from an Ignorant User

Know, O brother, that man is naturally disposed to employ analogical reasoning from childhood, just as he is naturally disposed to employ the senses.

When a child grows and begins to contemplate sensible things, looks at his parents, knows them by sense, and distinguishes them from himself, he begins to employ supposition, imagination, and estimation.

When he sees another child like himself, he knows that the other child has parents even if he has not perceived them by the senses, reasoning by analogy with himself.

This is a sound inference in which no error occurs, because it infers the cause through witnessing its effect.

If he has brothers whom he knows by sense, he may then suppose and imagine that the other child likewise has brothers, reasoning by analogy with himself.

This inference may be correct or erroneous, because he is reasoning from observing an effect to the existence of other things of the same class, not to its cause.

Likewise, whenever a child sees a man and woman, he may suppose that they have a child, even though he has not seen one, reasoning from the case of his own parents.

Sometimes this judgment is true and sometimes false.

In this fashion, from childhood, whenever a person finds some condition or cause in himself, his parents, or his brothers, he imagines that the same belongs to other children, their parents, and their siblings.

Whenever he experiences hunger, thirst, nakedness, heat, cold, delicious food, pleasant drink, pleasing clothing, grief for something lost, or joy over something gained, he supposes that whenever such conditions occur to him they occur similarly to all other children of his kind.

His judgments concerning sensible things continue in this fashion.

If there is in his parents' house an animal, furniture, household goods, or a well whose water is salty, he may suppose that the homes of all other children are the same.

When he becomes mature, gains intellect, examines sensible matters, and considers the conditions of existing individuals, he gradually discovers the realities of what he had imagined in childhood, and learns which of his suppositions were correct and which were erroneous.

Chapter 6 — On Error Among Rational Men and Philosophers

Know, O brother, that in the same manner the judgments, suppositions, and imaginings of rational adults proceed before investigation and discovery.

Most people, when they encounter in their own country wind, rain, heat, cold, night, day, winter, or summer, suppose that the same condition exists throughout all other lands, reasoning from what they experience in their own land.

This resembles their childhood supposition that all people's houses contained what they had found in their fathers' houses.

Only after experience does the truth become evident.

Likewise, when rational people study the mathematical sciences, especially astronomy, the truth or falsehood of many of their previous suppositions and imaginings becomes clear.

Know, O brother, that human beings are never entirely free of such conjectures and imaginings—not rational men, not trained scholars, and not even philosophizing sages.

Many who undertake philosophy, intelligibles, and demonstrations suppose that the Earth in its own proper place is itself heavy, reasoning from the heaviness they observe in each of its parts.

Similarly, many suppose that people dwelling on the opposite side of the Earth stand upside down, reasoning from the condition of a person standing beneath a surface while another stands above it with their feet opposed.

Likewise, many suppose that outside the world there is an infinite space, either full or empty, reasoning from the fact that outside their houses are other places, outside their towns are other lands, and beyond their terrestrial world is the world of the celestial spheres.

Likewise they suppose that the Creator—mighty and majestic—created the world in a place and at a time, reasoning from their own actions and crafts, which occur in place and time.

For the same reason many have imagined that the Creator—glorious is His majesty—is a body, because they have observed no agent except a body and have known the Creator to be an agent.

When they become trained in the divine sciences, it becomes evident to them that the matter is otherwise, as we have explained in the theological epistles.

Know, O brother, that whenever a person ascends from one rank of science and knowledge to another, there appear to him matters concerning which his previous knowledge resembles the suppositions he had concerning sensible things in childhood before learning their realities.

Chapter 7 — On the Intelligibles Derived from the Senses and Their Results

Know, O brother, that the ratio of the things a human being knows through the five senses to those that result from them among the first principles of intellect is like the ratio of individual letters to the innumerable names composed from them.

And the ratio of things known in the first principles of intellect to the sciences produced from them through demonstrations and syllogisms is like the ratio of names to the immeasurable discourse composed from them in books, sermons, conversations, speech, and languages.

Evidence that syllogistically acquired knowledge is more numerous than knowledge belonging immediately to the first principles of intellect is found in Euclid's book.

At the beginning of each book he sets down perhaps ten things, slightly more or less, that belong to the first principles of intellect. From their consequences he then derives hundreds of demonstratively known propositions.

