ANAMORPHIC ART

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CHAPTER SEVEN
Holbein’s ‘The Ambassadors’

Holbein’s *The Ambassadors* dates from 1533, the year of one of Schön’s engravings and of the anamorphic portrait of Charles V.¹ The picture was painted in England where the artist settled permanently in 1532. The two French ambassadors, Jean de Dinteville, Seigneur de Polisy (1504–65) and Georges de Selve, Bishop of Lavour (1509–42), are portrayed life-size in front of a table, or rather a range of shelves, the top of which is draped with an oriental tapestry. Behind them is a silk curtain. The floor is paved with a pattern of inlaid marble which is a reproduction of the mosaic in the chancel of Westminster Abbey, executed in the time of Henry III.² Dinteville’s broad shoulders are further accentuated by a wide fur coat with puffed sleeves. Around his neck hangs the Order of St. Michael. The dagger that hangs at his side has his age, twenty-nine, inscribed on it. De Selve whose age, twenty-four, appears on a book placed near him, is wearing a deep purple gown. He holds a glove in his right hand. Their bearded faces are calm and inscrutable (fig. 65).

The objects arranged on the shelves are carefully chosen. On top we see a celestial globe, astronomical instruments, a book, a sundial; below, a terrestrial globe, a set-square, a pair of compasses, a lute, two books – *The Arithmetic of the Merchants* by Petrus Apianus (Ingolstadt, 1527), and beside the Bishop, who was a learned music-lover, sympathized with the Reformation and spoke fluent German, the *Gesängbūchlein* by Johann Walter, published in Wittenberg in 1524. The hymn-book is open at Martin Luther’s Chorale.

In the top left-hand corner of the painting a silver crucifix is suspended from the wall, half-hidden by the curtain. A strange object, like a cuttle-fish bone, floats above the floor. It is an anamorphic distortion of a skull which is restored to normal when one stands very close, looking down on it from the right. On the floor behind this is a lute-case, face down and scarcely visible. A mysterious air of solemnity broods over the whole scene. The dignitaries – so worthy, so imbued with their mission and their knowledge – the earth, the sky, the apparatus for measuring the world, Christ, the enigmatic skull – everything is so realistic as to verge on the unreal. The numbers and letters, the globes, the texture of the clothes are almost deceptively life-like. Everything is astonishingly present and mysteriously true to life. The exactness of every contour, every reflection, every shadow extends beyond
the material it represents. The whole painting is conceived as a *trompe-l'œil*.

All the objects have a symbolic value and relate to the quadrivium of the liberal arts: arithmetic, geometry, astronomy, music. But some of them are at the same time themes of perspective, often described in books. In Dürer the globe or sphere is represented as a regular body; the clock, very similar to Holbein's, is also present, and of course it is a lute that is placed before the 'window' in an almost identical foreshortening (fig. 64). In Barbaro (1559), in addition to these three objects, there are astronomical instruments directly following the description of the sphere with its optical projections and gradations. Astronomy – the perspective of the heavens – is closely associated with perspective in the strict sense of the word. The celestial globe occurs among the items in Jean Cousin's frontispiece (1560). The figure personifying Perspective sometimes holds a globe and a cube, linked to the eye by visual rays. In Salomon de Caus (1612) one chapter is entitled 'How to depict a lute, foreshortened' and, again, his drawings are similar to the lute in Holbein's picture. Accolti in 1625 also shows a lute in a whole series of foreshortenings (fig. 66). The still-life mounted on shelves between the two ambassadors brings to mind a list of contents in an artists' manual, and the treatment of the skull is like a practical application of the anamorphic procedures often taught in such books. The painting is a systematic study and a demonstration of perspective in all its forms and at the same time an allegory of the Arts and Sciences, often allied in these books, but whose principal features go back to scientific theories of the universe, represented in Italy from the last quarter of the fifteenth century.

The marquetry executed about 1480 for the *studio* of Federigo da Montefeltro in his palace at Gubbio (the inlay is now in the Metropolitan Museum of Art in New York).
New York), brought together the same sorts of objects even at that early date: the lute and other musical instruments, the celestial globe, astronomical instruments, an hour-glass and compasses, books placed in half-open cupboards, as in a scholar’s study. It is in fact one of the first and most complete depictions of scientific symbolism, and the choice and arrangement of the objects reveals an extraordinary subtility. The inlay symbolizes the union of the Arts and Sciences, the relations between geometry – space – and music – time; between the music of the spheres and the harmony of sounds, in accordance with the theories of Pythagoras and Plato that Italian humanism had brought back into fashion. All the Arts and Sciences flow out of the same concept of the world’s harmony and complement each other. Their strength and universality stem from this union. This concept is illustrated not only by the juxtaposition of symbols but also by the art of their representation. A deep knowledge of all the rules of optics and projective geometry, the exactitude of the foreshortenings and visual gradations make the objects stand out in such relief that, at first sight, one wonders whether this can really be a two-dimensional work.

Joined to these allegories of science and art the action of perspective assumes an almost symbolic value. It is, furthermore, represented by an emblem, a mazzocchio, placed in a corner as though it is an afterthought. Emanuel Winternitz has compared it to that seen in Piero della Francesca’s *De Prospectiva pingendi*, dedicated in 1469 to Federigo da Montefeltro, later Duke of Urbino, and there is no doubt that the whole ensemble is linked with the research carried out by a circle of artists and scholars who were of Piero’s immediate entourage.

