

Alberti - 'On Painting'

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Alberti, Leon Battista. *On Painting*. [First appeared 1435-36] Translated with Introduction and Notes by John R. Spencer. New Haven: Yale University Press. 1970 [First printed 1956].

Introduction

Leon Battista Alberti's *Della pittura* is the first modern treatise on the theory of painting. Although it appeared at a moment-1435-36-when the old and the new order in art were still existing side by side in Florence, it broke with the Middle Ages and pointed the way to the modern era. While Cennino Cennini's almost contemporary *Libro dell' arte* summed up preceding medieval practice, *Della pittura* prepared the way for the art, the artist, and the patron of the Renaissance. As a result the art of painting was given a new direction which made a return to the Middle Ages all but impossible. The practice of painting both within and outside Florence fell rapidly under the influence of concepts advanced in the treatise. Alberti's own Italian translation from his Latin original probably entered the shops as something of an 'inspirational handbook' and became so popular that it was read out of existence. By the sixteenth century the Italian version was unknown, [1] while today there are only two extant Italian manuscripts compared to six in Latin. Although the art Alberti advocates is based on training acquired under a master and apprentice system, it gives the artist and his art the means of breaking away from such a system to attain the individualism familiar since the High Renaissance. In this respect *Della pittura* is intimately bound up with the moment which produced it, a period of [p. 11] transition in Florentine art when the new was slowly making its way against the old. Alberti's overstatements and his sharp criticism of former practice reflect the tensions of his time, yet he never loses his assurance of final victory or his optimism for the future.

As art theory *Della pittura* became one of the chief sources for later treatises on the art of painting. In the fifteenth century Filarete, Piero della Francesca and Leonardo drew from it many of the concepts which appear in their writing.

From the editio princeps published in Basle in 1540 to the present time the work has gone through more translations and re-editions than Alberti's *De re aedificatoria* and only slightly fewer than his more generally popular *Della famiglia*. At each appearance of the text it has been taken up by art theorists of the moment and woven into their own concepts of the art of painting. The Basle edition in Latin was followed in 1547 by Lodovico Domenichi's Italian translation published in Venice. Vasari's emphasis on theory in the prefaces of his *Lives* reflects this reawakened interest in the treatise. The DuFresne translation of 1651 in Paris became the basis for much of Félibien's *Entretiens* in which Alberti is evoked as an 'authority' for French academic practice. *Della pittura* was not made generally available in England until Leoni brought out four English translations between 1726 and 1755; their effect on Hogarth, Reynolds and the Royal Academy is quite clear.

Perhaps the academies were too strongly attracted to Alberti's treatise. Certainly their interpretation of it has damaged its current reputation. Academic painters from the late sixteenth through the eighteenth centuries were searching for a rational art which allowed no place for fantasy. In such an art the solid virtues of diligence and application advocated by Alberti take on greater importance than the bravura of genius. The academics saw in *Della pittura* the means to fill their needs. In their hands Alberti's suggestions become rigid rules; his concepts of reason, verisimilitude, and dignity are exaggerated out of proportion. Unfortunately, many critics still regard *Della pittura* as the source of seventeenth- and eighteenth-century academic practice. Alberti's suggestions of drawing from sculpture do not necessarily refer to plaster casts of the antique, nor can his concept of *istoria* be limited strictly to narrative or historical painting. *Della pittura* must first be considered as a document of and for the art of fifteenth-century Florence, without the accretions of succeeding centuries.

The surprise which Alberti expresses in his Italian dedication at seeing the new Florence on his return 'from the long exile in which we Alberti have grown old into this our city adorned above all others' [2] is only partly literary. Although he may have briefly visited Florence late in 1428 when the ban against the Alberti was partially raised, this statement is the first indication of his return to the city of his forbears. Beginning in 1387 with the exile of Leon Batista's grandfather, Benedetto, the head of the Alberti family, the Albizzi faction had succeeded by 1412 in expelling all but one Alberti from Florence. Leon Battista's father, Lorenzo, was banished from the city in 1401. Like other members of the family he transferred his activities to a city with an important branch of the Alberti banks. In Genoa a noble Bolognese widow bore him two sons, Carlo in 1403 and Battista in 1404. Lorenzo's childless mar-

riage in 1408 to a Florentine woman has caused confusion as to the place and date of Alberti's birth until the recent discovery of a document which identifies his mother and the year of his birth. [3] By 1410 Lorenzo Alberti was established in Venice and Padua, and the young Battista was probably entered in the school of the humanist Gasparino Barzizza at Padua. In 1421 he had already enrolled in canon and civil law at the University of Bologna. Perhaps by 1424-5 new interests led him to the study of philosophy and the natural sciences. Although the decade preceding Alberti's appointment as abbreviatore apostolico in 1431 is probably the least documented [p. 13] period in his life, the nature of these formative years can be deduced from his writings. The increasing frequency of references to Greek and Roman authors, together with essays and a play based on Roman models, indicate his rapid assimilation of the newly discovered literature of antiquity. It is characteristic of Alberti that he was not merely a receptacle for knowledge. As his mind opened under the influence of the literature of the past, he felt a need to incorporate his own thinking with that of the ancients in the form of essays and letters. Alberti was apparently not so stimulated by his travels as he was by study and writing. References to the lime used in mortar in France and Bruges [4] are the only indications that he may have accompanied Cardinal Nicholas Alberghati on the peace mission of 1431 that attempted to end the Hundred Years War. By 1434 Alberti's literary and philosophical knowledge probably compared well with that of any young humanist. His artistic knowledge may have been limited to a reasonable understanding of the art of northern Italy, an acquaintance with the art of France and the Low Countries, and a lively interest in Roman antiquity aroused by his attachment to the Curia in Rome from 1431. With such a background Alberti could not fail to be astounded on entering Florence with the suite of Pope Eugene IV in 1434. Brunelleschi was just closing the dome of the Cathedral, while the Sagrestia Vecchia of S. Lorenzo was finished and the nave of the church probably was well under construction. Donatello had completed much of his sculpture for the facade of the cathedral and the niches of Or San Michele and had begun work on his Cantoria. Ghiberti's first doors for the Baptistery were already in place and the second doors were in progress. Both Masaccio and Nanni di Banco were dead but their works were still fresh and new in Florence. Alberti had stepped into an artistic revolution. Its powerful and instantaneous impact is felt throughout *Della pittura* and lingers on in the much later *De re aedificatoria*. [5] Alberti's enthusiasm and his optimism for the accomplishments [p. 14] of the new age continued throughout his life. His energies were rarely directed towards uncovering new knowledge for a restricted group of fellow humanists, but rather towards making the knowledge acquired by the humanists available to a wider audience. In the ameliorative sense of the word, he

was a popularizer. *Della pittura* partakes of this tendency in Alberti's work. His aim in this treatise is one of making the new humanist art of Florence understandable and desirable for a larger group of artists and patrons. Like many of his other works, *Della pittura* is not based solely on citations drawn from antique texts. Greek and Roman authors are used to give variety to the subject matter and to establish precedents for the suggestions advanced. The real basis for all of Alberti's writings lies in practice. *Della pittura* is built on the means, the aims and the results of the art of Brunelleschi, Donatello and Masaccio. At the same time Alberti was not wholly ignorant of the actual problems confronting the artist. Although we would perhaps call him a dilettante today, there is evidence that he painted, made drawings, sculpture and perhaps engravings. [6] His well-known treatise on architecture, *De re aedificatoria*, is partly based on Vitruvius and other antique texts and partly on his own experience in building. Alberti's architecture need not be discussed here, yet his approach to theory and practice is as typical in the treatise on architecture as it is in any of his other works on the arts. The same approach characterized his writings in other fields. Although he died a celibate, he felt qualified by his knowledge of literary sources and by his participation in the closely knit gens to write a treatise on the governing of the family. This interest in a wide variety of subjects—from painting to the duties of a pontiff—and his competence in handling them support Burckhardt's characterization of Alberti as the first universal genius. [7]

Although Alberti was certainly not the only man in Florence capable of writing a treatise on the new art of painting, he was [p. 15] probably better equipped for the task than any other humanist of the time. He had the interest in art which many of his literary friends lacked, and a control of words which no artist of that moment could equal. The literary and philosophical baggage he brought to his task was essential for giving utterance to the principles governing this new art and for convincing both patrons and painter that it was an art worth adopting.

Alberti's academic training was not particularly unusual among humanists. At Barzizza's school he was introduced to a body of learning based on the medieval curriculum and on newly discovered antique manuscripts. At the University of Bologna he heightened his critical and synthetic faculties. In *Della pittura* he is well prepared to argue the case for the new art with a crisp Ciceronian logic, illustrated with citations from ancient authors and demonstrated with mathematical proofs. Yet these are only the means employed in the composition of the first modern treatise on the theory of painting; the philosophic bases on which Alberti's thesis rests are no less important.

It would be an exaggeration to dignify Alberti with the title of philosopher; certainly he had no system. Although he probably drifted towards the systemized thought of the Florentine Neo-platonic academy, his relation to this group has been greatly exaggerated by Cristoforo Landino. At the time of the composition of *Della pittura* it is difficult to assign Alberti's thought to any philosophic niche. The influence of the anti-Aristotelian atmosphere at the University of Padua undoubtedly extended to Barzizza's school, where the young Alberti would have acquired a negative view towards Aristotle and the Christianized Aristotle of St. Thomas. The Nominalism of William of Ockham had spread into Italy and was so well established that Nicholas of Cusa, educated in the Ockhamite houses of the Rhine valley, could find a congenial atmosphere at the University of Padua. *Della pittura* certainly reflects the Nominalist approach to knowledge and its acquisition. At the [p. 16] same time the influence of Cicero extends beyond the rhetoric and organization of the treatise. It seems quite probable that Alberti's thought at the time of the composition of *Della pittura*—as well as the contemporary *Della famiglia* and *Della tranquillità dell' animo*—could be characterized as a Christianized Ciceronian stoicism. From Cicero he drew a method of analysis and synthesis, with man and his rational processes at its centre. The logic of Ciceronian rhetoric is applied to nature and to art with results that lead Alberti to a buoyant optimism reflected in almost every page of *Della pittura*.

