

LEONARDO DA VINCI.

IN the year 1452 there was born at Castello da Vinci—an obscure village in the lower Val d'Arno, near Empoli—a child whose father was Ser Piero da Vinci, and whose mother was a certain Caterina, of whom, beyond the fact that she brought into the world this immortal love-child, and that later on she married one Accattabriga di Piero del Vacca da Vinci, nothing whatever is known.

The child born to Piero and Caterina was called Leonardo, a somewhat uncommon name at that time, and with the giving of which astrology may have had something to do. Leonardo was an illegitimate child. Was he ever legitimized? It is impossible to speak with certainty on this point. Vasari says nothing about the circumstances of his birth, and does not appear to have known even that he was illegitimate. The fact is established by documents and legal records; but neither Dei nor Uzielli, to whom we are indebted for valuable researches, brings forward any proof to substantiate the common belief that he was ever legally entitled to take his place as a child of the house in his father's family.*

Leonardo showed, from earliest childhood, remarkable quickness of intellect, and aptitude for learning. Vasari says he made such rapid progress in the short time he gave to the study of arithmetic that he often confounded the master who was teaching him by the perpetual doubts he started, and by the difficulty of the questions he asked. It is in the experience of many a teacher to meet with bright minds like this, and the experience would be a more common one than it is were it not the effect of our ordinary school methods rather to deaden intelligence than to awaken it. But it is the everyday fate of such quick-sprouting intelligences that they show best at starting, and rarely fulfill the promise of their prime. Leonardo, however, was a striking exception; the curiosity of his boyhood was a fire that never dimmed; the independent character of his

mind showed in all he did from the beginning of his life to the end. From boyhood, he had an inclination to music, and learned to play upon the lute, improvising at once the music and the words. His modern biographers make bold to endow him with other graces, with skill in dancing and in fencing; but this, though probable enough, is only conjecture.

Although it is probable that Ser Piero passed most of the year in his town-house in Florence, yet the tastes of Leonardo must have led him much into the fields about the city, and to his country home at Vinci. The San Spirito Quarter of the city of Florence, in which the town-house of the Vinci family was situated, was itself a sort of rural suburb shut off from the outlying country-side by the city walls, but much less thickly settled than the city proper on the other side the Arno. Thus Leonardo enjoyed, what is so valuable to a boy of his temperament, the double advantage of life in the country and life in the city. He studied nature, and he studied men; but it is probable that, in these early days of youth, he was much more interested in the knowledge he gained from his rambles in the fields and over the low-lying hills that surround Florence than in that study of the human face in which he afterward took such delight.

We are not left to conjecture to discover what were his boyish employments. The MS. books which he left behind him, and which must have been begun at least in early life, contain, as is well known, an enormous number of notes, memoranda and drawings relating to every department of human study as applied to the material world. Of the thirteen volumes of MS. left behind him at his death, the largest, called, from its size, the "Codice Atlantico," is in the Ambrosian Library at Milan;* and of the remainder

* There have been several publications containing specimens more or less accurately copied from these MS. books; but the most valuable contribution to our knowledge in the matter is contained in the "Saggio delle opere di Leonardo da Vinci," published at Milan in 1872. These specimens are copied by photo-lithography from the "Codice Atlantico," and consist of twenty-four out of the close upon four hundred pages of that MS., and with, of course, only a correspondingly small number of the whole seventeen hundred designs contained in the whole. Incomplete as it is, however, this record is of great value, since the mode of reproduction gives us the very form and pressure of Leonardo's hand.

* Ser Piero was twenty-five years old at the time of Leonardo's birth, and he married the first of his four wives in the same year, 1452. By neither of his first two wives does he appear to have had any children; but the third wife brought him five children, three boys and two girls, and by the fourth wife, who outlived him, he had six more, all boys but one. Leonardo was twenty-five years old when the youngest of these eleven children was born.

those that survive are to be found, some in the library at Paris, others in the Queen's library at Windsor, and others still in the British Museum. Here we see the traces of that alert, questioning mind of Leonardo, which began, even in boyhood, to fly abroad everywhere, and to feed on everything that lay in its path with the happy industry of the bee. Here we find him noting down on paper the observations made in his walks. Brought up in the neighborhood of Florence, —a city so famous for the beauty of her wild flowers that it has been thought she owed her name to them,—it was natural that a boy of Leonardo's turn of mind should be drawn to the study of botany. The sketch-books he has left us contain many beautiful drawings of flowers and leaves, accompanied by notes that hint at discoveries of laws of vegetation which waited many years before they were rediscovered and published to the world by other men. It is rare that any dates are attached to these sketches and jottings of natural phenomena; but it is most natural to suppose that many of them were made in the season of youth before he was tied down to the labors of professional life, while as yet he was free to wander where his fancy led him, and to meditate for days or hours in the solitude of his chamber or of the fields. It is to his boyhood still that we may perhaps be permitted to refer his efforts to discover the laws that control the placing of the leaves about the stem (*phyllotaxis*), or those other laws that relate to the formation of the wood and bark. He was not content with his own drawings, exquisite as many of them are, but sought a way of making a more scientific record of his observations, and devised an herbarium in which impressions of the petals of flowers and of their leaves should be taken by a process identical with what is called, in our day, nature-printing. His fancy, playing with the subject, invented a number of apologues in which flowers and trees are the actors; and one of his earliest performances, according to Vasari, was a picture of the Virgin, in which, among other accessories, was a bottle filled with water, and containing some flowers painted with the most lively truth to nature, and having the dew-drops admirably executed on their petals.