The whole atmosphere of the speculative universes which revolved around perspective systems in the course of their development is thus found associated with them from the start, and it is the same picture of vast syntheses which reappears in Hans Holbein. This time, however, it is no longer a glorification of human knowledge but a representation of Vanity.

It was Charles Sterling who established the principal stages in the development of the theme. It made its first appearance in the Northern Schools and included only a very limited number of objects: a skull and a fractured brick (Rogier van der Weyden, reverse side of the Braque triptych c.1450, The Louvre); a skull with an inscription (Jan Mabuse, reverse side of the Carondelet diptych, 1517, The Louvre); a skull, a book, an extinguished candle (Barthel Bruyn the Elder, 1524, Kröller-Müller Museum, Otterlo, The Netherlands). It is a summary reminder of the transitory nature of life. The composition is generally placed inside a niche and the treatment is the trompe-l’œil kind as in the scientific still-lifes. Sterling sees classical influences: a skull, with a wheel of fortune nearby, is to be found in a Pompeian mosaic, and he explains the choice of the device by the wish to intensify the impact of the physical presence of the *memento mori* by condensing its realism. Once again we discover an example of the convergence of forms and symbolism.

This still unambiguously medieval obsession with the triumph of Death now spread, incorporating the most diverse elements. Inevitably the Arts and Sciences were also to become the object of the theme. The idea was embodied in a philosophic doctrine belonging to the same current of thought, but its iconography was
established in Italy which had already been producing representations of it in increasing numbers. The marquetry panels by Fra Vincenzo dalle Vacche, called Vincenzo of Verona, carried out about 1520–3 for San Benedetto Novello of Padua, conform exactly to the tradition of scientific still-lifes, inaugurated half a century previously, but they are transposed into a realm of negation (fig. 67). In them one finds the same astronomical and musical emblems – a celestial sphere and a sextant, an astrology book open at the geometrical diagram of a horoscope, a lute, a viol, a bow, and a sheet of music, all scattered on two shelves of an open cupboard. But this is no longer the apotheosis of Pythagorean constructions: the two candles are extinguished, an allusion to the brevity of the light they can give, a viol string is broken. The second panel contains a Papal cross, a mitre, liturgical furniture, a book, accompanied by a skull, an hour-glass and a vessel containing a plant, symbolizing the flight of time, as in the Psalms (Ps. 103: ‘As for man, his days are as grass’) and in the Book of Job (chapter xiv: Man . . . cometh forth like a flower
and is cut down'). The Vanity of human knowledge corresponds to the Vanity of earthly powers, lay and ecclesiastic, also represented in the Gubbio marquetry, but by weapons. All values crumble away, one after another. The theme of renunciation, introduced into Italian groupings, profoundly modifies their meaning and enriches them without suffering any loss in consequence. The display of pride becomes an expression of humility. Humility is extended into new realms and becomes defined in a more detailed classification.

One sees the same allegories in the painting by Holbein, who lived in Lombardy from 1517 to 1519. The still-life of the marquetry finds a place between the two ambassadors. As in the marquetry panels, the symbols are grouped on two shelves corresponding to two spheres – the heavens and the earth – as in a cupboard or in a niche. In the painting too Vanity is twofold: on the one hand the Vanity of knowledge, symbolized by a lute with a broken string, as in Vincenzo dalle Vacche, its case upside down in the shadow. On the other hand, the Vanity of earthly power, here represented by the two men, who are at the same time scholars and dignitaries – lay power by Jean de Dinteville, ecclesiastical power by Georges de Selve, with the skull between them on a lower, subterranean level. Describing a painting by Vermeer, Tolnay has compared his characters to the objects in a still-life in which 'time is suspended' in the secret relations which are being established between them. Holbein's composition is a more profound reflection of this spirit. The two figures are enveloped in the same silence as that which surrounds the still-life of their emblems. Through these symbolic forms, bearing the stamp of Italy, Holbein is in direct contact with certain books and even certain images, with the original reasoning behind them, and first and foremost, with The Praise of Folly, the work of Erasmus of Rotterdam, his friend and patron.

The Praise of Folly was written in 1509 in England in the house of Sir Thomas More to whom the book is dedicated and who repeated the same idea in his Utopia. It was first published in Paris in 1511, and in Strasbourg in 1512. In 1520 it appeared with illustrations from Sebastian Brant’s Ship of Fools. In the meantime, however, two years before going to Italy, Holbein had illustrated the Basle edition of 1515 with marginal drawings in collaboration with his brother. He must therefore have read it with great attention. Doubtless he saw it again later at the home of Sir Thomas More, with whom he stayed for three years, from 1526 to 1529.