Alberti's thought in this treatise and his other writings of the same period can be briefly summarized. Knowledge comes first from sensory perceptions. These perceptions are compared with each other and related to man in order to derive general conclusions. The conclusions are tested and made applicable by means of mathematics. Alberti is completely self-assured and confident of his method. In his own examination of knowledge, man becomes the point of departure and the centre of the investigation. Because man's knowledge is based on sensory data Alberti is concerned with visual appearances. Hence his preoccupation with the extreme limits of things, with the concept of *orlo* or outline, and with the *superficie* or plane defined as the 'certain external part of a body which is known not by its depth but only by its length and breadth and by its quality.' [8] Solid bodies are frequently referred to as having a skin. [9] It is for this reason that Alberti is concerned with the play of light and shade across the surface of an object, for thus the object is known.

Once the sensory observations are made conclusions must be drawn. In Alberti's epistemology this would be done on a comparative basis, for 'comparison contains within itself a power which immediately demonstrates in objects which is more, less or equal'. [10] *De statua* includes a canon of proportions arrived at by this very means. In the same way all Alberti's findings are ulti-

mately related to man, who is the standard by which we know. 'Perhaps Protagoras, by saying that man is [p. 17] the mode and measure of all things, meant that all the accidents of things are known through comparison to the accidents of man.' [11] This is not a system based on a priori absolutes; it is rather a flexible knowledge which depends upon the point of view.

Although the treatise may appear at first glance to rest on rather unstable grounds, Alberti reassures the reader and buttresses his theory with the logic of mathematics. For Alberti and many of his contemporaries Nature, defined as all that outside the individual and of which he is also a part, is homogenous and amorphous. If Nature is homogenous, the whole is knowable from its observable part. Since man, nature, and mathematics are all parts of the same whole, man has only to use mathematics to understand and to control nature. This is nowhere more clearly evidenced than in Alberti's perspective construction. Here mathematics, although based first on the relative and unknowable man, is used to construct and to control the space which man is to inhabit both as actor and observer.

The essence of Alberti's aesthetics, as well as its relations to his thought, can perhaps be best apprehended through an investigation of three topics basic in the treatise; his approach to visible reality, *la più grassa Minerva*, his use of the mathematical sciences as a means of controlling this reality, *matematica*, and the means and aim of humanist painting, *istoria*.

La più grassa Minerva

The application of Alberti's epistemology to observable reality and to painting becomes his striking term: *la più grassa Minerva*. As a term it contains two levels of meaning. The first, derived from Cicero, refers to a more popular sort of knowledge or the propagandizing nature of the treatise. [12] Considered out of context the term is practically meaningless, except on the level of Cicero, but the whole phrase, taken with what we already know of Alberti's thought, elucidates his completely new approach to the art of painting. He says mathematicians examine the form of things separated from matter, but 'since we wish the object to be seen, we will use a more sensate wisdom'. [13] His interest, then, is in form not separated from matter and in form as it is visible. This implies matter which, in turn, must be located in space and light to be visible. Ultimately all this will refer back to its basis in man by whom these things are known.

There can be no doubt that Alberti is deeply concerned with vision and visibility throughout *Della pittura*. He states clearly the aim of his investigation: 'No one would deny that the painter has nothing to do with things that are not visible. The painter is concerned solely with representing what can be seen.' [14] He defines the point as a figure which cannot be divided into parts; a fig-

ure is anything located on a surface so the eye can see it. [15] This definition puts the emphasis on vision while denying the strictly mathematical definition which he retains later in the *Elementi di pittura*. 'They say a point is that which cannot be divided into parts.' [16] The *superficie*, in the same way, is considered primarily as a visible quantity without reference to the matter which lies beneath it. The whole perspective construction is based on monocular vision and is approached by an analysis of vision in which Alberti examines the way bodies seem to change their appearance. Light, though not visible itself, is essential to the whole problem, for the philosophers say that nothing can be seen which is not illuminated and coloured.' [17]

A concern with this matter which natural light makes visible pervades the whole of *Della pittura*, rather than the abstractions and geometry that have been called the ruling factors of Alberti's aesthetic. He has a feeling for the materials of the artist—the washes of the underpaint, the pigments of the painting, the gold and jewels of the frame—that could only have come from a man so interested in the problems posed by matter [p. 19] that he has investigated them personally. The value of the material is separated from the artistic value of the object; 'If figures were made by the hand of Phidias or Praxiteles from lead itself—the lowest of metals—they would be valued more highly than silver.' [18] Yet beyond the matter of his painting the painter must be concerned with the matter of the observable world which exists in space and light. He must find a means of controlling the matter of the macrocosm if he is to represent it in his microcosm.

A large portion of the treatise, especially in Books I and II, is devoted to an investigation of this problem. Early in the first book Alberti briefly shows the painter the method to use for his own personal analysis of observable light phenomena: 'We see green fronds lose their greenness little by little until they finally become pale. Similarly, it is not unusual to see a whitish vapour in the air around the horizon which fades out little by little [as one looks towards the zenith]. We see some roses which are quite purple, others are like the cheeks of young girls, others ivory.' [19] This is the first and empirical approach to matter in space and light, but the painter must represent that which he sees with a different matter and with simulated rather than real lights.

In Book I Alberti 'puts the art in the hand of the artist'. and shows him how to represent light and shade in the underpainting. When the local colour of the object is applied over the underpaint, it will appear to be seen under light with deeper colours in the shadows gradually fading out as they approach the highlights. This matter, however, exists in space, and for this reason Alberti presents the painter with his mathematical derived perspective construction to control and to locate matter in space. By using a reticulated net the painter

can locate objects in space and not their reference to each other in planar terms. These observations transferred to the perspective construction will relocate the objects in an apparent space. [p. 20]

Prologue

[1]

I used to marvel and at the same time to grieve that so many excellent and superior arts and sciences from our most vigorous antique past could now seem lacking and almost wholly lost. We know from [remaining] works and through references to them that they were once widespread. Painters, sculptors, architects, musicians, geometricians, rhetoricians, seers and similar noble and amazing intellects are very rarely found today and there are few to praise them. Thus I believed, as many said, that Nature, the mistress of things, had grown old and tired. She no longer produced either geniuses or giants which in her more youthful and more glorious days she had produced so marvelously and abundantly.

Since then, I have been brought back here [to Florence]--from the long exile [2] in which we Alberti have grown old—into this our city, adorned above all others. I have come to understand that in many men, but especially in you, Filippo, and in our close friend Donato the sculptor and in others like Nencio, Luca and Massaccio, [3] there is a genius for [accomplishing] every praiseworthy thing. For this they should not be slighted in favour of anyone famous in antiquity in these arts. Therefore, I believe the power of acquiring wide fame in any art or science [4] lies in our industry and diligence more than in the times or in the gifts of nature. It must be [p. 39] admitted that it was less difficult for the Ancients—because they had models to imitate and from which they could learn—to come to a knowledge of those supreme arts which today are most difficult for us. Our fame ought to be much greater, then, if we discover unheard-of and never-before-seen arts and sciences without teachers or without any model whatsoever. Who could ever be hard or envious enough to fail to praise Pippo the architect on seeing here such a large structure, rising above the skies, ample to cover with its shadow all the Tuscan people, and constructed without the aid of centering or great quantity of wood? [5] Since this work seems impossible of execution in our time, if I judge rightly, it was probably unknown and unthought of among the Ancients. But there will be other places, Filippo, to tell of your fame, of the virtues of our Donato, and of the others who are most pleasing to me by their deeds.

As you work from day to day, you persevere in discovering things through which your extraordinary genius acquires perpetual fame. If you find the lei-

sure, it would please me if you should look again at this my little work *On Painting* [6] which I set into Tuscan for your renown. You will see three books; the first, all mathematics, concerning the roots in nature which are the source of this delightful and most noble art. The second book puts the art in the hand of the artist, distinguishing its parts and demonstrating all. The third introduces the artist to the means and the end, the ability and the desire of acquiring perfect skill and knowledge in painting. May it please you, then, to read me with diligence. if anything here seems to you to need emending, correct me. There was never a writer so learned to whom erudite friends were not useful. I in particular desire to be co Alberti, Leon Battista. *On Painting*. [First appeared 1435-36] Translated with Introduction and Notes by John R. Spencer. New Haven: Yale University Press. 1970 [First printed 1956].

Book One

To make clear my exposition in writing this brief commentary on painting, I will take first from the mathematicians those things with which my subject is concerned. When they are understood, I will enlarge on the art of painting from its first principles in nature in so far as I am able.

In all this discussion, I beg you to consider me not as a mathematician but as a painter writing of these things. Mathematicians measure with their minds alone the forms of things separated from all matter. Since we wish the object to be seen, we will use a more sensate wisdom. [7] We will consider our aim accomplished if the reader can understand in any way this admittedly difficult subject—and, so far as I know, a subject never before treated. Therefore, I beg that my words be interpreted solely as those of a painter.