But it was not on one side only that nature incited him to study. The river that ran through Florence, with its restless rise and fall; now swollen with the autumn rains to such a height as to threaten the safety of its banks; invading the houses and inundating

the churches, and then again falling, perhaps in a single day, so low as to be fordable; the Arno, and indeed all the water-courses of the wide region neighboring

Florence would suggest to the mind of Leonardo, in which

the practical and the ideal were so subtly mingled, thoughts connected with the whole subject of hydraulics, a subject that seems to have had more solid attractions for him than any other outside the domain of art. His sketch-book shows how much he was interested in canals, whether for navigation or irrigation (Figs. 1 and 2), both of the highest importance to the wealth of Italy; in machines worked by water; in contrivances for raising water from a lower level to a higher (Fig. 3); and, in general, in everything that related to that element considered as an agent in human affairs. Everything in the conformation of the region in which he found himself living quickened his perception of obstacles, and prompted his ingenuity in devising ways of overcoming them. There was the river, as has been said, to control and guide; and, while still young, he devised a canal by which, the course of the Arno being changed between



FIG. 1.—
DEVICE BY WHICH A STREAM, NOT NAVIGABLE EITHER BY REASON OF TOO LITTLE DEPTH OR FROM LIABILITY TO FAILURE IN TIME OF DROUGHT, MAY BE MADE USEFUL. IT IS DIVIDED INTO SECTIONS BY DIAGONAL DAMS PROVIDED WITH LOCKS AT THE SMALL ANGLE.

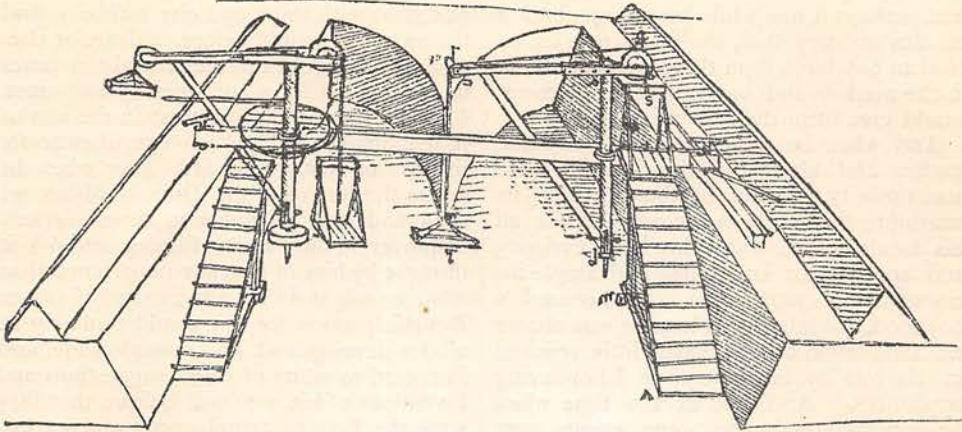


FIG. 2.—DEVICE FOR EXCAVATING A CANAL AND PILING THE EARTH DUG OUT UPON THE BANKS TO MAKE THEM HIGHER. THE DERRICKS AND SELF-DUMPING HODS ARE LIKE THOSE IN USE TO-DAY.

Pisa and Florence, the river might be made navigable. This plan, rejected in his own day as chimerical, was carried out two hundred years later. Then there were the mountains that girdled the city with a wall that, if it in some degree protected her from her foes, isolated her from her neighbors as well. The young Leonardo proposes boldly to pierce this wall, to tunnel it, that valley may be married to valley, and plain to plain. And, as if the river could not bear him fast enough to regions beyond this narrow valley, or the tunneled mountains make rapid enough the communication of man with man, his mind must busy itself with devising wings (Fig. 4) by means of which he could at length be wholly free, and soar whithersoever he would. He fills his note-books for a time with these devices,

and taking, as it was natural for a boy to do, the wing of the bird for his model,—how many painted angels, “birds of God,” he had seen in the churches!—he studied

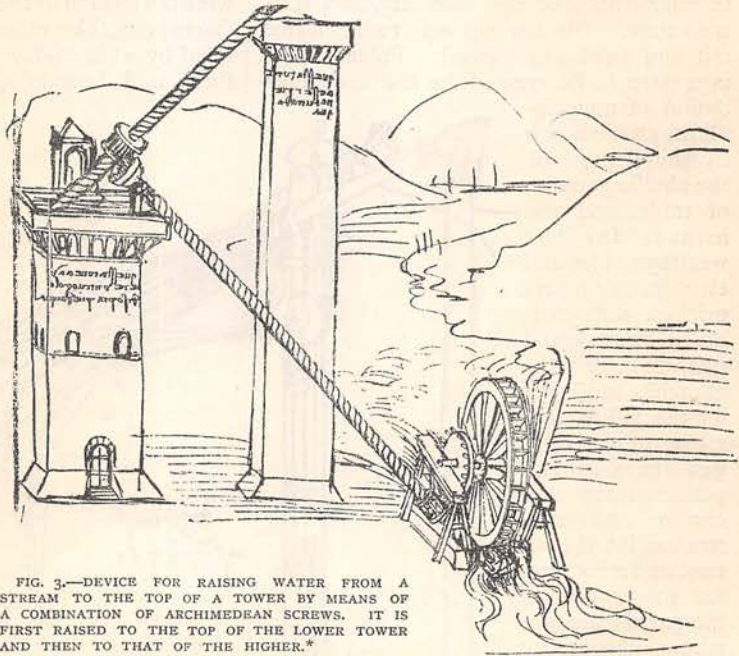


FIG. 3.—DEVICE FOR RAISING WATER FROM A STREAM TO THE TOP OF A TOWER BY MEANS OF A COMBINATION OF ARCHIMEDEAN SCREWS. IT IS FIRST RAISED TO THE TOP OF THE LOWER TOWER AND THEN TO THAT OF THE HIGHER.*

the anatomy of their wings, their bones, the tendons, the attachments of the muscles;

* On these two towers are inscriptions in the handwriting of Leonardo, written in the peculiar manner almost always employed by him in these sketch-books. The writing runs from right to left, and can only be read by reflecting it on a mirror. The original drawings are so much reduced in size in order to accommodate them to these pages that it will be difficult for the reader to make the inscriptions out.