Inspired by Brant’s Ship of Fools (1494) in which one sees an astrologer and a geometrician and are told that:

Who that is busy to measure and compass
The heaven and earth and all the world large
Describing the climates and folk of every place
He is a fool. Erasmus enlarges on the theme of the Vanity of knowledge, anticipating the Italian allegories. ‘Madder than all madmen put together are the inventors of the Sciences and the Arts . . . Was it not thirst for fame that urged men to invent and transmit to posterity all these Arts and all these Sciences which they regard as marvellous?’
Holbein's painting, with its display of scientific instruments, the haughty demeanour of the personages, the magical setting, shows a close kinship with these reflections. *The Praise of Folly* continues:

Philosophers are worthy of respect with their beards and their gowns... What pleasure it is for them when in a philosphic ecstasy they create a countless number of different worlds in the universe, when they give us the sizes of the sun and the moon, the stars and other globes with as much exactitude as if they had measured them with their ruler and line... when they pile triangles, circles, squares and an infinity of other mathematical figures one on top of the other, interlaced in labyrinthine forms... and throw shadows on things that are clearest... They know absolutely nothing and they boast of knowing everything.¹²

And in fact we see these globes, figures, measuring tools, piled up next to the philosophers, bearded and sumptuously clad, who seem to be enclosed in an artificial domain and separated from the world.

The idea echoes Brant, but it also echoes a medieval reflection already formulated by Hugues de Saint-Victor. His treatise *De Vanitate Mundi*, composed in the first half of the twelfth century in the form of a dialogue between the soul and the reason, the *Interrogans* and the *Docens*, betrays the same scorn of scientific knowledge:

D. – What do you see?
I. – I see a meeting of students... children, adolescents, young men and old men... I see some who are absorbed in calculations. Others strike a taut string with a piece of wood, producing melodies from it. Others... are explaining geometrical figures. Others, with the help of instruments, are plotting the course and position of the stars and the revolution of the heavens... D. – This semblance of truth deceives you... these are studies not of wisdom but of human madness by which the imprudent and the foolish devote themselves uselessly and obstinately to researches into the nature of things.¹³

The whole quadrivium files past here, like a symbol of Vanity and Folly: *Vanitas est, et vanitas vanitatum*. The inventors of the Sciences and the Arts in Erasmus are descendants of Saint-Victor's students. One of them appears in a pen drawing in the 1515 Basle edition of *The Praise of Folly*. In it one recognizes the philosopher with his beard and gown as well as the astronomer – or rather the cosmographer – with a celestial sphere, a terrestrial globe, arithmetical tables, a lyre side by side with a pair of compasses (fig. 68), foreshadowing the two *Ambassadors*.¹⁴ The drawing has been attributed to Ambrosius Holbein, Hans's brother, which in no way lessens its historical interest.¹⁵ When he multiplied the symbols, in 1533, Hans must have thought of this allegory of vain occupations which had impressed him in his youth. He had long been familiar with the concept and it took shape in the medium that expressed it most forcibly.¹⁶ Before its realization, the theme had become entrenched in his mind. But, at the very moment when the double portrait was being executed, another book appeared which raised the same question.

*The Declaration on the Uncertainty, vanity and abuses of the Sciences and the Arts*
by Cornelius Agrippa – the very title could apply to the painting – is a new development of the same theme.17 ‘Instead of magnifying the Sciences, my intention is, for the most part, to blame and despise them’, writes the magician in his preface ‘for there is nothing more perilous than to arrive at madness through reason and the accumulation of knowledge is not happiness’.18 This passage reminds one of the change which had occurred between the presentation of the symbols of the sciences in the studiolo of Federigo da Montefeltro and in the compositions of Fra Vincenzo dalle Vacche and Hans Holbein. Instead of being honoured, the Arts and Sciences are presented under the symbol of Death. The anxieties of a tormented mind of the North confronted with Italian Humanism are similarly manifested, and the elements of the demonstration are repeated in the same order. Arithmetic, geometry, astronomy, music, all the Pythagorean concepts of their relationships are examined in turn, in 103 chapters. Agrippa’s treatise is not a violent attack, rather it is an impassioned dissertation, interposed with diatribes against the nobility and the clergy, the bishops and theologians and reflecting a concern with the opposition between heavenly power and human knowledge and power.

‘Arithmetic is no less superstitious than it is vain’ and geometry is but an artifice. On the question of the heavens, ‘the twelve signs [of the Zodiac] and other depictions and figures in the Northern and Southern hemispheres have no place other than in legend . . . and it is madness to divert oneself by measuring the earth, for in measuring it we go beyond measure.’ It is also said that science is included in music and that there exists ‘a certain music and harmony of the spheres which, however, no one has ever heard’. Folly and Vanity are synonymous. All is dust and illusion. Divine power alone knows and dominates everything. But ‘the chamber of truth is shrouded in many mysteries and closed even to saints and sages.’ The word of God is the only key to it.

