

# PROLOGUE

## A SKETCH OF LEONARDO

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Over the years I have tried to construct a picture of Leonardo that embraces his full range of activities and shows how they relate integrally to his core beliefs. Since the chapters that follow do not naturally deliver a biographical picture of Leonardo and cover his major achievements in a very incomplete manner, I hope it will help to offer a short biographical sketch as an introductory framework for the narratives that comprise the body of the book. This can be skipped if the reader is so inclined.

Leonardo was the illegitimate son of a young notary from the small Tuscan hill-town of Vinci, some twenty miles west of Florence. His father was forging a prominent career in Florence. Born in April 1452 to a penniless orphan called Caterina Lippi, Leonardo was readily welcomed into his grandfather's household in Vinci and seems to have received a decent education. His childhood is obscure. We do not even know when he moved to Florence to be trained by Andrea Verrocchio, the leading sculptor, metal worker, painter and designer. Presumably the young man had shown some kind of artistic promise. As a bastard, he was prohibited from following his father's legal profession. He was first obligated to pay his individual dues to the painter's Company of St. Luke in 1472, but in 1476 he was still operating within Verrocchio's busy and versatile workshop. In the same year he was with others accused anonymously of homosexual activities, but the charges were not pursued.

The most obvious work of collaboration between Verrocchio and Leonardo is the *Baptism* in the Uffizi, in which the sinewy and sculptural figure style of the master has been endowed with new kind of surface scintillation using the then unfamiliar medium of oil. The hazy landscape and trickling waters exhibit a tingling vitality that we recognise in his first dated drawing, the mountainous landscape drawn on "the day of S. Maria delle Neve [Holy Mary of the Snows] on the 5 August 1483" (fig. ref on\*\*??? see note at end). The works attributed to him in the mid 1470s - the *Annunciation*, the *Munich Madonna* and the portrait of *Ginevra de' Benci* - carry strong imprints of his training with Verrocchio, but also possess a compelling individual strangeness, above all in their intense scrutiny and rendering of the appearance of things. The third of his small paintings, the *Benois Madonna*, shows him forging something like his own style, characterised by physical dynamism and psychological interplay.

The scope of Verrocchio's activities, which included the manufacture and erection of the hollow copper ball on the top of Brunelleschi's Dome of Florence Cathedral, naturalised him in the polymathic tradition of major Tuscan masters – embracing the painterly sciences of perspective and anatomy, skills in a wide range of artistic media, civil and military engineering and ceremonial design. Some of the few surviving

drawings from the 1470's show Leonardo thinking on his own account about military and hydraulic engineering, mechanical devices, weapons design, gearing, geometry and the measurement of time. There is also a least one memorandum mentioning people and books to be consulted that hints at a broader interest in science. The pickings for this early period are quite slim, but they do provide clues that his extensive curiosity and visionary inventiveness were there from the first, at least *in nuce*.

His first recorded commission for a painting indicates that his high promise was recognised early. In 1478 he received the commission for the prestigious altarpiece of the Madonna and Saints for the Council Hall of the Florentine republic. Unhappily, it introduces us to a *leitmotif* in his career, namely a project that never reached completion. The same is true of the *Adoration of the Magi*, a large altarpiece begun for a monastery just outside Florence, but at least in this case we have the magnificent underpainting in the Uffizi. He revolutionised what was a standard Florentine subject. The advent of Christ precipitates an urgent chaos of devotion, contemplation, bewilderment and awe - underscored enigmatically in the perspectival background by fighting horses, exotic animals, and people engaged in various physical pursuits on and in a ruined building. Florentine narrative painting was radically affected by the drama of the unfinished painting.

We first learn in April 1483 that he was no longer in Florence, when he was commissioned with two Milanese brothers to provide paintings, colouring and gilding for a large and complex altarpiece in Milan, which was to include the central panel of *Virgin of the Rocks*. He may have initially arrived in Milan as an artistic emissary to the Duke from Lorenzo de' Medici. When he officially entered the service of Ludovico Sforza is unclear, but after his arrival he drafted a long letter of recommendation to the Duke promising an unrivalled mastery of military engineering, with plentiful "secrets" of his own invention. At the end of the job application he mentions that his artistic accomplishments could "bear comparison with any other".