On the left-hand tower is written in Italian: “This tower must have a trough on top filled with water.” And on the right-hand tower: “This tower has to be completely filled with water.” As Leonardo could write perfectly well in the usual European manner, it is supposed that he used this method for purposes of concealment.

and perhaps it was while he was meditating on this mystery that, as Vasari tells us, he used to buy birds from those who sold them in the markets and, having purchased them, would give them their liberty.

And when he turned from his way-side studies and his life in the country, there was the city with its bustling activity, its swarming life, where he found play for all his faculties, and where his keen curiosity and appetite for knowledge had ample incitement and satisfaction. In Leonardo's boyhood, the labor of Florence was almost all hand-labor, the workman little relieved in his toil by machinery or labor-saving appliances. And just at the time when he appeared upon the scene, events were taking place which were to give an immense stimulus to the material development of Italy and set in motion all the arts and trades that could minister to the luxury and comfort of her people. New roads were to be built for better and more rapid communication of city with city, and state with state. Old harbors were to be cleared out and new ones formed. Public buildings were to be erected for the accommodation of municipalities growing rich by the deposit of the swelling stream of trade, and new houses for the wealthy nobles and the merchant princes, with marble and mosaic and pictures for the churches, and jewels for the ladies, with statues of victorious generals in the public squares, and chalice and monstrance for the altars, and reliquaries for the bones of the patron saints to whom this rising tide of prosperity must justly be ascribed.

These were the arts of peace, but the time of peace was not yet come, and there were long fights to be fought of faction with faction,

and state with state, and city with city, and nation with nation, before, in Italy or elsewhere, men could eat their meals in peace under the shadow of their own vines. Leonardo was full of interest in the arts of peace, but he had a keen eye likewise for the arts of war, and a little later when he enters the service of the Duke of Milan, we shall find that his ability to serve his new employer in his wars (Figs. 5 and 6) is thought by him of far more importance than what he might do for him in time of peace. But this passion for war would probably be a later development in Leonardo's life, and in regard to many of these suggestions and inventions of his, we must believe that they were the fruit of actual needs and experience in the varied labors that he undertook. He would find himself hindered in every direction, losing time, losing the fruit of his own labor, in consequence of the want of tools in the workmen's hands, and of the slow and unintelligent methods of work that were the fashion of the time. Inventors and discoverers, like other workers, are stimulated by what to-day with its duties brings them, and Leonardo, no more than Frank-

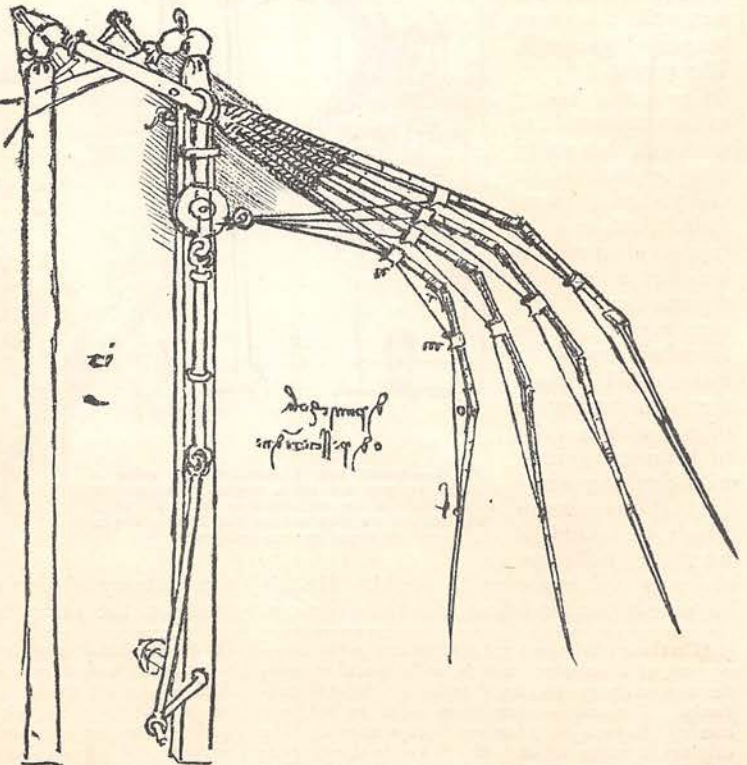


FIG. 4.—ONE EXAMPLE OF SEVERAL DEVICES CONTAINED ON SEPARATE SHEETS, EMPLOYED BY LEONARDO IN HIS STUDIES IN THE MECHANISM OF FLYING.