The same applies to the *Almagest* and to most philosophical books.

Since we have now explained how error enters syllogism through the ignorance of learners, we wish to explain how error enters through crookedness in the syllogism itself.

Chapter 8 — On How Syllogism Becomes Crooked and How to Guard Against It

Know, O brother, that the kinds of error entering syllogism because of its crookedness are numerous, and explaining all of them would be lengthy. They have been discussed in the books of logic.

We wish here only to state the conditions of the straight syllogism, so that they may be preserved, demonstrative syllogisms alone may be employed, and those other forms in which error and slipping cannot be excluded may be abandoned.

Among syllogisms that sometimes err and sometimes reach the truth is reasoning by customary example—that is, measuring the whole by one of its parts.

Know, O brother, that the syllogism into which error and slipping do not enter is one whose composition and employment preserve the conditions Aristotle instructed his pupils to observe.

Among these is that, in every syllogistic science and teaching, two known matters must first be taken from what belongs to the first principles of intellect:

whether the thing exists, and **what it is**.

He gave this instruction because an unknown thing cannot be known through another unknown thing, nor can the unknown be measured by something equally unknown.

A known thing must therefore first be taken from the first principles of intellect, after which the other things sought through demonstration may be measured by it.

The first principles of intellect concern two things: the **existences of things** and their **quiddities**.

The existences of things enter souls by means of the senses, while their quiddities are grasped through thought, reflection, and discrimination.

When the existences of sensible things have entered the soul through sense and their quiddities through thought, reflection, and discrimination, souls are then called rational.

If you reflect, O brother, and wish to know what human intellect is, it is nothing other than the human soul after it has become actually knowing, whereas previously it was knowing only potentially.

It becomes actually knowing when the forms of the existences of things enter it through the senses and the forms of their quiddities through thought and reflection.

Chapter 9 — On the Foundations of Demonstrative Syllogism

Know, O brother, that all demonstrative syllogisms are constructed upon these two forms of knowledge: **whether it is** and **what it is**.

An example is what Euclid sets forth at the beginning of his first book: several known principles belonging to the first principles of intellect, through which all the remaining propositions are demonstrated.

Among them are:

Things equal to the same thing are equal to one another.

If equal things are added to equal things, the wholes are equal.

If equal things are subtracted from equal things, the remainders are equal.

If equal things are added to unequal things, the resulting wholes are unequal.

If equal things are subtracted from unequal things, the remainders remain unequal.

Things each double the same thing are equal.

Things each half the same thing are equal.

Things which coincide completely, with neither exceeding the other, are equal.

And the whole is greater than the part.

All of these judgments are taken equally from things known in the first principles of intellect. Rational people do not disagree concerning them.

What they disagree about is then measured against these principles.

Chapter 10 — On the First Principles of Intellect and the First Objects of Knowledge

Know, O brother, that these things and others like them are called **first principles in intellect**, because all rational beings know them and do not disagree concerning them when they reflect carefully upon them.

Their disagreements arise concerning things known by inference and measures, because the paths are numerous, the kinds of measures vary, and the methods of employing them differ.

A full explanation of this is lengthy and has been given in the books of logic and disputation.

We wish to explain how the realities of these primary objects of knowledge arise within rational souls.

Know, O brother, that the objects of knowledge called first principles in intellect arise within rational souls through induction from sensible things: examining them one after another, part after part, and individual after individual.

When people observe many individuals united by a single attribute, it becomes established in their souls that everything belonging to the same genus as those individuals or parts possesses that same judgment, even though they have not observed every individual of the species or every part of the genus.

For example, when a child matures and examines animals one by one, finding that all of them sense and move, he then knows that everything belonging to that genus has this property.

Likewise, when he examines any portion of water and finds it moist and fluid; any portion of fire and finds it hot and burning; and any portion of stone and finds it solid and dry, he comes to know that whatever belongs to each of those genera possesses the corresponding property.

By such consideration, first principles of intellect are acquired through the senses.

Know, O brother, that rational beings differ in rank regarding such things received into the soul through the senses.

The one who observes more carefully, reflects more deeply, thinks better, possesses subtler deliberation, and draws more comparisons will possess more primary intelligible knowledge than one who spends his life heedless and distracted, occupied with eating, drinking, amusements, pleasures, and bodily affairs.