Agrippa’s book was written in Lyons in 1526 and first appeared in Antwerp in 1530. There were several subsequent editions published in Paris and Cologne. From 1511 to 1518 Agrippa was in Italy where he stayed in Milan, Pavia, Casale Monferrato, Pisa and Verona.19 It is not beyond the bounds of possibility that he met Holbein in Italy. Furthermore, he was interested in painting and in optics and dealt with both in his treatise. He interprets perspective as an artificial system and includes it in the hierarchy of general knowledge. It is through wide speculation on universal values that we arrive at its specific forms, analysed from the same point of view. He defines its relations with other branches of science in clear terms: optics, also called perspective, directly follows geometry, and (after painting, and engraving) is succeeded by cosmography: thus perspective is one of the geometrical measures of the world. But it is also a hoax. Two important definitions are formulated after this statement: ‘Perspective teaches us the reasons for false appearances as they offer themselves to the eye,’ whereas painting, which borrows from optics, ‘by means of false measurements causes things to appear other than they in reality are’. The book already contains the germs of a Cartesian discourse and, furthermore, the comments on perspective could, without changing a word, be applied to true anamorphosis which is merely a paradoxical extension of the same rule.
The observations on painting are no less revealing. It is the classic trompe-l'oeil such as is found described in stories of the wager between Zeuxis and Parrhasius when Zeuxis brought grapes painted with such care and labour that birds were deceived into thinking they were real and natural grapes and flew up to eat them whereas Parrhasius set up a picture on which a curtain only was painted, which deceived his rival, for it was so well counterfeited that Zeuxis thought it was only the veil and that the picture was underneath, so that he began to say proudly that he had deceived the birds: 'Uncover your picture and show us what you have painted.'

If one artist deceived the birds, the other deceived a master. The story is borrowed from ancient sources but it applies to a manner of painting which was now widespread, and specifically in those very still-lifes and subjects with which we are concerned. Charles Sterling has drawn our attention to their relationship to Graeco-Roman methods and themes, basing his research on textual references rather than on the works of art themselves.

Horace Walpole has a similar anecdote about Hans Holbein. Before leaving Basle for England in 1526 and wishing to leave proof of his skill, the artist painted a fly on a portrait he had just completed. The purchaser of the portrait, trying to remove the insect with a brush, discovered the jest. The story spread, and arrangements were set in motion to retain this virtuoso in the country. The painter therefore had to leave the town in great secrecy. Whether the story is true or apocryphal (the fly was a favourite trompe-l'oeil subject of still-life painters), it fits in with similar research concerning form. These legends, however, assume their full significance in Agrippa's treatise on Vanity in the Arts and Sciences. The conception of painting and the conception of perspective, as they emerge from Agrippa, confirm the convergence of themes and techniques in allegorical pictures of the deceptive appearances in the world and, at the same time, put all the problems of deceptive vision on the same philosophic plane. Anamorphosis and trompe-l'oeil belong to a similar order of things: false measurement and faked reality. By juxtaposing both these techniques in the same picture, Holbein certainly showed an awareness of the affinity between the two.

Let us however return to the precise significance of his painting. In its treatment of the Vanities which all more or less convey the kind of anxiety which haunted Cornelius Agrippa, though in a more guarded and serene language, the painting corresponds very closely to the Declamation. The conclusion of the treatise's final chapters can be read like a commentary or accompaniment as we face Holbein's great picture:

What we think to be science is only error and falseness .... Arithmetician and Geometricians number and measure everything, but the soul still remains unnumbered and unmeasured. Musicians treat of sounds and songs, but fail to hear the dissonances which are in their minds. Astrologers seek the stars and discourse on the heavens, and presume to foretell what will happen to other people in the world, but pay no attention to what is near them and is present every day. Cosmographers have knowledge of the land and the sea, they teach us about the boundaries and limits of every country but they do not render Man
either better or wiser. ... He who has learnt everything and has learnt only these things has learnt all that he has learnt in vain. For the word of God is the way, the rule, and the target at which, whoever does not wish to err should aim, and thus attain to the truth. All other knowledge is at the mercy of time and oblivion and will perish: for all the sciences and arts will vanish away and others will replace them. ... Divine Knowledge alone has no end and embraces everything. It is Jesus Christ, the Word and the Son of God the Father and divine Wisdom, the true preceptor who makes Man as he is in order to make us children of God as He is, who is blessed in all centuries. 23

It is precisely this contrast of human vanities and the truth of God which is shown in Holbein's composition. In it are present not only the symbols of science but also a crucifix. The sciences that will perish are displayed in the foreground in front of a large, thick curtain. In medieval art the curtain was usually open, disclosing a revelation or a sacred vision. 23 In this case it is drawn on divine knowledge: 'the chamber of truth is closed even to saints and sages.' We guess at it in the background. The inlaid marble paving of Westminster Abbey, so surprising in the picture, leads to the chancel, and furthermore Christ half appears in the upper corner like a ray in His own dazzling kingdom. 24 He represents the goal. The artist has set Him, like a message, in the most distant corner, separating Him resolutely from vain knowledge and contrasting Him with the skull. Death and Resurrection are opposed on the same axis, drawn obliquely, with the skull which floats in the lower part of the picture as base. The solution is ingenious since it allows the defining of a complex reasoning without confusing the premises.

Could Holbein have seen the books I have referred to? By the time he left the Continent in 1532 to settle in England, Agrippa's treatise had already appeared in numerous editions and stirred up a violent argument. Erasmus himself wrote to Agrippa in a letter dated 19 September 1531, from Freiburg, where he had taken refuge in 1527: 'All the talk is about you, concerning the new work which you have written about the uncertainty and vanity of the sciences, of the vanities of the disciplines. I do not know it yet but I am setting about obtaining a copy.' 25 Now, it was at this very time that Holbein was painting a second group of portraits of the aged Erasmus, and there is no doubt that the two met each other again. 26 If he did not know the book already, Erasmus must have mentioned it to him.