I say, first of all, we ought to know that a point is a figure which cannot be divided into parts. I call a figure here anything located on a plane so the eye can see it. No one would deny that the painter has nothing to do with things that are not visible. [8] The painter is concerned solely with representing what can be seen. These points, if they are joined one to the other in a row, will form a line. With us a line is a figure whose length can be divided but whose width is so fine that it cannot be split. Some lines are called straight, others curved. A straight line is drawn [p. 43] directly from one point to another as an extended point. The curved line is not straight from one point to another but rather looks like a drawn bow. [9] More lines, like threads woven together in a cloth, make a plane. [10] The plane is that certain external part of a body which is known not by its depth but only by its length and breadth and by its quality. Some qualities remain permanently on the plane in such a manner that they cannot be changed without altering the plane itself. Other qualities

are such that, due to visual effects, they seem to change to the observer even though the plane remains the same.

Permanent qualities are of two kinds. One is known by the outermost boundary [11] which encloses the plane and may be terminated by one or more lines. Some are circular, others are a curved and a straight line or several straight lines together. The circular is that which encloses a circle. A circle is that form of a plane which an entire line encircles like a garland. If a point is established in the middle, all lines from this point to the garland will be equal. This point in the middle is called the centre. A straight line which covers the point and cuts the circle into two parts is called the diameter among mathematicians, but I prefer to call it the centric line. Let us agree with the mathematicians who say that no line cuts equal angles on the circumference unless it is a straight line which covers the centre.

But let us return to the plane. It is clear that as the movement [12] of the outline is changed the plane changes both name and appearance so that it is now called a triangle, now a quadrangle and now a polygon. The outline is said to be changed if the lines are more or less lengthened or shortened, or better, if the angles are made more acute or more obtuse. It would be well to speak of angles here.

I call angles the certain extremity of a plane made of two lines which cut each other. There are three kinds of angles; right, obtuse, acute. A right angle is one of four made by two straight lines where one cuts the other in such a way that each [p. 44] of the angles is equal to the others. From this it is said that all right angles are equal. The obtuse angle is that which is greater than the right, and that which is lesser is called acute.

Again let us return to the plane. Let us agree that so long as the lines and the angles of the outline do not change, the plane will remain the same. We have then demonstrated a quality which is never separated from the plane.

We have now to treat of other qualities which rest like a skin [13] over all the surface of the plane. These are divided into three sorts. Some planes are flat, others are hollowed out, and others are swollen outward and are spherical. To these a fourth may be added which is composed of any two of the above. The flat plane is that which a straight ruler will touch in every part if drawn over it. The surface of the water is very similar to this. The spherical plane is similar to the exterior of a sphere. We say the sphere is a round body, continuous in every part; any part on the extremity of that body is equidistant from its centre. The hollowed plane is within and under the outermost extremities of the spherical plane as in the interior of an egg shell. The com-

pound plane is in one part flat and in another hollowed or spherical like those on the interior of reeds or on the exterior of columns. [14]

The outline and the surface, [15] then, give their names to the plane but there are two qualities by which the plane is not altered, [although it appears to be]. These take their variations from the changing of place and of light. Let us speak first of place, then of light, and investigate in what manner the qualities of the plane appear to change.

This has to do with the power of sight, for as soon as the observer changes his position these planes appear larger, of a different outline or of a different colour. All of [these qualities] are measured with sight. Let us investigate the reasons for this, beginning with the maxims of philosophers who affirm that the plane is measured by rays that serve the sight—called by them visual rays—which carry the form of the thing seen to the [p. 45] sense. [16] For these same rays extended between the eye and the plane seen come together very quickly by their own force and by a certain marvellous subtlety, penetrating the air and thin and clear objects they strike against something dense and opaque, where they strike with a point and adhere to the mark they make. Among the ancients there was no little dispute whether these rays come from the eye or the plane. This dispute is very difficult and is quite useless for us. It will not be considered. We can imagine those rays to be like the finest hairs of the head, or like a bundle, tightly bound within the eye where the sense of sight has its seat. The rays, gathered together within the eye, are like a stalk; the eye is like a bud which extends its shoots rapidly and in a straight line on the plane opposite. [17]

Among these rays there are differences in strength and function which must be recognized. Some of these rays strike the outline of the plane and measure its quantity. Since they touch the ultimate and extreme parts of the plane, we can call them the extreme or, if you prefer, extrinsic. Other rays which depart from the surface of the plane for the eye fill the pyramid—of which we shall speak more later—with the colours and brilliant lights with which the plane gleams; these are called median rays. Among these visual rays there is one which is called the centric. Where this one touches the plane, it makes equal the right angles all around it. It is called centric for the same reason as the aforementioned centric line. [18]

We have found three different sorts of rays: extreme, median and centric. Now let us investigate how each ray affects the sight. First we shall speak of the extreme, then of the median, finally of the centric.

With the extreme rays quantity is measured. All space on the plane that is between any two points on the outline is called quantity. The eye measures

these quantities with the visual rays as with a pair of compasses. In every plane there are as many quantities as there are spaces between point and point. Height from top to bottom, width from left to right, breadth from near to far and whatever other dimension or measure which is made [p. 46] by sight makes use of the extreme rays. For this reason it is said that vision makes a triangle. The base of [this triangle] is the quantity seen and the sides are those rays which are extended from the quantity to the eye. It is, therefore, very certain that no quantity can be seen without the triangle. The angles in this visual triangle are first, the two points of the quantity, the third, that which is opposite the base and located within the eye. [19] Nor is this the place to discuss whether vision, as it is called, resides at the juncture of the inner nerve or whether images are formed on the surface of the eye as on a living mirror. The function of the eyes in vision need not be considered in this place. It will be enough in this commentary to demonstrate briefly things that are essential.

Here is a rule: as the angle within the eye becomes more acute, so the quantity seen appears smaller. From this it is clear why a very distant quantity seems to be no larger than a point. Even though this is so, it is possible to find some quantities and planes of which the less is seen when they are closer and more when they are farther away. The proof of this is found in spherical bodies. Therefore, the quantities, through distance, appear either larger or smaller. Anyone who understands what has already been said will understand, I believe, that as the interval is changed the extrinsic rays become median and in the same manner the median extrinsic. He will understand also that where the median rays are made extrinsic that quantity will appear smaller. And the contrary: when the extreme rays are directed within the outline, as the outline is more distant, so much the quantity seen will seem greater. Here I usually give my friends a similar rule: as more rays are used in seeing, so the thing seen appears greater; and the fewer the rays, the smaller.

The extrinsic rays, thus encircling the plane—one touching the other—enclose all the plane like the willow wands of a basket-cage, and make, as is said, this visual pyramid. It is time for me to describe what this pyramid is and how it is constructed by these rays. I will describe it in my own way. [20] The pyramid is a figure of a body from whose base straight lines are [p. 47] drawn upward, terminating in a single point. The base of this pyramid is a plane which is seen. The sides of the pyramid are those rays which I have called extrinsic. The cuspid, that is the point of the pyramid, is located within the eye where the angle of the quantity is. Up to this point we have talked of the extrinsic rays of which this pyramid is constructed. It seems to me that we have demonstrated the varied effects of greater and lesser distances from the eye to the thing seen.

Median rays, that multitude in the pyramid [which lie] within the extrinsic rays, remain to be treated. These behave, in a manner of speaking, like the chameleon, an animal which takes to itself the colours of things near it. Since these rays carry both the colours and lights on the plane from where they touch it up to the eye, they should be found lighted and coloured in a definite way wherever they are broken. The proof of this is that through a great distance they become weakened. I think the reason may be that weighted down with light and colour they pass through the air, which, being humid with a certain heaviness, tires the laden rays. From this we can draw a rule: as the distance becomes greater, so the plane seen appears more hazy. The central ray now remains to be treated. The central ray is that single one which alone strikes the quantity directly, and about which every angle is equal. This ray, the most active and the strongest of all the rays, acts so that no quantity ever appears greater than when struck by it. We could say many things about this ray, but this will be enough—tightly encircled by the other rays, it is the last to abandon the thing seen, from which it merits the name, prince of rays.

I think I have clearly demonstrated that as the distance and the position of the central ray are changed the plane appears altered. Therefore, the distance and the position of the central ray are of greatest importance to the certainty of sight.

There is yet a third thing which makes the plane appear to change. This comes from the reception of light. You see that spherical and concave planes have one part dark and another [p. 48] bright when receiving light. Even though the distance and position of the centric line are the same, when the light is moved those parts which were first bright now become dark, and those bright which were dark. Where there are more lights, according to their number and strength, you see more spots of light and dark.

This reminds me to speak of both colour and light. It seems obvious to me that colours take their variations from light, because all colours put in the shade appear different from what they are in the light. Shade makes colour dark; light, where it strikes, makes colour bright. The philosophers say that nothing can be seen which is not illuminated and coloured. Therefore, they assert that there is a close relationship between light and colour in making each other visible. The importance of this is easily demonstrated for [21] when light is lacking colour is lacking and when light returns the colours return. Therefore, it seems to me that I should speak first of colours; then I shall investigate how they vary under light. [22] Let us omit the debate of philosophers where the original source of colours is investigated, for what help is it for a painter to know in what mixture of rare and dense, warm and dry, cold and moist colour exists? However, I do not despise those philosophers who thus dispute about

colours and establish the kinds of colours at seven. White and black [are] the two extremes of colour. Another [is established] between them. Then between each extreme and the middle they place a pair of colours as though undecided about the boundary, because one philosopher allegedly knows more about the extreme than the other. It is enough for the painter to know what the colours are and how to use them in painting. I do not wish to be contradicted by the experts, who, while they follow the philosophers, assert that there are only two colours in nature, white and black, and there are others created from mixtures of these two. As a painter I think thus about colours. From a mixture of colours almost infinite others are created. I speak here as a painter.