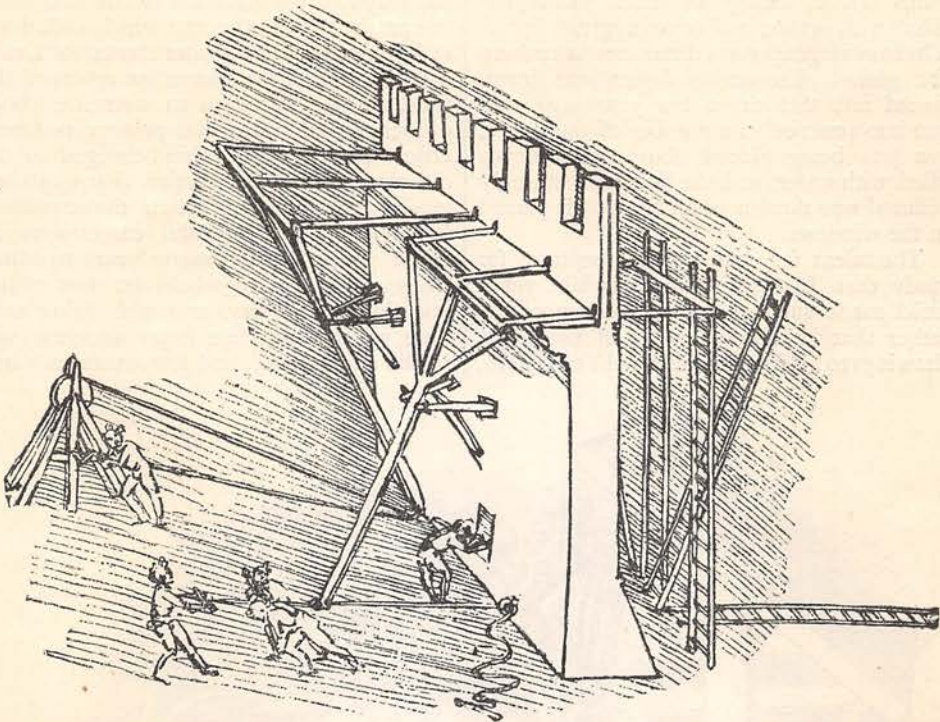


FIG. 5.—DEVICE PROPOSED BY LEONARDO FOR PUSHING AN ENEMY'S SCALING-LADDERS AWAY FROM A WALL.

lin, set himself to work in cold blood and out of pure humanity to lighten the task of the laborer. He had to use the labor of these men—of the most of them, at least—in his own tasks, and it would be while he was watching the slow workmen, who were carrying out his plans with the rude tools inherited from their Roman ancestors, that he would be stimulated to find out ways for helping both himself and them. On this entirely practical side,—to which belong an effort to invent a method of making files by machinery (Fig. 7), a way of sawing marble blocks instead of separating them by means of natural cleavage and the slow process of rubbing down by hand (Fig. 8); in his efforts to devise machines for planing iron, for making vises, saws, and planes, for spinning, for shearing the nap of cloth, for all the operations connected with civilized labor; in the invention of the wheelbarrow, of the artist's sketching-stool, of a color-grinder, a spring to keep doors shut, a roasting-jack, a hood for chimneys, movable derricks, similar to those in use among us to-day (Fig. 9), with contrivances for setting up marble columns on their bases (Fig. 10), besides a hundred other devices for the easing of daily toil, Leonardo belongs to the class of useful in-

ventors with Franklin and others of less note. Rising a step higher we find him experimenting in all the sciences, in optics, in hydraulics, in mechanics, acoustics, magnetism, heat and light, and in all these fields making observations and suggestions that relate him to minds of a subtler and more imaginative cast,—to the rarer Edisons and Daguerres of our own time. But in considering him as an inventor, or as an explorer, in the domain of physical science, we must remember that he belonged to a country which has produced more minds of this class than any other, our own hardly excepted, and that profuse as his talent was, it might appear less so if it were once brought into minute comparison with the whole series of discoveries and improvements that belong to his age. Leonardo would have been a miracle in Germany, as was Albert Dürer, but surely he was less a miracle in his own Italy. In passing, I may mention his attempt to better the lamps of his countrymen, to which he was no doubt driven by the difficulty he found in working at night. Fig. 11 shows a lamp for burning oil in which the flame is inclosed in a globe filled with water, the result being, as Leonardo says in the uppermost legend that,

"this globe, being of thin glass and filled with water, will give a great light." The lower legend gives directions for making the globe. Leonardo's device was introduced into this city a few years ago, and put into practice in a number of our shops, gas jets being placed above glass bowls filled with water, and the light thus strongly diffused was thrown upon the goods placed in the windows.

The talent for drawing and the taste for study that Leonardo showed while yet a child made such an impression upon his father that he showed some of the boy's drawings to his friend Andrea del Verrocchio,

not only gave his attention to one branch of the art, but to all the arts which called for skill in design. The master chosen for Leonardo was, of all the Florentine artists of the time, the one best fitted to instruct a youth of such varied tastes and powers as Leonardo. Andrea Verrocchio belonged to the old stock, to the generation that was then leaving the stage, although the traditions founded by their splendid career were to linger on in Italy for many years to come. These were men to whom art meant not one thing but many, and who, living at a time when there were many undertakings, public and private, and few artists to carry

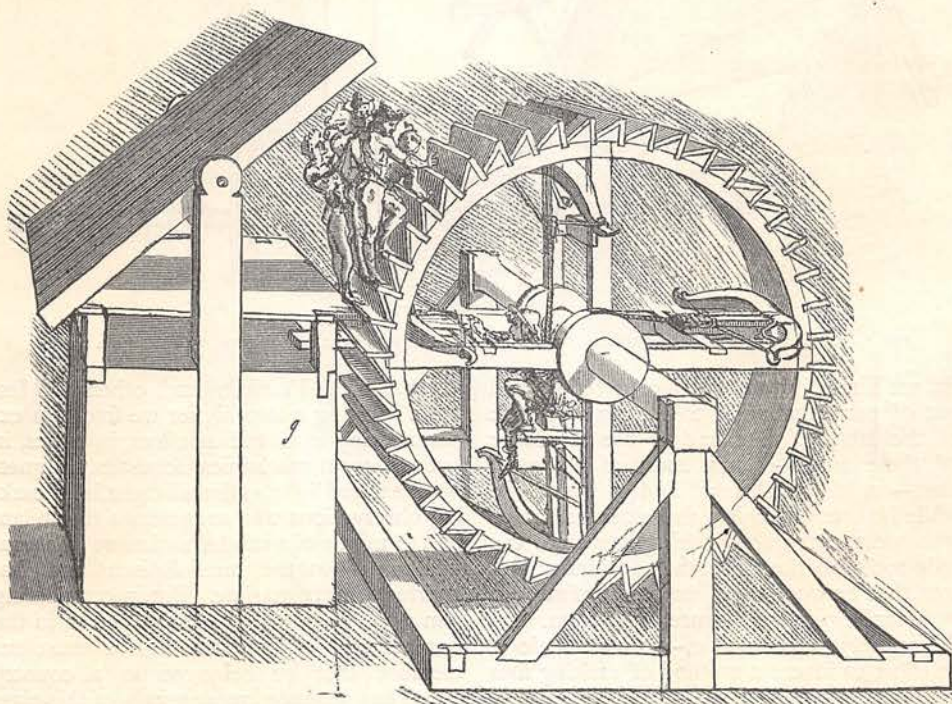


FIG. 6.—MILITARY ENGINE DESIGNED BY LEONARDO. A SUGGESTION OF THE MITRAILLEUSE. THE MEN PROTECTED BY THE SCREEN FROM THE ARROWS OF THE ENEMY, TURN THE WHEEL BY A TREAD-MILL DEVICE, AND AT THE SAME TIME SET THE CROSS-BOWS. THE BOY IN THE MIDDLE PLACES THE ARROWS IN THE BOWS AS THEY COME AROUND, AND PULLS THE TRIGGER.