It is therefore a theme and a symbolical still-life which took shape in Italy, completed and developed by an idea linked to Northern influences, which is found in Holbein's work. But the figures are arranged in accordance with an independent scheme which in its turn is based on related but much older material, introduced in the Middle Ages with the *Dit des trois vifs*, next finding an outlet in the *Danses macabres* and constantly associated with the Vanities and with allegories about the fickleness of the world.* Holbein, deeply affected by the sudden loss of his parents and his brother Ambrosius, often returned to these visions of men and skeletons. 27

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* *Dit des trois vifs*, a reference to the popular legend – *Dëc des trois morts et des trois vifs* (full title) – linked with the French *Danses macabres* and the German *Totentanz* (Dance of the Dead). The word 'Dit', here means 'tale' or 'legend' 'of the three Living' who joined in a dance with three 'Dead'. For full bibliography of this subject see J. Baltrusaitis, *The Fantastic Middle Ages* (Cambridge, 1977), chapter 7, note 16. *Translator's note.*
A drawing that accompanied his *Totentanz*, executed in Basle in 1526 and not published until 1538 (in Lyons), was directly inspired by Dürer's *Wappen des Todes* of 1503. It shows a sumptuously dressed couple, divided by a shield displaying a skull. The coat-of-arms is surmounted by a helmet with an hour-glass as a crest (fig. 69). These heraldic forms were to reappear and assume new dimensions in *The Ambassadors*. The main features of the later work are identical: an individual on each side, the clock above as a reminder of the flight of time, the skull below.

![Image of a drawing showing a couple divided by a shield displaying a skull.](image)

**Fig. 69** Hans Holbein: *The Coat-of-Arms of Death*, 1525

*Overleaf*

**Fig. 70** Holbein's *The Ambassadors* (detail): the anamorphic skull and its optical correction
The two ambassadors stand upright like the supporters of the coat-of-arms of Death, with instead of a shield a display of the Vanities. If we see the painting in terms of a coat-of-arms, it acquires a hieratic nobility which enriches its symbolism. It shows an impassive nobility of bearing. But the representation of the skull belongs to another tradition (fig. 70). It is in some way isolated by the anamorphic treatment. It is as if there were not one but two compositions, each with its own viewing-point, but juxtaposed in the same frame. Even the shadows do not go in the same directions. The principle is analogous to that of a triptych or diptych of religious images or portraits with a skull on the back of the panels. 29 If P. Ganz’s attribution is correct, Holbein himself about 1517 had painted two skulls on the exterior of a Basle diptych showing two boys. 30 The symbol of Death appears when the panels are closed – in the picture of the two ambassadors it materializes when the spectator moves. Barbaro’s remark that ‘many times with no less pleasure than amazement one looks at some of these perspective-pictures, when, if the eye regarding them is not at the fixed viewing-point, they appear totally different’ alludes to optical substitutions. But in an ensemble so skilfully conceived there is no question of using Barbaro’s projection device with perforated card, or Vignola’s oversimplified formula.

The geometrical procedure based on the visual angle, a developed form of which is revealed in a sketch of 1540 by the Nuremberg Master H. R., or again one of the mechanical tools which proliferated after the example of Dürer’s ‘window’ (1525) would be more in keeping with the arrangement and spirit of The Ambassadors. The presence among the symbolic objects of, on the one hand, a set-square and a pair of compasses, and on the other hand, of scientific apparatus, seems to indicate the use of one of these technical devices. The anamorphosis takes place in a painting which, with its dimensions and its arrangement, is intended for a particular position in a vast room, like the optics, the anoptics and catoptrics in Niceron. The whole programme, the development and extension of which I have traced, is already there, with its elements organically united. In arranging the sequence of two independent images, Holbein has not disassociated them. He conceived his Vexierbild in terms of a theatre, with a change of scene and décor as in a dramatic spectacle.

The painting was to be hung following precise instructions: in order that the effect of its composition should be as intended, it had to be placed at the base of a wall, on a level with or slightly above the floor, which would seem to extend into the picture. In the Château de Polisy, the reconstruction of which was begun in 1544, Dinétville no doubt had it placed in a vast room, opposite one door and near another, each corresponding to one of the two viewing-points. Let us imagine a room with an entrance in the middle of one side, and two side-entrances opposite, with the picture placed between the two side-doors, in the axis. 31

The Mystery of the Two Ambassadors is in two Acts. Act One is played when the spectator enters by the main door and finds himself a certain distance away from the two nobles, who appear at the back as on a stage. He is amazed by their stance, the display of luxury, the intense realism of the picture. He notes a single disturbing factor: the strange object at the ambassadors’ feet. Our visitor advances in order to
have a closer look. The scene becomes even more realistic as he approaches, but the strange object becomes increasingly enigmatic. Disconcerted, he withdraws by the right-hand door, the only one open, and this is Act Two. As he enters the next room, he turns his head to throw a final glance at the picture, and everything becomes clear: the visual contraction causes the rest of the scene to disappear completely and the hidden figure to be revealed. Instead of human splendour, he sees a skull. The personages and all their scientific paraphernalia vanish, and in their place rises the symbol of the End. The play is over.