Through the mixing of colours infinite other colours are born, but there are only four true colours—as there are four [p. 49] elements—from which more and more other kinds of colours may be thus created. Red is the colour of fire, blue of the air, green of the water, and of the earth grey and ash. [23] Other colours, such as jasper and porphyry, are mixtures of these. Therefore, there are four genera of colours, and these make their species [24] according to the addition of dark or light, black or white. They are thus almost innumerable. We see green fronds lose their greenness little by little until they finally become pale. Similarly, it is not unusual to see a whitish vapour in the air around the horizon which fades out little by little [as one looks towards the zenith]. We see some roses which are quite purple, others are like the cheeks of young girls, [25] others ivory. In the same way the earth [en colour], according to white and black, makes its own species of colours.

Therefore, the mixing of white does not change the genus of colours but forms the species. Black contains a similar force in its mixing to make almost infinite species of colour. In shadows colours are altered. As the shadow deepens the colours empty out, and as the light increases the colours become more open and clear. For this reason the painter ought to be persuaded that white and black are not true colours but are alterations of other colours. The painter will find no thing with which to represent the brightest luster of light but white and in the same manner only black to indicate the shadows. I should like to add that one will never find black and white unless they are [mixed] with one of these four colours.

Here follow my remarks on light. Some lights are from the stars, as from the sun, from the moon and that other beautiful star Venus. [26] Other lights are from fires, but among these there are many differences. The light from the stars makes the shadow equal to the body, but fire makes it greater.

Shadow in which the rays of light are interrupted remains to be treated. The interrupted rays either return from whence they came or are directed else-

where. They are directed elsewhere, when, touching the surface of the water, they strike the rafters [p. 50] of a house. More can be said about this reflection which has to do with these miracles of painting which many of my friends have seen done by me recently in Rome. [27] It is enough [to say] here that these reflected rays carry with themselves the colour they find on the plane. You may have noticed that anyone who walks through a meadow in the sun appears greenish in the face.

Up to this point we have talked of planes and rays; we have said how a pyramid is made in vision; we have proved the importance of distance and position of the centric ray together with the reception of light. Now, since in a single glance not only one plane but several are seen, we will investigate in what way many conjoined [planes] are seen. Each plane contains in itself its pyramid of colours and lights. Since bodies are covered with planes, all the planes of a body seen at one glance will make a pyramid packed [28] with as many smaller pyramids as there are planes.

Some will say here of what use to the painter is such an investigation? I think every painter, if he wishes to be a great master, ought to understand clearly the similarities and the distinctions [29] of the planes, a thing known to very few. Should you ask some what they are doing when they cover a plane with colours, they will answer everything but what you ask. Therefore, I beg studious painters not to be embarrassed by what I say here. It is never wrong to learn something useful to know from anyone. They should know that they circumscribe the plane with their lines. When they fill the circumscribed places with colours, they should only seek to present the forms of things seen on this plane as if it were of transparent glass. Thus the visual pyramid could pass through it, placed at a definite distance with definite lights and a definite position of centre in space and in a definite place in respect to the observer. Each painter, endowed with his natural instinct, [30] demonstrates this when, in painting this plane, he places himself at a distance as if searching the point and angle of the pyramid from which point he understands the thing painted is best seen. [p. 51]

Where this is a single plane, either a wall or a panel on which the painter attempts to depict several planes comprised in the visual pyramid, it would be useful to cut through this pyramid in some definite place, so the painter would be able to express in painting similar outlines and colours with his lines. He who looks at a picture, done as I have described [above], will see a certain cross-section of a visual pyramid, artificially represented with lines and colours on a certain plane according to a given distance, centre and lights. Now, since we have said that the picture is a cross-section of the pyramid we ought to investigate what importance this cross-section has for us. Since we have

these knowns, we now have new principles with which to reason about the plane from which we have said the pyramid issues.

I say that some planes are thrown back on the earth and lie like pavements or the floors of buildings; others are equidistant to these. Some stand propped up on their sides like walls; other planes are collinear to these walls. Planes are equidistant when the distance between one and the other is equal in all its parts. Collinear planes are those which a straight line will touch equally in every part as in the faces of quadrangular pilasters placed in a row in a portico. [31] These things are to be added to our treatment of the plane, intrinsic and extrinsic and centric rays and the pyramid. Let us add the axiom of the mathematicians where it is proved that if a straight line cuts two sides of a triangle, and if this line which forms a triangle is parallel to a side of the first and greater triangle, certainly this lesser triangle will be proportional to the greater. So much say the mathematicians.

I shall speak in a broader manner to make my statements clearer. It is useful to know what the term proportional means. Proportional triangles are said to be those whose sides and angles contain a ratio to each other. If one side of a triangle is two times as long as its base and the other side three, every single triangle—whether larger or smaller, but having this same [p. 52] relationship to its base—will be proportional to this first, because the ratio which is in every part of the smaller triangle is also the same in the larger. Therefore, all triangles thus composed will be proportional to each other. [32] To understand this better we will use a simile. A small man is proportional to a larger one, because the same proportions between the palm and the foot, the foot and the other parts of the body were in Evander as in Hercules whom Aulus Gellius considered to be the largest of men. [33] There was no difference in the proportions of the bodies of Hercules and Antaeus the giant, for both contained the same ratio and arrangement of hand to forearm, forearm to head and thus through all the members. In the same way a measure is found by which a smaller triangle is equal to a greater—except in size. Here I must insist with the mathematicians, in so far as it pertains to us, that the intercision of any triangle, if it is parallel to the base makes a new triangle proportionate to the larger one. Things which are proportional to each other correspond in every part, but where they are different and the parts do not correspond they are certainly not proportional.

As I have said, the parts of the visual triangle are rays. These will be equal, as to number, in proportionate quantities and unequal in non-proportional, because one of the non-proportional quantities will occupy more or less rays. You see, then, how a lesser triangle can be proportional to a greater, and you have already learned that the visual pyramid is composed of triangles.

Now let us translate our thinking to the pyramid. We should be persuaded that no quantities equidistant to the cross-section can make any alteration in the picture, because they are similar to their proportionates in every equidistant intercision. From this it follows that when the quantity with which the outline is constructed is not changed, there will be no alteration of the same outline in the picture. It is now manifest that every cross-section of the visual pyramid which is equidistant to the plane [p. 53] of the thing seen will be proportional to that observed plane. [34]

We have talked about the plane proportional to the cross-section, that is, equidistant, to the painted plane; but since many planes are found to be non-equidistant, we ought to make a diligent investigation of these in order that our reasoning about the cross-section may be clear. It would be long, difficult and obscure in these cross-sections of triangles and pyramids to follow everything with the rule of mathematics, so let us rather continue speaking as painters. I shall treat most briefly of the non-equidistant quantities. When they are known, we will easily understand the non-equidistant planes.

Some non-equidistant quantities [35] are collinear to the visual rays, others are equidistant to the visual rays. Quantities collinear to the visual rays have no place in the cross-section, because they do not make a triangle nor do they occupy a number of rays. In quantities equidistant to the visual rays, as the angle which is greatest in the triangle is more obtuse at the base, so that quantity will occupy fewer rays and for this reason less space in the cross-section. We have said concerning this that the plane is covered with quantities, but it happens frequently that there are several quantities in a plane equidistant to the cross-section. Quantities so composed will certainly make no alteration in the picture. In such quantities which are truly non-equidistant the greater the angle at the base the greater alteration they will make.

Book Two

Because this [process of] learning may perhaps appear a fatiguing thing to young people, I ought to prove here that painting is not unworthy of consuming all our time and study.

Painting contains a divine force which not only makes absent men present, as friendship is said to do, [1] but moreover makes the dead seem almost alive. Even after many centuries they are recognized with great pleasure and with great admiration for the painter. Plutarch says that Cassander, one of the captains of Alexander, trembled through all his body because he saw a portrait of his King. [2] Agesilaos, the Lacedaemonian, never permitted anyone to paint him or to represent him in sculpture; his own form so displeased him that he avoided being known by those who would come after him. [3] Thus

the face of a man who is already dead certainly lives a long life through painting. Some think that painting shaped the gods who were adored by the nations. It certainly was their greatest gift to mortals, for painting is most useful to that piety [4] which joins us to the gods and keeps our souls full of religion. They say that Phidias made in Aulis a god Jove so beautiful that it considerably strengthened the religion then current. [5]

The extent to which painting contributes to the most honorable delights of the soul and to the dignified beauty of things can be clearly seen not only from other things but [p. 63] especially from this: you can conceive of almost nothing so precious which is not made far richer and much more beautiful by association with painting. Ivory, gems and similar expensive things become more precious when worked by the hand of the painter. Gold worked by the art of painting outweighs an equal amount of unworked gold. If figures were made by the hand of Phidias or Praxiteles from lead itself—the lowest of metals—they would be valued more highly than silver. The painter, Zeuxis, began to give away his things because, as he said, they could not be bought. [6] He did not think it possible to come to a just price which would be satisfactory to the painter, for in painting animals he set himself up almost as a god.

Therefore, painting contains within itself this virtue that any master painter who sees his works adored will feel himself considered another god. Who can doubt that painting is the master art or at least not a small ornament of things? The architect, if I am not mistaken, takes from the painter architraves, bases, capitals, columns, façades and other similar things. All the smiths, sculptors, shops and guilds are governed by the rules and art of the painter. It is scarcely possible to find any superior art which is not concerned with painting. [7] so that whatever beauty is found can be said to be born of painting. [8] Moreover, painting was given the highest honour by our ancestors. For, although almost all other artists were called craftsmen, the painter alone was not considered in that category. For this reason, I say among my friends that Narcissus who was changed into a flower, according to the poets, was the inventor of painting. Since painting is already the flower of every art, the story of Narcissus is most to the point. What else can you call painting but a similar embracing with art of what is presented on the surface of the water in the fountain?