the sculptor, begging him to tell him whether he thought his son would be likely to succeed in the arts of design, if he should devote himself to them. Verrocchio was amazed, says Vasari, when he saw these childish essays, and not only encouraged Ser Piero to allow his son to become an artist, but himself offered to take him into his own studio. Accordingly Leonardo, at that time probably in his sixteenth year, entered the bottega or work-shop of Verrocchio, going, says Vasari, with the utmost readiness, and

them on, had trained themselves and trained their assistants to put their hand to all the arts of design in turn. He was, first of all, a goldsmith, as so many of the Florentine artists had been, but he was also a painter, a sculptor, a carver in wood and a worker in terra cotta, and Vasari adds to these accomplishments that he was a master in perspective and a musician. Andrea was not a man of genius, and it was not possible for him to excel in all these arts at once. This was reserved for the wonderful

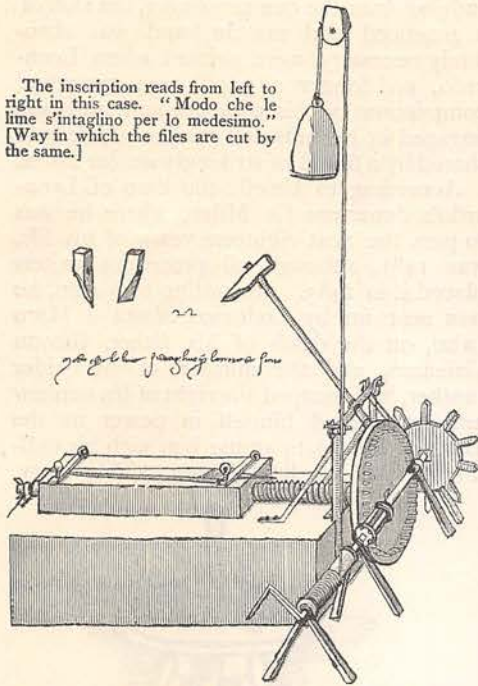


FIG. 7.—FILE-CUTTING MACHINE, DEVISED BY LEONARDO.

boy who for the next six years was to be a member of that artist family to which belonged, among others of less note, Pietro Perugino and Lorenzo di Credi. But Verrocchio's genius, such as it was, was in reality subordinate to that of his pupil, and he could only serve him on the lower plane of mechanical method, and even there must often have found Leonardo able to better his instructions.

We have no means of knowing certainly the date at which Leonardo entered the workshop of Verrocchio, or that at which he left it. The probability seems to be that he entered it in 1466, and that in 1472, when Verrocchio went to Venice to make the equestrian statue of Colleoni, Leonardo had already left the bottega of his master and set up one of his own.

It is worth considering whether we should not refer the pictures which, up to this time, have been considered the work of Leonardo's extreme youth to the time when, having left Verrocchio's studio, he was living on terms of friendly intimacy with Rustici, the sculptor who modeled, with Leonardo's assistance, the bronze group of John the Baptist preaching to a Pharisee and a Levite, which is above the north door of the Baptistery of Florence. Vasari, it is true, gives no hint as to the dates at

which either the Rotella,* the Medusa (Fig. 12), the Neptune, the Virgin of the Carafe, or the Adam and Eve were produced; but all his modern biographers refer the first three of these at least, and especially the Rotella, to the time when Leonardo was a boy under his father's roof. Reading what Vasari tells us of the pursuits of the two friends, and reasoning from the execution of the only one of these pictures that exists,—and there can be little doubt that the Medusa of the Uffizi is the original picture which Vasari describes,—it may not be too rash to express a belief that these were not the works of any child, however precocious. One fact stated by Vasari gives color to this belief, for he says that Rustici had a room constructed something in the manner of a fish-pond, and in this room he kept snakes and serpents of various kinds which could not get out (an aquarium, in short), and here he found the greatest amusement, more particularly in the summer, from standing to look at these creatures, observing their fierce gambols and the strange contortions they made, with indescribable pleasure and interest. Dogmatism, on a matter reported so vaguely and in so hap-hazard a manner as is the life of Leonardo

* The shield of fig-tree wood on which, to please his father, Leonardo painted a monster made up of all sorts of reptiles.

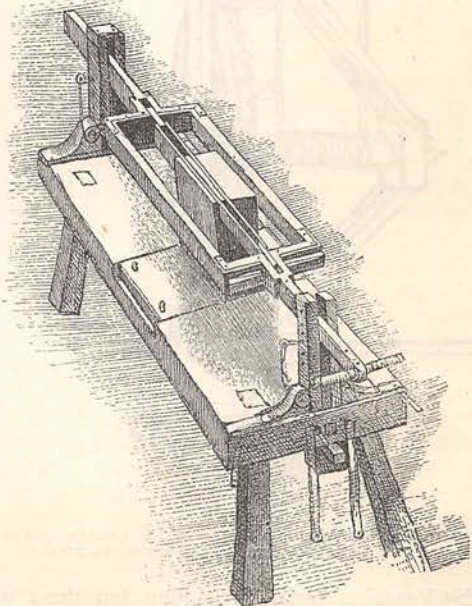


FIG. 8.—MACHINE FOR SAWING MARBLE, DEVISED BY LEONARDO.