Part of a vast iconographic cycle, this optical setting, predestined in a way for the representation of the theme, was certainly exploited by other artists. It occurs much later, arranged in accordance with a variety of devices. When Nicerson reports in his Curious Perspective that 'one can make certain drawings which, according to where they are viewed from, represent two or three quite different things', he is alluding to a similar subject: 'seen from the front, they will represent a human face, and seen from the right, a death's head', and he goes on to say that 'these drawings have become so common and trivial that they are seen everywhere.' The method described by him is different: 'Nothing more subtle is involved in making them than to cut two drawings of the same size into small strips lengthwise and to arrange them on the same background, which can be a third drawing of the same size', but he also refers to the sequence of these same spectacles showing life and its annihilation by the change of position device.

The anamorphic skull figures in other artists' manuals. One finds it mentioned in Lucas Brun's treatise, published in Leipzig in 1615, which could also have been found at a Nuremberg bookseller's. This work contains a perspective layout of painting type as a pendant to Johann Lochner's Perspectiva literaria (1567), mentioned in the preface in connection with an automatic apparatus. The skull represented in one of the drawings has been elongated with the help of such an instrument (fig. 71). The commentary describes it as an oblong stone (ablonged sten) or a little stick (stoclein). Apart from the expansion in width, the skull anamorphosis that floats at the feet of Holbein's two ambassadors is appreciably similar in appearance and directs our thoughts to the same objects.

With Fr. Du Breuil (1649), we have a catoptric anamorphosis, constructed round a cylindrical mirror which conceals the sinister image of a skull (fig. 72). Placed on a cabinet or a table, this would suddenly appear, like a memento mori, to those who looked at themselves in the convex mirror. The drama, represented in the painting, is transposed into life itself and is played out with visitors to the house. Here again, the evocation of the spectre of Death is produced by optical devices. The same obsession is regularly incorporated in the same forms.

The elements can be reversed. In a contemporary English painting preserved in the castle of Gripsholm in Sweden, the skull is reproduced in a normal way and it is the man's image that expands in a series of circles (fig. 73). This composition is a catoptric version of the anamorphosis of Charles I (fig. 20). The skull is placed horizontally in the centre of the picture. The king, beheaded in 1649, rises above it when one places the cylindrical mirror over it. He vanishes when this is removed and the features of the skull are revealed.
FIG. 72 Fr. Du Breuil:
Ctoptric anamorphosis of a skull, 1649

FIG. 73 Anamorphic mirror portrait composed around a skull: Charles I: post 1649. Gripsholm Castle, Sweden
The Vanities in the accepted sense were enjoying a new vogue at this period. After a scarcity of examples during the second half of the sixteenth century, one sees them spreading throughout the whole of Europe north of the Alps. The University of Leyden became an important centre of Calvinist asceticism and, furthermore, specialized in studies of inscriptions and emblems. David Bailly, the Steenwijck brothers and other Leyden painters excelled in these melancholy visions. In France the theme was particularly common in the reign of Louis XIII. Still-lifes express the insubstantiality of matter – faded flowers, bruised fruit, gnawed cheese, stale bread – and time’s winged chariot – watches, hour-glasses, candles – in a vocabulary often more familiar, but none the less charged with symbolism. Musical instruments, scientific apparatus, mappae mundi, globes, books with engravings of death’s-heads, are reminders of the relationship between the Arts and the Sciences, the spheres and the harmony of sounds, all accompanied by a disillusioned commentary. The awakening of Humanism takes place in the mid-seventeenth century, but stamped with the seal of the macabre Middle Ages. On a picture by Ferdinand Bol (c.1670) our philosopher reappears, sunk in meditation beside a symbolic still-life (globe, lute, book, extinguished candle, etc.) (fig. 74). Behind is a curtain. A skull grins in the foreground. The theme of Holbein’s Ambassadors has become more explicit and is stripped of its mystery.
Death is not hidden and the curtain does not conceal the ‘chamber of truth’: it has risen to reveal light.

The game of allegories with an exaggerated realism now reaches its climax. The fleeting and the inconstant are always suggested by extraordinarily immediate and unchanging objects, the destruction of matter and ideas by the wholly material power of their evocation. The mechanics of optical illusion, perspective and trompe-l’ceil contribute by their very nature to the condensation of the poetic subject.

The totality of thought closely linking philosophical conceptions, technical visual devices and symbolism is revived on the same plan with further ramifications. The globe and the lute which one finds in the perspective treatise by Salomon de Caus in 1612, arranged in the same foreshortenings as in Dürer, Barbaro or in the marquetry discussed earlier, also have a symbolic role (fig. 75). De Caus, who was also interested in sundials (astronomical perspective), himself expounds, in his *Harmonic Institution* (1615), the theories of Pythagoras and Plato in which music is recognized as the universal science of the world and as the harmony of the spheres.41

Conversely, artists’ forms and allegories remain constantly linked to the speculation of the philosophers and scholars. Kepler (1596), who repeated all the Renaissance ideas on music and the harmony of the spheres, makes use of the five regular Platonic bodies of the *Divina Proportione* to calculate the orbits of the planets.42 Robert Fludd (1617) depicts the one-stringed instrument on which the cosmic symphony is played, not unlike the lutes in the pictures of Vanities.43 And it is the same object which in Fr. Mersenne’s *Universal Harmony* (1636) represents the Great