Know, O brother, that error enters most often when those examining the realities of sensible things judge their reality through only one sense.

For example, one may see a mirage and imagine that it is ponds or rivers.

The error occurs because he judged its reality through a single sense.

Not every thing can have its reality known through one sense.

Sight apprehends only colours and shapes.

The reality of water is not known merely through colour, touch, and shape, but also through taste, for many fluids resemble water in colour, such as distilled vinegar, white naphtha, and similar things.

Know that every genus of sensible things has a sense through which its proper reality is known.

The differences between fluid bodies and other bodies are known through touch; some differences among fluids are known through taste; and their colours are known through sight.

The investigator should therefore not judge the reality of a sensible thing except through the sense specifically suited to knowing the reality of that class of sensible things.

We have explained this in the Epistle on Sense and the Sensible.

Returning now to our subject: when demonstrative syllogism begins with something known—whether it exists and what it is—it resembles the geometer who first sets down a line and then constructs upon it an equilateral triangle, divides it into two, erects another line upon it, constructs an angle, or performs similar operations described in Euclid and the other geometrical books.

The known thing—whether it exists and what it is—is like the line, while the unknown thing sought, to be known or constructed, is like the triangle.

Thus demonstrative syllogism must likewise begin with things known in the first principles of intellect, combine them in a particular composition, and through them seek unknown things that are neither immediately known through the first principles of intellect nor perceived by sense.

Nor should one make a thing the cause of itself in demonstration.

This is evident among the first principles of intellect, for an effect cannot be its own cause.

Yet because of the length of discourse, many who employ demonstration sometimes unknowingly make an effect into its own cause.

For example, one who studies natural science may be asked:

What is the cause of abundant rain in certain years?

He replies:

The abundance of clouds.

If asked:

What causes the abundance of clouds?

He replies:

The abundance of vapours rising from seas and marshes into the air.

If asked:

What causes the abundance of those rising vapours?

He may reply:

The abundance of tides and the pouring of rivers, valleys, and floodwaters into the seas.

If then asked:

What causes the abundance of waters, tides, and floods entering the seas?

He answers:

The abundance of rain.

According to this reasoning, the cause of abundant rain becomes abundant rain itself.

Therefore the demonstrator must distinguish the first, second, third, and fourth causes so that he is safe from objection, since clouds may be abundant while rain is little.

Every caused thing has four causes, as we explained in the Epistle on Causes and Effects.

Chapter 11 — On the Effect Not Existing Before Its Cause

The statement that the effect cannot exist before the cause is likewise evident among the first principles of intellect.

An effect does not precede its cause.

Yet cause and effect belong to the class of relatives and may appear together to sense, even though the cause precedes the effect intellectually. For this reason the distinction may sometimes become obscure.

For example, if one who studies astronomy is asked:

What causes the day to be longer in one region than another?

He may answer:

Because the Sun remains above the Earth there for a longer time.

If the statement is reversed, the difference between cause and effect may become obscured, because the two are correlated.

One must therefore distinguish that which is prior by nature and causation from that which merely accompanies it.

Likewise, what is constitutive of a thing must be distinguished from what follows after its constitution.

The existence of three angles in every triangle belongs primarily to its constitution, because this is among the forms constituting it as a triangle.

Whether those angles are acute, right, or obtuse in their various combinations belongs secondarily.

Thus only essential and substantial attributes—the forms constitutive of the thing—are to be employed in demonstrative syllogism, for through them the judgment sought emerges as a true conclusion.

Know, O brother, that essential substantial attributes are of three classes: **generic, specific, and individual**, as we explained in the Epistle on *Isagoge*.

Know with certainty that every generic attribute is necessarily true of all species contained beneath that genus.

Likewise every specific attribute is true of all individuals of that species.

These are the attributes that yield true conclusions; therefore use them in demonstration and judge through them.

As for individual attributes, it is not necessary that they be true of the entire species.

Nor is every specific attribute necessarily true of an entire higher genus.

Therefore do not use such attributes as necessary premises in demonstration and do not pronounce necessary judgments by means of them, for they do not yield certainty of this kind.