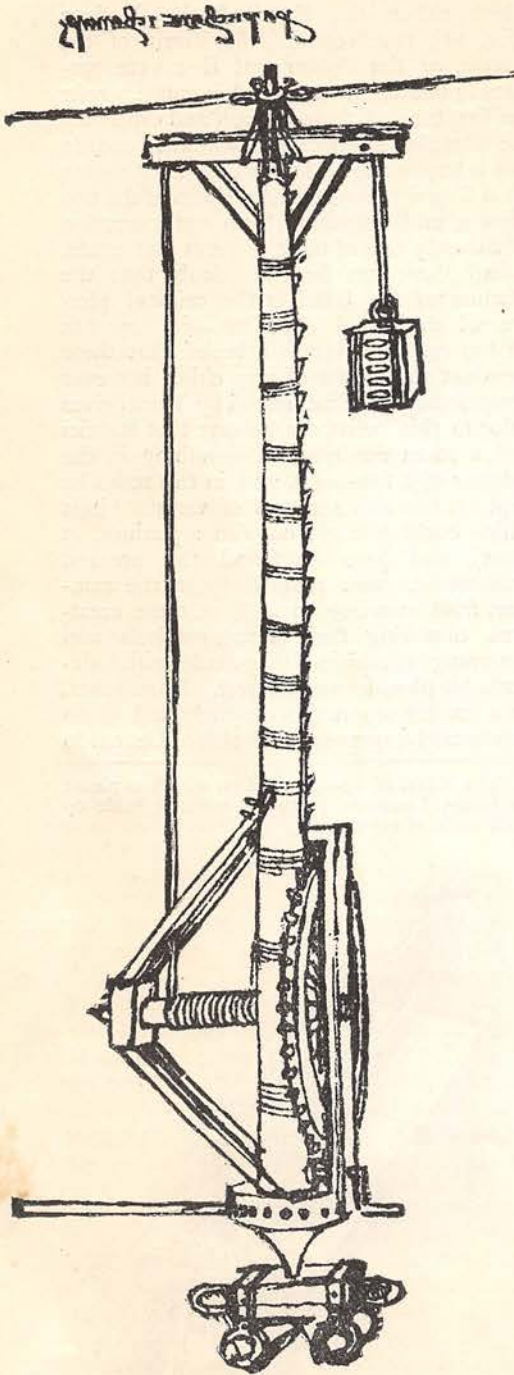


FIG. 9.—DESIGN FOR A MOVABLE DERRICK. LEGEND AT THE TOP, "FOR ATTACHING ROPES." [WRITTEN BACKWARD.]

by Vasari, is plainly forbidden, but there is a certain consistency in the supposition that these exquisitely finished pictures, for which,

judging from the one remaining, the skill of a practiced and mature hand was absolutely necessary, were painted when Leonardo, no longer a pupil, was executing commissions on his own account, and was engaged in pursuits and studies which were shared by a friend of strikingly similar tastes.

According to Uzielli, the date of Leonardo's departure for Milan, where he was to pass the next eighteen years of his life, was 1481, although all preceding writers placed it in 1483. According to Vasari, he was sent for by Lodovico Sforza il Moro (who, on the death of his father, Giovan Galeazzo, and the murder of his elder brother, had usurped the right of his nephew and established himself in power as the Duke of Milan), to amuse him with his well-known skill in lute-playing. This story,

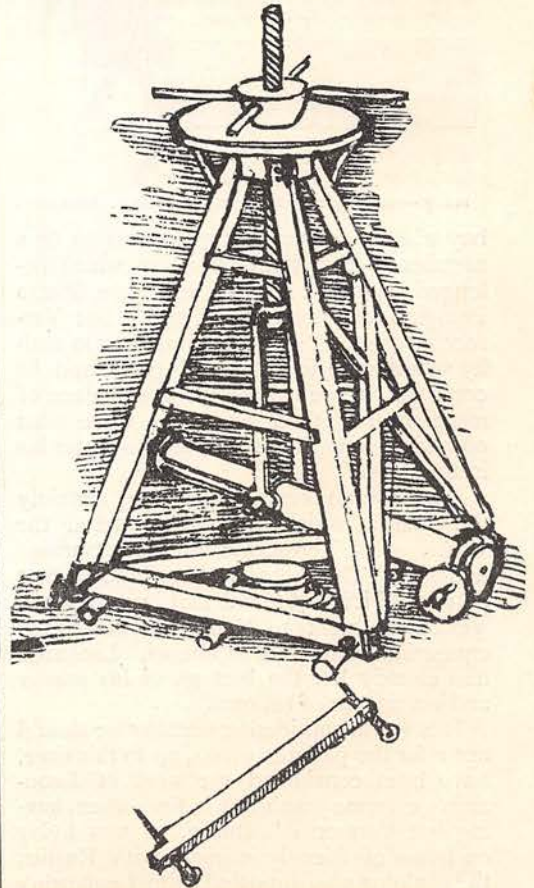


FIG. 10.—MACHINE FOR LIFTING MARBLE OR STONE COLUMNS INTO POSITION. THE DRAWING BEING, LIKE ALL THE REST, A MERE OFF-HAND SKETCH, THE COLUMN HERE LOOKS LIKE A BATTERING-RAM, BUT THE LEGEND EXPLAINS IT, AND THE BASE ON WHICH THE COLUMN IS TO REST IS PLAINLY SEEN. IN PRINCIPLE, THIS DEVICE WAS LATELY EMPLOYED IN SETTING UP THE CLEOPATRA OBELISK ON THE THAMES EMBANKMENT.

always difficult to believe, seems put out of the question by the discovery of a letter written by Leonardo to the duke and preserved in the archives of the Ambrosian library at Milan. This letter, which is written not in Leonardo's usual manner, but in the common way, from left to right, recounts in a brief, itemizing style the accomplishment of the writer as a military engineer in time of war, and as an architect, whether for public or private buildings, or for those which relate to the collecting and distributing of water, as a sculptor in bronze, marble, and terra cotta, and as a painter, and closes with the assurance that he can, if needed, execute the bronze equestrian statue of the duke's father.