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**Fig. 75** Salomon de Caus: *The Celestial globe and the Lute, 1612*
Lyre of the Universe in which phases of the world are arranged with their elements in octaves, chords and scales (fig. 76).44

This drawing provides the key to a whole group of these representations in painting. The empty lute-case placed flat in the shadow of the lower shelf behind the skull at the feet of Holbein’s Ambassadors, signifies the stilling of all the science and harmony represented by the instrument. All the sciences can be taught through music ‘with the use of no other language than that of the lute’. There is an arithmetical division of harmony and a geometry of sounds, not to mention the harmony of the stars. Mersenne’s book, with its initially limited subject, ends by uniting all the branches of the quadrivium represented by the same musical symbol in innumerable still-lifes, but it also expresses a fear:

...now, it is only too easy to learn humility from all the sciences, for, leaving out Physics, about which the best minds admit frankly they understand almost nothing, we do not appear to know how we understand and reason in Logic ... If we consider the purest Mathematics, we are forced to admit that we know little about the subject. [And, he concludes] We have reason to humble ourselves in our ignorance which we cannot remedy until it pleases God to deliver us from the faith we put in the stupidity of the senses.

This could almost be a quotation from Agrippa, whose work was reprinted in French many times between 1600 and 1630, and it could likewise be considered as
a commentary on the Vanities which were spreading at precisely that period.

Mersenne's book, the work of a Minim of a Cartesian monastery, assumes a particular importance, since it allows us to see how the realization of the vanities and follies of human sciences leads directly to philosophic doubt. In the process, by describing their nature, it forms a link with the experiments on deception in the realm of pure optics which were being assiduously carried out in the same centre and which illustrated the same theme.

The same perspective systems, musical instruments, astronomical spheres, are brought together again in a picture painted at the very end of the seventeenth century. The doctrines of Pythagoras and Plato concerning the unity of the Arts and Sciences, which, after the Gubbio marquetry and Holbein's _The Ambassadors_, so profoundly affected the theme of scientific still-lifes, were reaffirmed in 1698 in a famous print, _The Academy of Arts and Sciences_, by Sébastien Leclerc. In effecting the union of the two independent French Academies, Mazarin's founded in 1648 and Colbert's in 1666, the very title of the engraving followed these doctrines. A copy of the engraving exists, painted on a large canvas (0.95 m. × 0.48 m.); in which the many details are more exact and recognizable—it was probably executed, therefore, in direct cooperation with Leclerc (figs. 77 and 78).

In it we see a large and busy crowd in a vast courtyard bordered with galleries and porticoes. In the foreground, a magician in oriental costume, like a 'necromancer', is reading the lines of a youth's hand. Marine plants, skeletons of a man

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**Fig. 78 The Academy of Arts and Sciences:** engraving by Sébastien Leclerc, 1698. Prouté Collection, Paris
and a stag, a tortoise-shell, a heron, are assembled under the columns on the left, constituting a collection of the natural sciences. The flight of steps on the right leads to a library bearing the inscription THEOLOGIA. Geometrical figures are drawn on the paving, on a colonnade and on the parchments. We can also identify plans of the Louvre and of fortifications, a display of apparatus and a collection of coats-of-arms. A seated man holds a ‘table of sines’. People are grouped around, and innumerable instruments are scattered on the ground, including an Archimedean screw, a burning-glass, a magic lantern and a clock. The movements of the people are skilfully arranged and coordinated.

The symbolic lute and globe, always associated with these pictures, appear on two levels. Three spheres, one of them partially draped, are shown in front of the steps of the portico of the zoological museum. Musical instruments, including the lute, are silhouetted before the gallery in the background, bathed in light. An orchestra is playing. The music which accompanies the ‘ballet’ of the academicians comes from a distance, like the music of the spheres. A twelve-sided figure, the fourth of the regular figures often shown in these ensembles, is also visible, set among a heap of astronomical instruments. There is also an octagonal stone like the ‘octagonal body’ which is foreshortened in the treatise by de Caus. We move along to perspective proper. It is demonstrated among the displays by four representations, all aligned along the ‘proscenium’. On the left is Dürer’s ‘window’, then, in the centre, two modern dioptic and catoptric inventions. The dioptic apparatus combines several images which, seen through a multi-faceted glass, unite in another different image. The process was provided by Niceron who learned about it in Lyons in 1635 when he was on his way to Italy, where, as has already been mentioned, he painted ‘Turks’ heads which change into a portrait of Ferdinand II, Grand Duke of Tuscany, which is now in the Science museum in Florence.

A cylindrical mirror placed on a circular anamorphosis represents catoptric devices, which spread widely during the same period. The same instruments are similarly juxtaposed in an engraving by de Molinet, in his book on the collection of the Bibliothèque Ste Geneviève published in 1692. The fourth demonstration of perspective, on the right, is a direct anamorphosis. Jombert noted it: ‘a flat surface on which is drawn a cylindrical figure which a man looks at with his eye at the viewing-point’. In fact, this ‘cylindrical figure’ is an elongated skull, in every way resembling the one in Holbein’s The Ambassadors. The skull is shown from the front and extends not vertically as in Brunn’s Perspective but horizontally, with one of the eye-sockets bigger than the other; a long row of teeth forms an indented base, and even the angle of inclination is identical (fig. 79). The resemblances are so surprising that they make one wonder whether Sébastien Leclerc was familiar with the sixteenth century masterpiece.