The altarpiece commission unexpectedly resulted in two paintings, one in the Louvre and the other in London. However, this was not efficiency on the artist's part. In 1506 the confraternity who had commissioned the work were still awaiting the *Virgin of the Rocks*. It seems likely that Duke had commandeered the first version (in the Louvre) as a gift on the occasion of the marriage of Bianca Maria Sforza to the emperor Maximilian 1493. This left the artists to fulfil their initial obligation, which they eventually did in 1508. The two versions of the *Virgin* tell of the meeting of the infants Christ and St. John the Baptist on the Holy Family's flight into Egypt. St. John was under the guardianship of the angel Uriel. The cat's cradle of emotional interchanges is as novel as the system of shadowy colouring. The botanical and geological profusion in the fantastic grotto against which the figures are set again evince Leonardo's rethinking of how the representation of nature can recharge the spectators' engagement with a devotional image.

Looking only at the artistic output of Leonardo's eighteen or so years at the Sforza court, the results are as striking in innovation as they are few in number. There are three notable portraits, one unfinished. The most remarkable is that of *Cecilia Gallerani* painted in or around 1490. The Duke's teenage mistress cradles an unnaturally large but svelte ermine (a symbol of moderation and purity) while she

turns with a slight smile to greet an unseen companion (by implication the Duke). Again a seemingly static subject had been endowed with an implied narrative. The only time he undertook an orthodox profile of an inner member of the Sforza family was his provision of a portrait in ink and chalks of Bianca Sforza for a presentation book on vellum of a laudatory biography of the Duke's father, Francesco (fig.\*\*).

The *Last Supper*, commissioned by the Duke for refectory of S. Maria della Grazie and underway in 1497, is the subject of the first two chapters. The most ambitious project of the Sforza years was the huge equestrian memorial to Francesco Sforza. Leonardo devoted intensive labours to the making a full-scale model, incorporating detailed studies of horse anatomy and proportions, and to the immense task of casting such a colossus in bronze. In the event the hugely expensive endeavour was fatally curtailed by the fall of Ludovico to the invading French in 1499.

This meagreness of output is deceptive. He served the court in various functions, not least as one of the Duke's cadre of civil and military engineers. We have plentiful evidence of his visionary inventions, which are best recognised as the kind of visual boasting that engineers reserved for their treatises. The more work-a-day activities are less well documented and do not survive. The grandest of the realised structures were the scenic machines for major celebrations, above all for magnificent dynastic marriages. Leonardo created astonishing theatrical illusions of domed heavens and opening mountains. These were massive in scale, extremely expensive and necessarily had to be completed on time. Some idea of his inventiveness in this courtly mode is provided by his *Sala delle Asse*, a large corner hall in the Sforza Castle decorated on all four walls and ceiling with a complex bower of interlaced trees and knots of golden rope.

He served more generally as impresario of artistic delights to entertain indolent courtiers. He could turn water into wine, create clever rebuses in the manner of modern emojis, play music on a kind of violin, declaim paradoxical parables and prophecies, devise portable outdoor pavilions, and discourse with complex erudition on why painting is superior to every other kind of artistic pursuit. There are signs of frustration in his notebooks that he was being diverted away from works that would grant him enduring fame.

His burgeoning science found scope to flourish in the court environment and he undertook campaigns to educate himself in the tradition of book learning that derived from the Greek philosopher, Aristotle. Most visually conspicuous is his anatomy in which he mingled data from animal dissections with traditional wisdom and with some input from scarce human material. The greatest of his early achievements in anatomy centered on his studies of a human skull in 1489, in which he was concerned at least as much with brain function as bony structure. Another major concern was optics, as an extension of perspective into a series of complex demonstrations of light and shade from varied sources and on bodies of varied shape. His growing fascination with the mathematics of natural phenomena manifests itself in his studies of statics (such as balances) and dynamics (as in the ballistics of weapons). He devoted increasing efforts to the physics of water in motion, which comprised the theoretical dimension to the hydraulic engineering that he extensively discussed and illustrated in his Milanese notebooks. Underpinning these interests was geometry itself, culminating in his illustrations of the regular and semi-regular "Platonic" solids for

the treatise *On Divine Proportion* by his mathematician colleague Luca Pacioli. The strong impression is that Leonardo was never idle, and that he was prized in the court for far more than completing a few paintings.