You have thus learned that the sages and philosophers established demonstrative syllogism so that through it they might know those things which cannot be known except through reasoning: things which cannot be known through sense or immediately through the first principles of intellect, but only by the path of inference called **demonstration**.

Chapter 12 — On the Two Kinds of the Art of Demonstration

Know, O brother, that every art has practitioners, and the practitioners of every art possess principles in their craft upon which they agree, and beginnings in their sciences about which they do not differ.

For the first principles of every art are taken from another art preceding it in order.

Know that the first principles of the art of demonstration are taken from what belongs to the beginnings of intellect, while the beginnings of intellect themselves take their first material from the senses, as we have explained.

The art of demonstration is of two kinds: **geometrical** and **logical**.

The first principles of geometry are taken from a science preceding it, as in Euclid's statements:

A point is that which has no part.

A line is length without breadth.

A surface is that which has length and breadth.

And similar postulates stated at the beginnings of the books.

Likewise, the principles of logical demonstrations are taken from a discipline preceding them, and learners must grant these principles before demonstration.

Among them is the logician's statement that every existent thing other than the Creator—glorious is His majesty—is either **substance or accident**.

And that substance is what subsists by itself and receives contraries.

And that accident is that which exists in another thing, not as a part of it, and may cease while that thing does not cease.

And that substance may be simple, such as matter and form, or composite, such as body.

And that every substance is either an active cause or a passive effect.

And that every active cause is nobler than its passive effect.

And that there is no intermediary between affirmation and negation, nor a rank between nonexistence and existence.

And that an accident has no action of its own.

These and similar premises are accepted by learners before demonstrations are undertaken.

Whoever wishes to examine logical demonstrations should first have trained himself in geometrical demonstrations and acquired some portion of them.

They are nearer to the understanding of learners and easier for investigators, because their examples are sensible and visible to the eye, even though their meanings are heard and intellectually understood.

Sensible things are nearer to the understanding of beginners.

Know that demonstrations, whether geometrical or logical, consist only of true conclusions.

A single conclusion requires two true premises, or more than two, however many may be necessary.

In Euclid, for example, the demonstration that the three angles of every triangle are equal to two right angles comes only after many preceding propositions.

Likewise, the demonstration that the square on the hypotenuse of a right triangle equals the two squares on the remaining sides comes only after the propositions preceding it. This figure is called the **Bride**.

Logical demonstrations proceed in the same fashion.

Sometimes two premises are sufficient, and sometimes several are required.

For example, three premises suffice for demonstrating the existence of the soul together with the body:

Every body possesses directions.

This is a true universal affirmative premise belonging to the first principles of intellect.

A body cannot move toward all its directions simultaneously.

This is a true universal negative premise belonging to the first principles of intellect.

Every body that moves toward one direction rather than another does so because of some cause that moves it.

This is a true universal premise belonging to the first principles of intellect.

From these premises the existence of the soul is inferred.

To demonstrate further that the soul is a **substance rather than an accident**, another premise must be added.

Every cause that moves a body is either such that its movement proceeds constantly in one direction, like the movement of what is heavy downward and what is light upward—this is called a **natural cause**—or it moves toward different directions and in different ways through will and choice, like the movement of an animal—this is called a **psychic cause**.

This is an intelligible division apprehended through sense.

Every cause that moves a body through will and choice is a substance.

Therefore the soul is a substance, because an accident has no action.

These premises are accepted among the first principles of intellect, and from them it follows that the soul is a substance.

Chapter 13 — Demonstration That There Is No Void in the World

The meaning of **void** is an empty place in which nothing is situated.

No place in the world can be conceived that is neither illuminated nor dark. This is a true universal negative premise belonging to the first principles of intellect.

Another premise:

Light and darkness must either both be substances, or both accidents, or one a substance and the other an accident. These are sound rational divisions.

Another premise:

If both are substances, there is therefore no void.

If both are accidents, an accident cannot subsist except in a substance, and therefore there is no void.

And if one is substance and the other accident, the judgment is likewise the same.

Chapter 14 — Demonstration That Beyond the World There Is Neither Void nor Plenum

Know, O brother, that void and plenum are attributes of place, and place is an attribute of bodies.

If beyond the celestial sphere there were another body, then when we say **the world**, we would mean that body together with the sphere.