Quintilian said that the ancient painters used to circumscribe shadows cast by the sun, and from this our art has grown. [9] There are those who say that a certain Philocles, an Egyptian, and a Cleantes were among the first inventors of this art. The Egyptians affirm that painting was in use among them a good [p. 64] 6000 years before it was carried into Greece. [10] They say that painting was brought to us from Greece after the victory of Marcellus over Sicily.

[11] But we are not interested in knowing who was the inventor of the art or the first painter, since we are not telling stories like Pliny. We are, however, building anew an art of painting about which nothing, as I see it, has been written in this age. They say the Euphranor of Isthmus wrote something about measure and about colours, that Antigonos and Xenocrates exchanged [12] something in their letters about painting, and that Apelles wrote to Pelleus about painting. Diogenes Laertius recounts that Demetrius made commentaries on painting. [13] Since all the other arts were recommended in letters by our great men, and since painting was not neglected by our Latin writers, I believe that our ancient Tuscan [ancestors] were already most expert masters in painting.

Trismegistus, an ancient writer, judged that painting and sculpture were born at the same time as religion, [14] for thus he answered Aesclepius: mankind portrays the gods in his own image from his memories of nature and his own origins. Who can here deny that in all things public and private, profane and religious, painting has taken all the most honourable parts to itself so that nothing has ever been so esteemed by mortals?

The incredible esteem in which painted panels have been held has been recorded. Aristides the Theban sold a single picture for one hundred talents. They say that Rhodes was not burned by King Demetrius for fear that a painting of Protogenes' should perish. [15] It could be said that the city of Rhodes was ransomed from the enemy by a single painting. Pliny [16] collected many other such things in which you can see that good painters have always been greatly honoured by all. The most noble citizens, philosophers and quite a few kings not only enjoyed painted things but also painted with their own hands. Lucius Manilius, Roman citizen, and Fabius, a most noble man, were painters. Turpilius, a Roman Knight, painted at Verona. Sitedius, praetor and proconsul, acquired renown as a [p. 65] painter. Pacuvius, tragic poet and nephew of the poet Ennius, painted Hercules in the Roman forum. Socrates, Plato, Metrodorus, Pyrrho were connoisseurs of painting. The emperors Nero, Valentinian, and Alexander Severus were most devoted to painting. It would be too long, however, to recount here how many princes and kings were pleased by painting. Nor does it seem necessary to me to recount all the throng of ancient painters. Their number is seen in the fact that 360 statues, part on horseback and part in chariots, were completed in four hundred days for Demetrius Phalerius, son of Phanostratus. [17] In a land in which there was such a great number of sculptors, can you believe that painters were lacking? I am certain that both these arts are related and nurtured by the same genius, painting with sculpture. But I always give higher rank to the genius of the painter because he works with more difficult things.

However, let us return to our work. Certainly the number of sculptors and painters was great in those times when princes and plebeians, learned and unlearned enjoyed painting, and when painted panels and portraits, considered the choicest booty from the provinces, were set up in the theatre. Finally L. Paulus Aemilius [18] and not a few other Roman citizens taught their sons painting along with the fine arts and the art of living piously and well. This excellent custom was frequently observed among the Greeks who, because they wished their sons to be well educated, taught them painting along with geometry and music. It was also an honour among women to know how to paint. Martia, daughter of Varro, is praised by the writers because she knew how to paint. Painting had such reputation and honour among the Greeks that laws and edicts were passed forbidding slaves to learn painting. It was certainly well that they did this, for the art of painting has always been most worthy of liberal minds and noble souls. [19]

As for me, I certainly consider a great appreciation of painting to be the best indication of a most perfect mind, even though it happens that this art is pleasing to the uneducated as [p. 66] well as to the educated. It occurs rarely in any other art that what delights the experienced also moves the inexperienced. In the same way you will find that many greatly desire to be well versed in painting. Nature herself seems to delight in painting, for in the cut faces of marble she often paints centaurs and faces of bearded and curly headed kings. It is said, moreover, that in a gem from Pyrrhus all nine Muses, each with her symbol, are to be found clearly painted by nature. [20] Add to this that in no other art does it happen that both the experienced and the inexperienced of every age apply themselves so voluntarily to the learning and exercising of it. Allow me to speak of myself here. Whenever I turn to painting for my recreation, which I frequently do when I am tired of more pressing affairs, I apply myself to it with so much pleasure that I am surprised that three or four hours have passed. [21] Thus this art gives pleasure and praise to whoever is skilled in it; riches and perpetual fame to one who is master of it. Since these things are so, since painting is the best and most ancient ornament of things, worthy of free men, pleasing to learned and unlearned, I greatly encourage our studious youth to exert themselves as much as possible in painting.

Therefore, I recommend that he who is devoted to painting should learn this art. The first great care of one who seeks to obtain eminence in painting is to acquire the fame and renown of the ancients. It is useful to remember that avarice is always the enemy of virtue. Rarely can anyone given to acquisition of wealth acquire renown. I have seen many in the first flower of learning suddenly sink to money-making. As a result they acquire neither riches nor

praise. However, if they had increased their talent with study, they would have easily soared into great renown. Then they would have acquired much riches and pleasure.

Enough has been said of this up to here. Let us return to our subject. Painting is divided into three parts; these divisions we have taken from nature. [p. 67]

Since painting strives to represent things seen, let us note in what way things are seen. First, in seeing a thing, we say it occupies a place. Here the painter, in describing this space, will say this, his guiding an outline with a line, is circumscription.

Then, looking at it again, we understand that several planes of the observed body belong together, and here the painter drawing them in their places will say that he is making a composition.

Finally, we determine more clearly the colours and qualities of the planes. Since every difference in them is born from light, we can properly call their representation the reception of light. [22]

Therefore, painting is composed of circumscription, composition and reception of light. In the following we shall treat of them most briefly.

First we will treat of circumscription. Circumscription describes the turning of the outline [23] in the painting. It is said that Parrhasius, the painter who talked with Socrates in Xenophon, was most expert in this and had examined these lines carefully. I say that in this circumscription one ought to take great pains to make these lines so fine that they can scarcely be seen. The painter Apelles used to practice this and to compete with Protogenes. [24] Because circumscription is nothing but the drawing of the outline, which when done with too apparent a line does not indicate a margin of the plane but a neat cleavage, [25] I should desire that only the movement of the outline be inscribed. To this, I insist, one must devote a great amount of practice. No composition and no reception of light can be praised where there is not also a good circumscription—that is, a good drawing—which is most pleasant in itself. Here is a good aid for whoever wishes to make use of it. Nothing can be found, so I think, which is more useful than that veil which among my friends I call an intersection. [26] It is a thin veil, finely woven, dyed whatever colour pleases you and with larger threads [marking out] as many parallels as you prefer. This veil I place between the eye and the thing seen, so the visual pyramid [p. 68] penetrates through the thinness of the veil. This veil can be of great use to you. Firstly, it always presents to you the same unchanged plane. Where you have placed certain limits, you quickly find the true cuspid of the pyramid. This would certainly be difficult without the intersection. You know how impossible it is to imitate a thing which does not continue to pre-

sent the same appearance, for it is easier to copy painting than sculpture. You know that as the distance and the position of the centre are changed, the thing you see seems greatly altered. Therefore the veil will be, as I said, very useful to you, since it is always the same thing in the process of seeing. Secondly, you will easily be able to constitute the limits of the outline and of the planes. [27] Here in this parallel you will see the forehead, in that the nose, in another the cheeks, in this lower one the chin and all outstanding features in their place. On panels or on walls, divided into similar parallels, you will be able to put everything in its place. Finally, the veil will greatly aid you in learning how to paint when you see in it round objects and objects in relief. By these things you will be able to test with experience and judgment how very useful our veil can be to you.

Nor will I hear what some may say, that the painter should not use these things, because even though they are great aids in painting well, [they] may perhaps be so made that he will soon be able to do nothing without them. [28] I do not believe that infinite pains should be demanded of the painter, but paintings which appear in good relief and a good likeness of the subject should be expected. This I do not believe can ever be done without the use of the veil. Therefore, let us use this intersection, that is the veil, as we have said. Then, when a painter wishes to try his skill without the veil, he should note first the limits of objects within the parallels of the veil. Or he may study them in another manner by imagining a line intersected by its perpendicular wherever these limits are located. But since the outlines of the planes are frequently unknown to the inexpert [p. 69] painter—doubtful and uncertain as in the faces of man where he does not discern the distance between the forehead and the temples—it would be well to teach him how he can come to understand them.

This is clearly demonstrated by nature. We see in flat planes that each one reveals itself by its lines, lights and shades. Again spherical concave planes are divided into many planes as if chequered with spots of light and shade. Therefore each part with its highlights, divided by those which are dark, would thus appear as many planes. However, if one continuous plane, beginning shadowy, becomes little by little lighter, then note the middle of it with a very fine line so that the method of colouring it will be less in doubt.

Circumscription, [29] which pertains not a little to composition, remains to be treated. For this it is well to know what composition is in painting. I say composition is that rule in painting by which the parts fit together [30] in the painted work. The greatest work of the painter is the *istoria*. Bodies are part of the *istoria*, members are parts of the bodies, planes are parts of the members. Circumscription is nothing more than a certain rule for designing [31] the out-

line of the planes, since some planes are small as in animals, others are large as those of buildings and colossi.