It is known that, after the sale of Polisy in 1653, Holbein’s painting was brought by the Marquis de Cessac to his Paris residence in the rue du Four near Saint-Sulpice parish church. The picture had acquired a considerable reputation. M. de Vic, Keeper of the Seals, said that it was ‘the finest painting in France’. A writer in 1654 refers to it in similar terms: ‘the excellent picture which is at present in Paris in the house of M. de Cessac . . . the work of a Dutchman; the painting is
considered to be the most opulent and best worked in France'. When Leclerc arrived from Metz in 1665, the picture was still there. He was eager to know and learn everything possible; the young artist, a protégé of Le Brun, must have seen it. The question arises as to whether Leclerc did not select certain elements directly from it for his academic 'apotheosis' which belongs in a similarly erudite world.

The comprehensive nature of Leclerc's subject is in keeping with the universality of the man, who by temperament and the demands of his profession was involved in every branch of knowledge. At Metz Leclerc worked as an engineer. He gave drawing and mathematics lessons to the son of Colbert, the future Minister of the Royal buildings. Admitted to the Academy of Fine Arts in 1672, he was made responsible for the teaching of geometry and perspective, and he collaborated assiduously as an illustrator with the Academy of Sciences. In the field of cosmography we owe to him the illustrations for Picart's *Measurement of the Earth* (1671), and in architecture those for Perrault's *Vitruvius* (1673). His frontispiece for the *Natural History of Animals* (1671) included two globes and a skeleton. Leclerc collected instruments and machines of every sort - for mathematics, physics, astronomy and so on. His study, of which we have an unfinished engraving (1711) and a drawing, is crowded with these devices.

These are the elements accumulated over the years, grouped around the time-honoured emblems of the quadrivium of the liberal arts but with an additional host of new objects. The men we see occupied with them and arguing together in *The Academy of Arts and Sciences* remind us of the philosophers of *The School of Athens* but they are more intense and impassioned in their enthusiasm. They have the fixed stares of men obsessed, utterly absorbed in their work and in their thoughts, astounded at the miracles of art and science that are assembled around...
them. The theme of Vanity becomes somewhat blurred but its presence is still evident. The anamorphosis of the skull, and the skeleton hoisted up on the opposite side of the picture, pointing a derisive finger at its forehead, are specific symbols of the theme. The noisy workshop and laboratory mark the final stage in the development of silent still-lifes; but they retain definite memories of them.

Two phenomena emerge from a survey of this long evolutionary process: strict continuity and continual enrichment. All the systems of perspective have been elaborated, but independently of each other. It is a universal doctrine of vision, but it is surrounded by legend and speculative thought which continually renew its principles. Even in the rational forms, which represent life in depth and in relief on a two-dimensional surface, meditation on the falseness and insubstantiality of appearances is present. All the anamorphic devices which cause figures to rise up and disappear by means of optical arrangements and elongations are a geometrical proof of their insubstantiality. Sometimes we are shown a mere jeu d’esprit but even this borders on magic and conjuring. Secret portraits and obscene images are produced in the first half of the sixteenth century with the aid of clever calculations. These find their way into religious and symbolic compositions, mingling with scientific theories of the universe and with trompe-l’œil. In several groups, the refinements of perspective were for long linked with a philosophy of artifice.

It was on the plane of pure science that anamorphoses were subsequently disseminated, but they evolved on the borderline between reason and madness. A veritable renaissance of forms and techniques occurred in the seventeenth century, bringing a wealth of books and explanations which threw a new light on the original concepts. Even academic circles paid them considerable attention. There was also an expansion into new domains. Elongated figures were suggested for the décor of houses. Strange optical effects were produced by conical and pyramidal perspective. Anamorphosis could be executed in marquetry and in rococo decorative work. In some cases the technique was used in works which extended along the full length of a gallery. Methods were taught for projecting its forms onto the landscape. Gardens, towns and even mountains were to be animated by its effects. Aberration had reached its climax.

However, all these developments took place against a background of inquiry about reality and the world of appearances. The men who concerned themselves with these laws of vision were mathematicians, engineers, astronomers, musicians and philosophers. They were all bound up with the universal humanist tradition, uniting the Arts and the Sciences, sometimes looking for the logical side to them, sometimes for the romantic. Interpreted by cool methodical minds, constructors of automata and logicians, the paradoxes of distorting perspective link up with the lofty ideas of the time. When taken up by fanciful dreamers and poets, its processes – in which everything depends on precision – recovered their vein of fantasy. By a strange irony of fate it was the Cartesians who, by deciphering with their clear-sighted reasoning all the secrets of these distortions and defining the phenomenon in precise terms, inspired their most absurd development. Nevertheless, all of them came to some understanding of the vanity of their devices. The image of Holbein’s Ambassadors presides over the tricks of illusion in all their manifold variations.