How, then, could there be another thing outside the world?

Chapter 15 — On the Meaning of the Sages' Question: Is the World Eternal or Created?

If by “eternal” it is meant that a long period of time has passed over the world, then the statement is correct.

But if it is meant that the world has always remained fixed in the very state in which it now exists, then this is not so.

The world does not remain in one identical state even for the blink of an eye, much less has it eternally remained as it now is.

For when the sages use the word **world**, they mean the world of bodies, which is of two kinds: celestial and natural.

The natural bodies beneath the sphere of the Moon are of two kinds: the universal elements and the particular generated beings.

Generated beings are perpetually undergoing generation and corruption.

The universal elements are perpetually undergoing change and transformation. This is evident to those who examine natural things.

The celestial bodies likewise remain perpetually in movement, transition, and alteration of relative positions.

Where, then, is their permanence in one single state?

If by permanence is meant the continued preservation of the spherical form and shape which the heavens possess at all times, then know that spherical shape and circular motion do not belong to body simply insofar as it is body, nor are they forms constituting its essence.

Rather, they are completing forms imposed by the intention of an intending agent, as we explained in the Epistle on Matter and Form.

Every form imposed through the intention of an intending agent cannot be an independently fixed, eternally existing essence.

A thing possesses permanence and eternal existence only through its constitutive form.

Know, O brother, that what preserves the world in this form is the swiftness of the motion of the encompassing sphere.

The mover of the sphere is other than the sphere itself.

If the sphere were brought to rest from movement, the world would be abolished, and this would occur in the blink of an eye, as God—mighty and majestic—said:

“The matter of the Hour is only as the twinkling of an eye, or nearer.”

Know that if the sphere ceased to rotate, the stars would cease their courses and the zodiacal signs their risings and settings.

Then the form and structure of the world would cease, and the Great Resurrection would arise.

This will inevitably occur, because every thing that lies within possibility, if infinite time is assumed for it, must eventually pass into actuality.

The cessation of the celestial sphere's rotation is possible, because He who moves it is also able to bring it to rest; and that is easier for Him—to Him belongs the highest similitude.

We have explained in the Epistle on the Principles the cause of the origination of the bodily world, and in the Epistle on Resurrection and the Rising the cause of the passing away of the bodily world.

Chapter 16 — On How a Human Being, When He Ascends in Soul, Becomes an Angel

Know, O brother, that if a human being proceeds in the path of his soul and directs its states in a manner analogous to the stages through which he was led in the creation of his body and the formation of his bodily shape, he will reach the utmost degree of humanity adjoining the rank of the angels.

He will draw near to his Creator—mighty and majestic—and will be rewarded with the finest reward, beyond the reach of description, as God—mighty and majestic—said:

“No soul knows what delight of the eyes has been hidden for them as a reward for what they used to do.”

As for the stages through which he was led in his bodily creation: he began as a drop from a despised fluid, then became a clinging clot fixed in a secure resting place, then a lump of flesh, then a fully formed embryo, then a moving and sensing infant, then an intelligent and understanding child, then an active, strong, energetic youth, then an experienced, knowledgeable, discerning mature man, then a wise elder, philosopher, and godly man.

After death his soul becomes a heavenly spiritual angel, everlasting in existence, enjoying delight, happiness, joy, and perpetual abiding.

Know, O brother, that you have never passed from one of these ranks to another without shedding deficient accidents and qualities and being clothed with others better and nobler than them.

Likewise, whenever you rise through a degree of science and knowledge, you should cast away from your soul character traits, habits, opinions, doctrines, and actions that you had adopted since childhood without insight or reflection.

Then you may become capable of parting from the human form and being clothed in the angelic form, ascending to the kingdom of the heavens and the vastness of the celestial spheres.

There you will receive the finest recompense and most abundant reward and live the most delightful life with those of your kind who preceded you there—the sages, the virtuous, the faithful, and the righteous—together with those upon whom God has bestowed favour among the prophets, the truthful, the martyrs, and the righteous. How excellent are they as companions.

Know, O brother, that man is naturally disposed from childhood to employ analogy and syllogism just as he is naturally disposed to use his senses without deliberate thought.