Concerning the small planes the precepts given up to here will be enough—precepts which we demonstrated when we learned how to use the veil. Perhaps we should find new rules for the larger planes. We must remember what has been said above in the instruction on planes, rays, the pyramid, the intersection, and on the parallels of the pavement, the centric point and line. On the pavement, drawn with its lines and parallels, walls and similar planes which we have called jacent are to be built. Here I will describe just briefly what I do. First I begin with the foundation. I place the width and the length of the wall in its parallels. In this laying out [32] I follow nature. I note that, in any squared body which has right angles, only two on joined sides can be seen at one time. I observe this in [p. 70] describing the foundations of the walls. I always commence first of all with the nearest plane, the greatest of those which are equidistant from the cross-section. These I put before the others, describing their width and height in those parallels of the pavement in such a way that for as many braccia as I choose they occupy as many parallels. To find the middle of each parallel, I find where the diameters mutually intersect. And thus, as I wish, I draw the foundations. Then the height follows by not at all difficult rules. I know the height of the wall contains in itself this proportion, that as much as it is from the place where it starts on the pavement to the centric line, so much it rises upwards. When you wish this quantity of the pavement up to the centric line to be the height of a man, there will, therefore, be these three braccia. Since you wish your wall to be twelve braccia, you go up three times the distance from the centric line to that place on the pavement. [33] With these rules we shall be able to draw all planes which have angles.

The way in which circles are drawn remains to be treated. Circles are drawn from angles. I do it in this manner. In a space I make a quadrangle with right angles, and I divide the sides of this quadrangle in the painting. From each point to its opposite point I draw lines and thus the space is divided into many small quadrangles. Here I draw a circle as large as I want it so the lines of the small quadrangles and the lines of the circle cut each other mutually. I note all the points of this cutting; these places I mark on the parallels of the pavement in my painting. It would be an extreme and almost never-ending labour to divide the circle in many places with new minor parallels and with a great number of points to complete the circle. For this reason, when I have noted eight or more intersections, I continue the circle in the painting with my mind, guiding the lines from point to point. [34] Would it perhaps be briefer to derive it

from a shadow? Certainly, if the body which made the shadow were in the middle, located by rule in its place. [p. 71]

We have considered in what way with the aid of the parallels the large angular and round planes are drawn. Since we have finished the circumscription, that is the way of drawing. [35] composition remains to be treated.

It would be well to repeat what composition is. Composition is that rule of painting by which the parts of the things seen fit together in the painting. The greatest work of the painter is not a colossus, but an istoria. Istoria gives greater renown to the intellect than any colossus. [36] Bodies are part of the istoria, members are parts of the bodies, planes part of the members. The primary parts of painting, therefore, are the planes. That grace in bodies which we call beauty is born from the composition of the planes. A face which has its planes here large and there small, here raised and there depressed—similar to the faces of old women—would be most ugly in appearance. Those faces which have the planes joined in such a way that they take shades and lights agreeable and pleasantly, and have no harshness of the relief angles, these we should certainly say are beautiful and delicate faces.

Therefore, in this composition of planes grace and beauty of things should be intensely sought for. It seems to me that there is no more certain and fitting way for one who wishes to pursue this than to take them from nature, keeping in mind in what way nature, marvellous artificer of things, has composed the planes in beautiful bodies. In imitating these it is well both to take great care and to think deeply about them and to make great use of our above-mentioned veil. When we wish to put into practice what we have learned from nature, we will always first note the limits to which we shall draw our lines.

Up to here we have talked of the composition of planes; members follow. First of all, take care that all the members are suitable. [37] They are suitable when size, function, [38] kind, [39] colour and other similar things correspond to a single beauty. If in a painting the head should be very large and the breasts small, the hand ample and the foot swollen, and the body puffed up, this composition would certainly be ugly to see. Therefore, we ought to have a certain rule for the size of the members. In this measuring it would be useful to isolate [40] each bone of the animal, on this add its muscles, then clothe all of it with its flesh. [41] Here someone will object that I have said above that the painter has only to do with things which are visible. He has a good memory. Before dressing a man we first draw him nude, then we enfold him in draperies. So in painting the nude we place first his bones and muscles which we then cover with flesh so that it is not difficult to understand where each muscle is beneath. Since nature has here carried the measurements to a mean, [42] there is not a little utility in recognizing them. Serious painters will

take this task on themselves from nature. They will put as much study and work into remembering what they take from nature as they do in discovering it. A thing to remember: to measure an animate body take one of its members by which the others can be measured. Vitruvius, the architect, measured the height of man by the feet. It seems a more worthy thing to me for the other members to have reference to the head, because I have noticed as common in all men that the foot is as long as from the chin to the crown of the head. Thus one member is taken which corresponds to all the other members in such a way that none of them is non-proportional [43] to the others in length and width.

Then provide that every member can fulfil its function in what it is doing. A runner is expected to throw his hands and feet, but I prefer a philosopher while he is talking to show much more modesty than skill in fencing. [44] The painter Demon represented hoplites in a contest so that you would say one was sweating while another, putting down his weapons, clearly seemed to be out of breath. Ulysses has been painted so that you could recognize his insanity was only feigned and not real. An istoria is praised in Rome in which Meleager, a dead man, weighs down those who carry him. In every one of his members he appears completely dead—everything hangs, hands, fingers and head; everything falls heavily. [45] [p. 73] Anyone who tries to express a dead body—which is certainly most difficult—will be a good painter, if he knows how to make each member of a body flaccid. [46] Thus, in every painting take care that each member performs its function so that none by the slightest articulation remains flaccid. The members of the dead should be dead to the very nails; of live persons every member should be alive in the smallest part. The body is said to live when it has certain voluntary movements. It is said to be dead when the members no longer are able to carry on the functions of life, that is, movement and feeling. Therefore the painter, wishing to express life in things, will make every part in motion—but in motion he will keep loveliness and grace. The most graceful movements and the most lively are those which move upwards into the air.

Again we say that in composition the members ought to have certain things in common. It would be absurd if the hands of Helen or of Ophigenia were old and gnarled, [47] or if Nestor's breast were youthful and his neck smooth; or Ganymede's forehead were wrinkled and his thighs those of a labourer; if Milo, a very strong man, were to have short and slender flanks; if a figure whose face is fresh and full should have muscular arms and fleshless hands. Anyone painting Achemenides, found by Aeneas on the island, with the face which Virgil describes [48] and the other members not following such consumptiveness, would be a painter to laugh at. For this reason, all the mem-

bers ought to conform to a certain appropriateness. I should also like the members to correspond to one colour, because it would be little becoming for one who has a rosy, white and pleasant face to have the breast and the other members ugly and dirty. Therefore, in the composition of members we ought to follow what I have said about size, function, kind and colour. Then everything has its dignity. It would not be suitable to dress Venus or Minerva in the rough wool cloak of a soldier; [49] it would be the same to dress Mars or Jove in the clothes of a woman. The antique painters took care in painting Castor [p. 74] and Pollux to make them appear brothers, but in the one a pugnacious nature appeared and in the other agility. They also took pains to show under the robe of Vulcan his handicap of hobbling [50] --so great was their diligence in expressing the function, kind and dignity of whatever they painted.

The fame of the painter and of his art is found in the following—the composition of bodies. Certain things said in the composition of members also apply here. Bodies ought to harmonize together in the *istoria* in both size and function. [51] It would be absurd for one who paints the Centaurs fighting after the banquet to leave a vase of wine still standing in such tumult. [We would call] it a weakness if in the same distance one person should appear larger than another, or if dogs should be equal to horses, or better, as I frequently see, if a man is placed in a building as in a closed casket where there is scarcely room to sit down. For these reasons, all bodies should harmonize in size and in function to what is happening in the *istoria*. [52]

The *istoria* which merits both praise and admiration will be so agreeably and pleasantly attractive that it will capture the eye of whatever learned or unlearned person is looking at it and will move his soul. That which first gives pleasure in the *istoria* comes from copiousness and variety of things. In food and in music novelty and abundance please, as they are different from the old and usual. So the soul is delighted by all copiousness and variety. For this reason copiousness and variety please in painting. [53] I say that *istoria* is most copious in which in their places are mixed old, young, maidens, women, youths, young boys, fowls, small dogs, birds, horses, sheep, buildings, landscapes and all similar things. I will praise any copiousness which belongs in that *istoria*. Frequently the copiousness of the painter begets much pleasure when the beholder stands staring at all the things there. However, I prefer this copiousness to be embellished with a certain variety, yet moderate and grave with dignity and truth. I blame those painters who, where they wish [p. 75] to appear copious, leave nothing vacant. It is not composition but dissolute confusion which they disseminate. There the *istoria* does not appear to aim to do something worthy but rather to be in tumult.

Perhaps solitude will be pleasing for one who greatly desires dignity in his iistoria . The majesty of princes is said to be contained in the paucity of words with which they make their wishes known. Thus in the istoria a certain suitable number of bodies gives not a little dignity. Solitude displeases me in istorie; nor can I praise any copiousness which is without dignity. [54] I dislike solitude in istorie, nevertheless I do not at all praise that copiousness which shrinks from dignity. I strongly approve in all istoria that which I see observed by tragic and comic poets. They tell a story with as few characters as possible. In my judgment no picture will be filled with so great a variety of things that nine or ten men are not able to act with dignity. I think pertinent to this the statement of Varro who admitted no more than nine guests to a banquet in order to avoid confusion.