The years of diversification in the Sforza court ended in 1499 with the arrival of the French troops of Louis XII, after Ludovico had played his complex hand of diplomatic and military cards in too slippery a manner. Leonardo's immediate port of call was Venice, the maritime republic for which he devised some hydraulic measures to enhance the city's defence against the threatening Turks. By February 1500 he was in Mantua, where Isabella d'Este, sister of Ludovico's deceased wife, had already expressed interest in Leonardo's achievements as a portraitist. He produced a cartoon for an intended portrait of Isabella, but by April he was back in Florence. His promise to turn the cartoon into a painting was never to be realised, and, in spite of her best efforts, the marchioness could not extract a painting of any sort from him. Her representative in Florence reported that Leonardo was working on a cartoon for the *Madonna and Child with St. Anne and St John* and a small painting of the *Madonna of the Yarnwinder* (chapter \*\* ditto). Otherwise, Leonardo's life was described as unsettled. Searching for new opportunities, he spent some nine months or so in the service of the ruthless Cesare Borgia, who was rampaging across central and north Italy to subjugate the so-called Papal States on behalf of the Borgia Pope, Alexander VI.

Back in Florence in February 1503, Leonardo was engaged by the government in various schemes to bring the siege of Pisa to a rapid conclusion, most notably through an ill-fated plan to divert the Arno around the stubbornly resistant city. The most productive aspect of his involvement with the geology of the Arno valley was his growing conviction that the "body of the earth" must have undergone massive transformations over a vast range of time. His chief evidence came from the layered strata of fossils that were disclosed by the cuttings of the rivers (as discussed in chapter \*\* ditto).

Painting suddenly resumed priority. In July 1503, he was re-inscribed in the ledger of the Confraternity of St. Luke, an event triggered by the government's intention to commission a great battle scene for their new council hall. The subject was to be the Florentine victory over the Milanese at Anghiari. To produce the cartoon, he was granted rights to a large hall in S. Maria Novella and he was subsequently provided with a series of payments for materials and components for his innovatory scaffolding. An interim agreement between the painter and the government in May 1504, signed by Machiavelli, suggests that things were not going completely to plan. By this time, he had been uncomfortably joined by his powerful younger rival, Michelangelo, who had been commissioned to portray the battle at Cascina against the Pisans. A little over a year later we learn that Leonardo was actually painting on the wall in the council hall, when his work was severely disrupted by a violent summer storm. He was using an experimental method of oil painting on plaster to depict the central motif of the tangled knot of warriors contesting the Milanese standard. It seems that the new technique was not working out as he hoped.

In March 1506 we see the first signs of a tug-of-war between the Florentine Republic and the French authorities in Milan for Leonardo's prized services. It was not a battle that the Florentines were politically equipped to win. Leonardo and his household

shuttled between the two cities during the course of 1506-7, but by April 1508 the painter was effectively lost to Florence as a resident artist. His unfinished mural of the *Battle of Anghiari*, which depicted enraged warriors and savage horses with unprecedented levels of dynamic ferocity, remained as one of the wonders of the government palace until it was covered with Medicean frescoes in the 1560s. Michelangelo's matching project did not progress beyond a cartoon before he too was drawn away from Florence to work for Pope Julius II in Rome.