But the rules by which people reason differ, as has been explained at length in the books of logic and the conditions of disputation.

We shall mention a portion of them as an example of the rest.

Children make the conditions of themselves, their fathers, their brothers, their activities, and whatever they find in their homes into principles by which they judge the conditions of other children, their fathers' actions, and what exists in their homes, even when they have neither seen them nor observed their circumstances.

Mature rational people make what they have learned from their own dealings and what they have experienced into principles through which they judge other things they have neither witnessed nor experienced.

Scholars who engage in dialectic and subtle investigation make whatever they and their opponents agree upon into principles and premises by which they judge what they dispute about, regardless of whether the agreed matter is true or false, correct or mistaken.

Those trained in geometrical or logical demonstrations, however, make those things belonging to the first principles of intellect into the principles and premises of their reasoning.

From their conclusions they derive other objects of knowledge that are neither sensible nor known immediately in the first principles of intellect, but are acquired by necessary demonstrations.

They then make these acquired objects of knowledge into further premises and syllogisms and derive from them still other objects of knowledge subtler and more delicate than those before.

They continue in this way throughout their lives.

Even if a human being lived for the entire duration of the world, there would still remain room for further knowledge.

Chapter 17 — On How Animals Differ in Their Senses and Objects of Knowledge

Know, O brother, that among animals some possess one sense, some two senses, some three, some four, and some five, as we have explained in the Epistle on Animals.

Know, O brother, that the more senses an animal possesses, the greater the number of sensible things available to it.

The human being possesses all five senses in their completeness.

Yet among humans, whoever reflects more upon sensible things and examines their conditions more carefully possesses a greater number of those objects of knowledge that belong to the beginnings of intellect.

Whoever then makes these primary objects of knowledge into premises and syllogisms and derives their conclusions will possess still more demonstrative knowledge.

And whoever possesses more true knowledge resembles the angels more closely and draws nearer to his Lord.

Chapter 18 — On Demonstrative Knowledge and Spiritual Things

Know, O brother, that when the intelligent and discerning human being frequently contemplates sensible things, considers their states through thought, and distinguishes them through reflection, rational knowledge becomes abundant within his soul.

When he employs these objects of knowledge in syllogisms and derives their conclusions, demonstrative knowledge becomes abundant within him.

The more demonstrative knowledge a soul possesses, the greater its power to conceive spiritual matters—forms abstracted from matter.

It thereby comes to resemble them and becomes like them potentially.

When it separates from the body at death, it becomes like them actually and subsists through itself.

It escapes from the Hell of the world of generation and corruption and attains entrance into the Paradise of the world of spirits, which is the true abode of life—if only the people of this world knew.

Those who desire the life of this world and long for immortality within it are like those of whom it was said:

“Each one of them wishes that he might be given a life of a thousand years, yet being given long life would not remove him from the punishment.”

I seek refuge for you, O brother, from being among them.

Rather, be among the children of the Hereafter and the friends of God, whom He praised when rebuking those who falsely claimed to be among them:

“Say: O you who are Jews, if you claim that you are the friends of God to the exclusion of other people, then wish for death, if you are truthful.”

Hasten, O brother, and strive to seek divine knowledge and acquire angelic character traits.

Race toward good deeds and purified works before the passing of life and the approach of your appointed term.

Seize five things before five.

The Messenger of God—may God bless him and grant him peace—said:

Take advantage of your free time before your occupation, your wealth before your poverty, your health before your illness, your youth before your old age, and your life before your death.

And take provision, for the best provision is God-consciousness.

Perhaps you may be granted success in ascending to the kingdom of heaven and the vastness of the celestial spheres, and entering Paradise—the world of spirits—with your pure spiritual soul, not with your bodily corporeal frame.

May God grant you, O brother, success in what is right, and guide us and you to the straight path, together with all our brethren wherever they may be throughout the lands.

Indeed, He is compassionate toward His servants.

The Epistle is completed with the help of God, exalted and sublime. Praise belongs to God alone. May God bless His Messenger, our master Muhammad, and his family, and grant them peace.

With this is completed the First Section, on the Mathematical Sciences, of the Book of the Brethren of Purity and Loyal Friends.

There follows the Second Section, on the Bodily Natural Sciences, beginning with the Epistle on Matter and Form.