Book Three

Since there are other useful things which will make a painter such that he can attain to perfect fame, we should not omit them in this commentary. We will treat of them most briefly. I say the function of the painter is this: to describe with lines and to tint with colour on whatever panel or wall is given him similar observed planes of any body so that at a certain distance and in a certain position from the centre they appear in relief, seem to have mass and to be life-like. The aim of painting: to give pleasure, good will and fame to the painter more than riches. If painters will follow this, their painting will hold the eyes and the soul of the observer. We have stated above how they could do this in the passages on composition and the reception of light. However, I would be delighted if the painter, in order to remember all these things well, should be a good man and learned in liberal arts. Everyone knows how much more the goodness of a man is worth than all his industry or art in acquiring the benevolence of the citizens. No one doubts that the good will of many is a great help to the artist in acquiring both fame and wealth. It often happens that the rich, moved more by amiability than by love of the arts, reward first one who is modest and good, leaving behind another [p. 89] painter perhaps better in art but not so good in his habits. Therefore the painter ought to acquire many good habits—principally humanity and affability. He will thus have a firm aid against poverty in good will, the greatest aid in learning his art well.

It would please me if the painter were as learned as possible in all the liberal arts, but first of all I desire that he know geometry. I am pleased by the maxims of Pamphilos, [1] the ancient and virtuous painter from whom the young nobles began to learn to paint. He thought that no painter could paint well who did not know much geometry. Our instruction in which all the perfect absolute art of painting is explained will be easily understood by a geometrician,

but one who is ignorant in geometry will not understand these or any other rules of painting. Therefore, I assert that it is necessary for the painter to learn geometry.

For their own enjoyment artists should associate with poets and orators who have many embellishments in common with painters and who have a broad knowledge of many things whose greatest praise consists in the invention. A beautiful invention has such force, as will be seen, that even without painting it is pleasing in itself alone. Invention is praised when one reads the description of Calumny which Lucian recounts was painted by Apelles. [2] I do not think it alien to our subject. I will narrate it here in order to point out to painters where they ought to be most aware and careful in their inventions. In this painting there was a man with very large ears. Near him, on either side, stood two women, one called Ignorance, the other Suspicion. Farther, on the other side, came Calumny, a woman who appeared most beautiful but seemed too rafty in the face. In her right hand she held a lighted torch, with the other hand she dragged by the hair a young man who held up his arms to heaven. There was also a man, pale, ugly, all filthy and with an iniquitous aspect, who could be compared to one who has [p. 90] become thin and feverish with long fatigues on the fields of battle; he was the guide of Calumny and was called Hatred. And there were two other women, serving women of Calumny who arranged her ornaments and robes. They were called Envy and Fraud. Behind these was Penitence, a woman dressed in funeral robes, who stood as if completely dejected. Behind her followed a young girl, shameful and modest, called Truth. If this story pleased as it was being told, think how much pleasure and delight there must have been in seeing it painted by the hand of Apelles.

I should like to see those three sisters to whom Hesiod gave the names of Algaia, Euphrosyne and Thalia, who were painted laughing and taking each other by the hand, with their clothes girdled and very clean. [3] This symbolizes liberality, since one of these sisters gives, the other receives, the third returns the benefit; these degrees ought to be in all perfect liberality. How much praise similar inventions give to the artist should be clear. Therefore I advise that each painter should make himself familiar with poets, rhetoricians and others equally well learned in letters. They will give new inventions or at least aid in beautifully composing the istoria through which the painter will surely acquire much praise and renown in his painting. Phidias, more famous than other painters, confessed that he had learned from Homer, the poet, how to paint Jove with much divine majesty. [4] Thus we who are more eager to learn than to acquire wealth will learn from our poets more and more things useful to painting.

However, it frequently happens that the studious and desirous of learning become tired where they do not know how to learn. Because of this, fatigue increases. For this reason we will speak of how one becomes learned in this art. Never doubt that the head and principle of this art, and thus every one of its degrees in becoming a master, ought to be taken from nature. Perfection in the art will be found with diligence, application and study. [p. 91]

I should like youths who first come to painting to do as those who are taught to write. We teach the latter by first separating all the forms of the letters which the ancients called elements. Then we teach the syllables, next we teach how to put together all the words. Our pupils ought to follow this rule in painting. First of all they should learn how to draw the outlines of the planes well. Here they would be exercised in the elements of painting. [5] They should learn how to join the planes together. Then they should learn each distinct form of each member and commit to memory whatever differences there may be in each member. The differences of the members are many and unclear. You will see some whose nose projects and is humped, others will have flaring simian nostrils, others pendant lips, still others the adornment of thin little lips. Thus the painter should examine every part of each member, since faces are more or less different. Again he should note that our youthful members, as can be seen, are round and delicate as if turned; in a more tried age they are harsh and angular. All these things the studious painter will know from nature, and he will consider most assiduously how each one appears. He will continually be wide awake with his eyes and mind in this investigation and work. He will remember the lap of a seated person; he will remember how graceful are the hanging legs of him who is seated; he will note in standing persons that there is no part of the body which does not know its function and its measure. It will please him not only to make all the parts true to his model but also to add beauty there; because in painting, loveliness is not less pleasing than richness. Demetrius, an antique painter, failed to obtain the ultimate praise because he was much more careful to make things similar to the natural than to the lovely. [6]

For this reason it is useful to take from every beautiful body each one of the praised parts and always strive by your diligence and study to understand and express much loveliness. This is very difficult, because complete beauties are never found in a [p. 92] single body, but are rare and dispersed in many bodies. Therefore we ought to give our every care to discovering and learning beauty. It is proverbial that he who gives himself up to learning and meditating difficult things will easily apprehend the simpler. [7] Nothing is ever so difficult that study and application cannot conquer it.

In order not to waste his study and care the painter should avoid the custom of some simpletons. Presumptuous of their own intellect and without any example from nature to follow with their eyes or minds, they study by themselves to acquire fame in painting. They do not learn how to paint well, but become accustomed to their own errors. This idea of beauty, [8] which the well trained barely discern, flees from the intellect of the inexpert.

In order to make a painting which the citizens placed in the temple of Lucina near Croton, Zeuxis, the most excellent most skilled painter of all, did not rely rashly on his own skills as every painter does today. He thought that he would not be able to find so much beauty as he was looking for in a single body, since it was not given to a single one by nature. He chose, therefore, the five most beautiful young girls from the youth of that land in order to draw from them whatever beauty is praised in a woman. [9] He was a wise painter. Frequently when there is no example from nature which they can follow, painters attempt to acquire by their own skill a reputation for beauty. Here it easily happens that the beauty which they search is never found even with much work. But they do acquire bad practices which, even when they wish, they will never be able to leave. [10] He who dares take everything he fashions from nature will make his hand so skilled that whatever he does will always appear to be drawn from nature.

The following demonstrates what the painter should seek out in nature. Where the face of some well known and worthy man is put in the istoria— even though there are other figures of a much more perfect art and more pleasing than this one-- [p. 93] that well known face will draw to itself first of all the eyes of one who looks at the istoria . So great is the force of anything drawn from nature. For this reason always take from nature that which you wish to paint, and always choose the most beautiful.

Take care not to do as many who learn to draw on small tablets. I prefer you to practise by drawing things large, as if equal in representation and reality. In small drawings every large weakness is easily hidden; in the large the smallest weakness is easily seen.

Galen, the doctor, writes that in his time he saw carved on a ring Phaethon drawn by four horses whose reins , breasts and feet were distinctly seen. Our painters leave this sort of fame to the sculptors of gems, for they are engaged in greater fields of praise. Anyone who knows how to paint a large figure well can easily form other small things with a single stroke. One who uses his hand and mind on these little coral necklaces and bracelets will easily err in larger things.

Some copy figures of other painters. Here they seek the praise given to Calamis, the sculptor who sculpted two cups, as is recorded, in which he copied things similarly done by Zenodorus so that no difference could be seen between them. [11] Our painters will certainly be in great error if they do not know that anyone painting—if he forces himself to represent things as he sees them in our veil—will paint things taken from nature sweetly and correctly. If perhaps you prefer to copy the works of others, because they have more patience with you than living things, it would please me more to [have you] copy a mediocre sculpture than an excellent painting. Nothing more can be acquired from paintings but the knowledge of how to imitate them; from sculpture you learn to imitate it and how to recognize and draw the lights. [12] It is very useful in evaluating the lights to squint or to close the sight with the eyelashes so that the lights are dimmed and seem painted in intersections. Perhaps it will be more useful to practise relief than drawing. [p. 94] If I am not mistaken, sculpture is more certain than painting. He who does not understand the relief of the thing he paints will rarely paint it well. It is easier to find relief in sculpting than in painting. To prove that this argument is to the point: in almost every age there are some mediocre sculptors, but inept or even ridiculous painters are even more common. [13]

When you practice, always have before you some elegant and singular example, which you imitate and observe. In imitating it I think you will need to have diligence joined with quickness. Never take the pencil or brush in hand if you have not first constituted with your mind all that you have to do and how you have to do it. It will certainly be better to correct the errors with the mind than to remove them from the painting. When you acquire the habit of doing nothing without first having ordered it, you will become a much faster painter than Aesclepiodoros, who, they say, was the most rapid of all ancient painters. [14] Your mind moved and warmed by exercise gives itself with greater promptness and dispatch to the work; and that hand will proceed most rapidly which is well guided by a certain rule of the mind. If anyone should find himself a lazy artist, he will be indolent for this reason: he will try slowly and fearfully those things which he has not first made well known and clear in his mind. While he turns around among these shadows of errors like a blind man with his stick, he will probe with his brush this way and that. Therefore, never—if not with a well learned, discerning mind—never will he put hand to work.