Leonardo being Leonardo, there were many other things on his plate at this time in Florence. There were other paintings. The portrait of Lisa del Giocondo, known as the *Mona Lisa*, was underway by 1503, though not completed until much later (chapter \*\* ditto). The newly discovered *Salvator Mundi* (chapter \*\*ditto) was begun in this period, as was the lost *Leda and the Swan*, which was his most highly valued painting in his lifetime. And the second version of the *Virgin of the Rocks* eventually found its way into its designated altarpiece in Milan. Alongside the paintings he was much engaged with geometry, including the time-honoured task of defining a square that would be equal in area to a given circle. He was also digesting the results of his geological observations, which culminated in the Codex Leicester, now owned by Bill Gates (chapter \*\* ditto). Anatomy came to the fore in the winter of 1507-8, when he had returned to Florence, where he was granted permission in the Hospital of S. Maria Nuova to dissect a man who had claimed to have been one hundred years old. In his most important and best-documented human dissection he concentrated on the "irrigation" systems of the body – vascular, bronchial and urino-genital – deciding that the old man's blood vessels had become tortuous and silted up in a way that was analogous to the silting of rivers. This was in keeping with his doctrine of the microcosm, in which the "lesser world" reflects in the operation of its whole and its parts the larger world of the "body of the earth".

The French in Milan, including the king himself, clearly regarded Leonardo as a great catch. He was granted various privileges and a substantial salary. He re-engaged with the subject of the Madonna and St. Anne, starting on a painting probably intended for the king. However, the finished work only entered the French royal collection after the artist's death. He was diversely engaged on various courtly tasks, including architectural projects, spectacular theatrical designs and the planning a bronze equestrian monument to the Milanese general Gian Giacomo Trivulzio. The element of reprise at the Milanese court embraces the geometry of volumes and areas; attempts to "expedite all this "anatomy"; the furthering of plans for a treatise on water (spanning theory and practice); the development of his ideas about the ancient history of the earth; a treatise on bird flight that served to refine his designs for an flying machine; and an intense study of the internal optics of the eye in which he comes to redefine seeing as a more ambiguous business than he had previously assumed. There are two main achievements in his later anatomical researches. The first comprises the magnificent studies of the organic form and complex mechanics of the skeletal and muscular systems undertaken around 1510. The second concerns the heart, in which he explored the relationship between the heart's fleshy interior and the geometrical motions of the blood. He showed that the aortic valves exploit the curvilinear turbulence of the blood to fill the three concave cusps of each valve so that the blood expelled into the vessels with each pumping contraction would not reflux. Well might he write, "let no-one who is not a mathematician read my principles".

After about five years serving the French in Milan, he transferred to Rome, where the Florentine Giovanni de' Medici had recently been elected Pope as Leo X. He entered the household of the pope's brother, Giuliano, and was lodged prestigiously in the Vatican. He may have begun the *St John the Baptist* in Rome. The prophetic saint, in a sea of dense shadow, points heavenwards to the ultimate source of spiritual power and smiles with that conspiratorial knowingness that Leonardo reserved for figures who know the secrets. It may be that Giuliano was responsible for Leonardo resuming work on the *Mona Lisa*. Other partially finished paintings, such as the *Leda* and *St Anne*, were probably also the subjects of continued attention. However, his primary role for Giuliano seems not to have been as a painter. He was involved in projects of hydraulic and maritime engineering, and strove to perfect huge concave "burning" mirrors that could act as intense sources of heat, not least for the incineration of enemy ships. One of the German craftsmen employed by Leonardo as a mirror-maker denounced him for undertaking anatomies, which he was still pursuing avidly. Geometrical conundrums continued to occupy him, but what seemed to be solutions to the squaring of the circle failed to hold up after his initial excitement.

In the winter of 1515 he went with Giuliano to Florence for the triumphal entry of Leo X, and he began to draw up plans for a grand new Medici palace in the city. But he soon travelled to Bologna, where the Pope was to conduct a hugely important summit with Francis I. Leonardo's famous drawing at Windsor of the Roman wolf in a boat navigating towards an imperial eagle may well be a allegory of the resulting *Concordat*. With the unexpected death of Giuliano in March 1516 Leonardo was left without an employer. In a declamatory note he lamented that "the Medici made me and destroyed me".

Leonardo was of course well known to the French from his service in Milan, and he would have encountered the new king, Francis I, at the Bologna summit. At some point in 1516 he took up Francis's offer of lucrative patronage and moved to France. He was grandly ensconced in the manor house of Clos Lucé at Amboise, below the imposing royal chateau. He was accorded a huge salary, with proportionately substantial stipends for the members of his household. The king was buying into Italian Renaissance culture, and Leonardo's presence was valued as such. One witness recorded that

King Francis, being enamoured to the very highest degree of Leonardo's supreme qualities took such pleasure in hearing him discourse that he would only on a few days in the year deprive himself of Leonardo... He said that he did not believe that a man had ever been born in the world who knew as much as Leonardo, not only of sculpture, painting and architecture, but also that he was a very great philosopher.