Several things are to be noted in this letter. Leonardo, in the first place, says not a word as to his skill in music, which, according to Vasari, was the sole reason for his going to Milan. Again, he lays the greatest stress upon his skill in military engineering in a series of propositions which, in themselves, reveal the nature of his studies for several years, of which only a few hints have reached us from any other source, and finally, while his assertion of his ability as a painter is sufficiently explicit,—“In painting, I can do whatever may be needed as well as any one, whoever he may be,”—yet, both with regard to painting and sculpture, he assumes an air of indifference, as if he both considered them himself, and supposed others would consider them, of secondary importance. And is it not true that Leonardo's interest in science, in mechanics, in engineering, in the phenomena of nature, and in the application of his studies in these matters to useful ends, together with his love of pleasure, was deeper and stronger than his love of art; that he looked upon these things as the serious purpose of his life, so far as that life had a serious purpose, and that he regarded the arts of painting and sculpture as only the lofty amusements of his leisure? Lodovico il Moro was a sensual and cruel tyrant; but in him, no more than in other men of the same qualities, particularly in Italy where the breed seems to have flourished best and to have been most prolific, was this character inconsistent with a love of the arts and of letters. He had a hundred projects for enlarging and making beautiful his city of Milan and the rich country about it, and for the glorifying of his own family, and he would naturally welcome any man who, like Leonardo, came to him with such compre-



FIG. 11.—DESIGN FOR A LAMP, THE LIGHT TO PASS THROUGH A GLOBE FILLED WITH WATER. INSCRIPTION WRITTEN FROM RIGHT TO LEFT.

hensive offers of assistance in his enterprises. It is true that such a letter as Leonardo wrote to Lodovico would have been looked upon with suspicion unless something were known of the writer which would justify his promises; but except as a man who had painted a few pictures, more remarkable for their technical skill, and for the curious habit of mind they revealed, than for any purely artistic or creative qualities, and as one who had made himself an object of wonder in his native town as a proposer of ingenious and daring innovations, no one of which was ever seriously considered by his townsmen, it is difficult to see how the reputation that preceded Leonardo's visit to Milan could have been justified by any actual performance on his part. Vasari says, indeed, that he began many things and completed few, and his brain, filled with a thousand projects and inventions, led him over a wide field of human endeavors; but the greater part of these projects never went further than the paper on which he described them with pen or pencil; nor from the raising of the Baptistery on its foundations to the diverting of the course of the Arno, was any project of his, however eloquently presented, ever intrusted to his hands to execute. And happy is it for us

that so visionary, so inconstant a genius was not allowed to have his way with the Baptistery—Dante's beautiful church of St. John!

The work most necessary for the prosperity of Milan was the improvement of the water-ways, and the canalization of the streams that connect the great Lombard city with the Po and the cities along its banks. The greatest of these undertakings was the completion of the Martesana Canal, begun under Francesco Sforza in 1451, and intended to connect Milan with the Lake of Como by the River Adda. Problems connected with the management of water and of irregular streams had long interested Leonardo, having been forced upon his attention, as we have suggested, by the troublesome nature of his native Arno. Vasari tells us that he made designs for mills, fulling-machines, and other engines to be moved by water, and that it was only his determination to make painting his profession that prevented his giving his whole time to these experiments and studies. Now, in Milan, he was to have a wider field, a full scope for his favorite pursuits; but both his own inconstancy and that of the duke made it impossible for him to be monopolized by mere utilities. Accordingly, after beginning work upon the Martesana and other water-courses, after spending time, as

indicated by his drawings, in improving, if not inventing, the system of locks, and giving many hours to devices to make dredging easy, and otherwise lightening the labor of the workmen, we find the work in a measure abandoned, and Lodovico calling upon him for assistance in other matters. When Leonardo presented himself first before the duke, it was (Vasari says) as a contestant in a musical contest, and he carried off the palm from all his rivals, accompanying his improvisation upon a lyre constructed almost wholly of silver and shaped like a horse's head. The duke's delight in his new courtier was unbounded; and on the strength perhaps of his two pictures, which we suppose to have been already in Milan, the *Rotella*, now lost, and the *Virgin of the Rocks*, the original of which is supposed to be in the Louvre, he gave him a commission for an altar-piece of the *Nativity*, which he afterward presented to the Emperor Maximilian, and of which all trace is lost.* With the true indifference both of his own nature and of that of the age in which he lived, his next task is the painting of the duke's two beautiful mistresses, Cecilia Gallerani and Lucrezia Crivelli.

* We may suppose that Albert Dürer saw this picture, and it may have been his first introduction to the genius of Leonardo, to which, as Mr. Charles Ephrussi has shown, he was afterward so strongly drawn.



FIG. 12.—THE MEDUSA OF LEONARDO, IN THE UFFIZII GALLERY, FLORENCE.

It was in the same year that he also laid the foundation of that Academy of the Fine Arts, which was absolutely necessary, considering how few persons there were in Milan, or even in Lombardy, on whom he could call for assistance in the artistic works he had undertaken, and which he saw awaiting his hand. We know almost nothing of this Academy, of its precise objects, of its laws, or of its methods; and nothing is more pos-

posed,—few of which exist, except in name, —together with the great mass of notes and sketches now collected into the MS. volumes of Milan, Paris, and Windsor, were all intended for the use of the students of the Academy. The celebrated "Treatise on Painting" was made up after his death, from notes scattered through his voluminous MSS., and he is in no way responsible for its want of unity and the absence of scientific arrange-



FIG. 13.—FAC-SIMILE OF ETCHING SUPPOSED TO BE BY LEONARDO'S OWN HAND.

sible than that it never advanced beyond the designing of that device composed of cords curiously intertwined, in the midst of which are inscribed the words, "Leonardi Vici Accadema." The inscription "Achā. Lē. Vi." is also found upon a copper-plate (Fig. 13) which is attributed to Leonardo. It has been suggested that the numerous treatises which Leonardo is said to have com-

ment. It is impossible to discuss the question here; but it certainly seems as if a mountain of conjecture had been built up on a very slender basis, when the existence of an academy at Milan, with its professors and pupils, founded by Leonardo and under his leadership, is discovered to rest upon no better ground than these six designs with their inscription.