However, since the *istoria* is the greatest work of the painter, in which there ought to be copiousness and elegance in all things, we should take care to know how to paint not only a man but also horses, dogs and all other animals and things worthy of being seen. This is necessary for making our *istoria* very

copious, a thing which I have confessed to you is most important. None of the ancients agrees with my belief that one cannot be excellent in all things but only mediocre. I say, [p. 95] better, I affirm, that we ought to make every effort that those things which when acquired give praise and when neglected allow censure shall not be lacking because of our negligence. Nicias, the Athenian painter, carefully painted women; [15] Heraclides was praised for painting ships; Serapion was not able to paint men, everything else he painted well; Dionysios was unable to paint anything but men; Alexander, who painted the portico of Pompeius, above all painted animals well, dogs the best; Aurelius, who was always in love, only painted goddesses, drawing in their faces the faces of those he loved; Phidias in showing the majesty of the gods gave more care to following the beauty of men; Euphranor delighted in expressing the dignity of nobles and in this he surpassed all the others. [16] ^Thus there were unequal faculties in each, for nature gives to each intellect its own gifts. We ought, therefore, not to be so content with them that through negligence we tire of trying to advance with our study as far as we can. The gifts of nature should be cultivated with study and exercise and thus from day to day made greater. We should pass over nothing in our negligence which can bring us praise.

When we have an *istoria* to paint, we will first think out the method and the order to make it most beautiful; we will make our drawings and models of all the *istoria* and every one of its parts first of all; [17] we will call our friends to give advice about it. We will force ourselves to have every part well thought out in our mind from the beginning, so that in the work we will know how each thing ought to be done and where located. In order to have the greatest certainty we will divide our models with parallels. In the public work we will take from our drawings just as we draw maxims and citations from our private commentaries. [18]

In making the *istoria* we should have speed of execution joined with diligence; this ought to obviate fastidiousness or tediousness of execution in us. We will avoid the urge to finish things which makes us bungle the work. Sometimes it is well [p. 96] to leave the fatigue of working [to seek] recreation for the soul. It is not useful to do as some who undertake several works, beginning this one today and that one tomorrow and thus leaving them not perfected. When you begin a work make it complete in every part. There was one who showed Apelles a painting, saying, 'Today I did this.' Apelles replied to him, 'It would not surprise me if you have many others similarly done.' [19] I have seen some painters and sculptors, and even rhetoricians and poets—if there are rhetoricians and poets in this age—devote themselves to a work with a zealous eagerness. Then their intellectual ardour cools off and they leave the

rough and scarcely begun work to take up new things with renewed eagerness. I certainly censure such men. Anyone who wishes his things to be acceptable and pleasing to posterity should first think out thoroughly what he has to do and then with diligence perfect it. In few things is diligence prized more than intellect. But it is best to avoid the vitiating effect [20] of those who wish to eliminate every weakness and make everything too polished. In their hands the work becomes old and squeezed dry before it is finished. The ancient painter Protogenes was criticized because he did not know how to raise his hand from his panel. [21] He deserves this, because it seems to me a bizarre act of stubbornness, not one of an intelligent man. It is well to exert ourselves as much as our intellect is capable to see that by our diligence things are done well. To wish that they be more than appropriate in every respect is not possible.

Therefore, give to things a moderated diligence and take the advice of friends. In painting open yourself to whoever comes and hear everyone. The work of the painter attempts to be pleasing to the multitude; therefore do not disdain the judgment and views of the multitude when it is possible to satisfy their opinions. They say that Apelles hid behind a painting so that each one could more freely criticize it and so that he could hear their honest opinions: Thus he heard how each one blamed or praised. [22] Hence I wish our painter openly to demand [p. 97] and to hear each one who judges him. This will be most useful to him in acquiring pleasantness. There is no one who does not think it an honour to pass judgment on the labours of others. It scarcely seems doubtful to me that the envious and detractors prejudice the fame of the painter. To the painter all his merits were always known, and the things which he has painted well are testimonies to his fame. Therefore, hear each one, but first of all have everything well thought out and well thrashed out with yourself. When you have heard each one, believe that most expert.

I have had these things to say of painting. If they are useful and helpful to painters, I ask only that as a reward for my pains they paint my face in their *istoria* in such a way that it seems pleasant and I may be seen a student of the art. [23] If this work is less satisfactory than your expectations, do not censure me because I had the courage to undertake such great matters. If my intellect has not been able to finish what it was praiseworthy to try, perhaps only my will ought to be praised in these great and difficult things. Perhaps someone will come after me who will correct my written errors. In this most worthy and most excellent art he may be more helpful and useful to the painters than I [have been]. If such a one does come, I beg and urge that he take up this task with a free and ready spirit, and exercise his intellect to make this noble art well governed.

However, I was pleased to seize the glory of being the first to write of this most subtle art. [24] If I have little been able to satisfy the reader, blame nature no less than me, for it imposes this law on things, that there is no art which has not had its beginnings in things full of errors. Nothing is at the same time both new born and perfect. [25]

I believe that if my successor is more studious and more capable than I he will [be able to] make painting absolute and perfect.

Finished, praise be to God, the 17th day of the month of July, 1436.

Sources

This translation is based solely on manuscript sources. Of these the Italian manuscript, MI, is the most important. All the other known Italian and Latin manuscripts have been collated with MI in order to obtain clearer readings, variants and emendations for this text. The known extant manuscripts can be described briefly in order of importance. [Professors Paul O. Kristeller and Cecil Grayson have brought to my attention eight additional manuscripts of *Della pittura* that I have not been able to consult.]

Italian Manuscripts

MI Florence, Biblioteca Nazionale, Magl. II, IV, 38. Fifteenth century, paper [21.5 x 29.5 cm.]. Folios 120r-136v.

P Paris, Bibliothèque Nationale. Fonds italien 1692. Fifteenth century, paper [14 x 20 cm.]. Folios 1r-31r. Corrupt.

Latin Manuscripts

O Vatican, Codex Ottoboniani Latini 1424. Fifteenth century, paper [27 x 39 cm.]. Folios 1r-25v.

OF Vatican, Cod. Ottobon. Lat. 2274. Fifteenth century, paper [14.5 x 20.5 cm.]. Folios 1r-42v. Fragmentary.

RL Vatican, Codex Reginenses Latini 1549. Fifteenth century, parchment [13.5 x 20 cm.]. Folios 1r-32v.

NC University of North Carolina. Uncatalogued. Fifteenth century, paper [20 x 30 cm.]. Folios 1r-23v. [p. 33]

R Florence, Biblioteca Riccardiana, 767. Fifteenth century, paper [21 x 28 cm.]. Folios 65r-103v.

ML Florence, Biblioteca Nazionale. Magl. II, VIII, 58. Fifteenth century, paper [21 x 28 cm.]. Folios 1r-26v.

A comparison of attributed holograph material with the extant manuscripts proves that none of the known versions of the text is in Alberti's own hand. For this reason we must postulate lost holograph Latin and Italian versions, XL and XI respectively, as sources of the present texts. Their genealogy can be illustrated graphically with the addition of a lost Latin manuscript [YL] to explain the variants of R and ML and a lost Italian version YI as a source for P.

Until the nineteenth century translators and editors of *Della pittura* made no mention of their manuscript source. In 1847 Bonucci published for the first time what he thought was the holograph Italian version, MI. Janitschek based his Italian-German version on O, R, and MI, although he also knew OF and RL. Papini uses only MI. Mallé has used only MI, O, and the first printed edition of the text. Former editors have consulted manuscripts OF and RL to a limited extent; ML, NC, and P have never before been used.

The printed editions of *Della pittura* are as follows: [After P.-H. Michel, *La Pensée de L. B. Alberti* (Paris 1930), with additions.]

1. 1540 Basle. Thomas Ventrarium. Latin Text.
2. 1547 Venice. Lodovico Domenichi Italian translation from Latin.
3. 1565 Monte Regale. Bartoli edition of 2.
4. 1568 Florence. Re-edition of 2.
5. 1568 Venice. Bartoli Italian translation. *Opere morali di Leon Battista Alberti*.
6. 1649 Amsterdam. [Printed in Leyden]. Elzevir. Latin text.
7. 1651 Paris. DuFresne translation from Bartoli [5].
8. 1726 London. Leoni translation based on Bartoli.
9. 1733 Naples. Rispoli re-edition of DuFresne.
10. 1739 London. Re-edition of 8.
11. 1751 London. Leoni translation based on Elzevir [6].
12. 1755 London. Leoni translation based on DuFresne [7].
13. 1782 Bologna. Re-edition of Bartoli.
14. 1782 Bologna. Re-edition of DuFresne.
15. 1784 Madrid D. Diego Antonio Rejon de Silva translation.
16. 1786 Bologna. Re-edition of DuFresne.
17. 1803 Milan. Re-edition of 13.
18. 1804 Perugia Re-edition of 13.
19. 1804 Milan Re-edition of 13.
20. 1827 Madrid Re-edition of 15.
21. 1843-44-45-47-49. Florence. Bonucci, *Opere volgare* in five volumes.
22. 1868 Paris. Popelin translation.

23. 1877 Vienna. Janitschek translation with Italian text. Part of Quellen-schriften für Kunstgeschichte series.
24. 1913 Lanciano. Papini re-edition and correction of 23.
25. 1950 Florence. Mallé edition.

Ideally the translation which follows should be read in conjunction with Alberti's Italian or Latin. Since it was not considered practical at the present time to bring out a definitive edition of the text along with the translation, the serious student is recommended to Luigi Mallé's edition [Sansoni, Florence, 1950] as by far the best published Italian version of the text. The major Latin variants are inserted in italics in this translation at the point where they would normally occur in the text. [pp. 33-35]