Leonardo was displayed to visiting dignitaries, as recorded in October 1517 in the travel diaries of Antonio de' Beatis who was accompanying the Cardinal of Aragon on his European Tour. The visitors were shown paintings, including the *Mona Lisa* and the *Virgin Child and St. Anne*, and the remarkable collection of manuscripts, of which those devoted to anatomy made the most powerful impression. Leonardo was reported to have suffered paralysis in his right side, presumably induced by a stroke.

The king did expect some work from Leonardo, and was rewarded with such wonders as an automated lion that strode forward to open its breast, revealing French *fleur de lys* against a blue background - apparently signifying peace. For the celebrations of the wedding of young Lorenzo de' Medici and the king's niece, Leonardo re-staged the heavenly "Paradise" that he had originally devised for Milan in 1490. He was also deeply engaged with a hugely ambitious project for a castle-palace at Romorantin, involving hydraulic engineering and ornamental water works. His extensive studies, including extended site visits, did not immediately bear fruit, but the cluster of glorious French chateaux in the Loire region testify to Leonardo's impact in synthesising new Italian Renaissance design with the traditional morphology of French castles.

In spring 1519 Leonardo deemed it prudent to draw up his will. Certified in Amboise on 23 April, it details his legacies, with the appurtenances of his art and his writings left to Francesco Melzi "nobleman of Milan", his well-educated Lombard pupil. The rascally Salaì, referred to as a "servant", was given half of Leonardo's "garden" in Milan, on which Salaì had already built a house. The careful provisions for an elaborate funeral and pious masses confirm his orthodox devotion to "Our Lord Almighty God" and the saints. Although he clearly harboured doubts about how some holy men and women conducted their affairs, he did not doubt the existence of God. His researches testified definitively that the wonderful design of nature, particularly the "microcosm", could only be the product of the ineffable Creator of the world.

Soon after the master's death on 2 May 1519 at the age of sixty-seven, Melzi wrote movingly to Leonardo's half-brothers in Florence:

I understand that you have been informed of the death of Master Leonardo, your brother, who was like an excellent father to me. It is impossible to express the grief I feel at his death, and as long as my limbs sustain me I will feel perpetual unhappiness, which is justified by the consuming and passionate love he bore daily towards me. Everyone is grieved by the loss of such a man whose like Nature no longer has it in her power to produce. And now Almighty God grants him eternal rest.

Leonardo's "eternal rest" in his grave at Saint-Florentin at Amboise was to be disturbed when the graveyard was desecrated in 1802. It is unclear if the human remains re-buried in the Chapel of St. Hubert in the castle are actually Leonardo's.

Melzi and Salaì returned to Lombardy. From the will, we might expect Melzi to have inherited all Leonardo's works of art. He certainly cherished the considerable stock of manuscripts and drawings. It is therefore puzzling to find on the violent death of Salaì in 1524 that he and not Melzi had seemingly come into possession of the group of paintings that Leonardo had never passed on to his patrons, including the *Leda*, the *St. Anne*, the *Mona Lisa*, the *St. John*. All of these at some point or points were acquired for the French Royal Collection.

Leonardo's precious legacy of paintings, drawings and writings were about to embark on their extraordinary and tortuous journeys of attrition and survival, ascending unevenly but remorselessly to their present state of near-deification.

## BIBLIOGRAPHICAL NOTE

For an extended account of the above, see M. Kemp, *Leonardo da Vinci: The Marvellous Works of Nature and Man*, Oxford, 2006.

For a comprehensive and well-illustrated account of Leonardo's paintings and drawings, see F. Zöllner, with J. Nathan, *Leonardo da Vinci*, Cologne, 2003.

**Note: there is a question as to whether we insert fig. nos. to later illustrations, and/or phrases that refer to coming chapters. I am inclined not to do either but let this stand.**