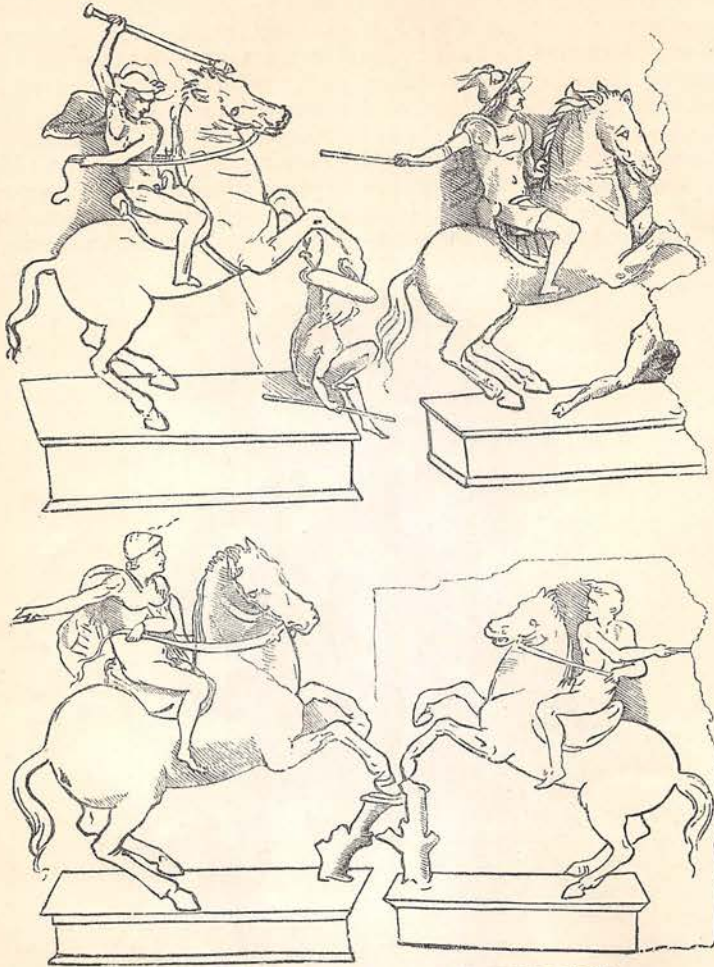


FIG. 14.—DESIGNS BY LEONARDO FOR AN EQUESTRIAN STATUE.

It is, however, certain that, practically, Leonardo did found a school of artists at Milan, and that none of the great Italians ever had more skillful or more devoted followers. Vasari speaks in eloquent terms of the beauty of Leonardo's character, of the sweetness of his disposition, and of the charm by which he made warm and constant friends of all who came into close companionship with him. "Whatever he did," says his biographer, "bore an impress of harmony, truthfulness, goodness, sweetness and grace, wherein no other man could ever equal him." Aided by these pupils, Leonardo undertook the two great works which absorbed so much of his time in Milan: the "Equestrian Statue of Francesco Sforza," and the "Last Supper," in the refectory of the convent of "Santa Maria delle Grazie."

The colossal statue of the duke was in-

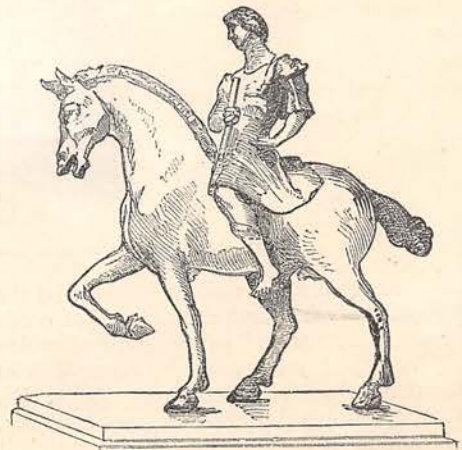


FIG. 15.—A FLORENTINE BRONZE OF THE 16TH CENTURY, SUPPOSED TO BE BY LEONARDO. FROM THE COLLECTION OF THE LATE M. THIERS.



FIG. 16.—THE LAST SUPPER, BY RAPHAEL. A FRESCO IN THE REFECTORY OF THE FORMER CONVENT OF SAN ONOFRIO, FLORENCE.

tended to be cast in bronze; but it never passed beyond the stage of the completed model. Leonardo was well prepared for undertaking this important work, and, as we have seen, he had expressly intimated to Lodovico that he was anxious to have it committed to his charge. We hear a great deal in Vasari about Leonardo's delight in horses, his skill in modeling them, his careful study of their anatomy (a treatise on the anatomy of the horse was one of his projected essays, and in the collection of his drawings at Windsor, those relating to the subject are among the most remarkable), and of the expense he was at in keeping up his stables. Moreover, he had been taught in Verrocchio's studio all that his master—one of the best workers in metal of his time—could teach him of the art of casting bronze, and if he did not bring this statue to a successful ending, it certainly was not for lack of ability. Michelangelo, indeed, grossly and unworthily insulted Leonardo with the charge of having designed a horse to be cast in bronze which he could not cast, and with having shamefully given it up. But, while it is possible that this may have been the truth, and that the later affair of the abandoned Florentine fresco was only the mate to a similar defeat in Milan, Michelangelo should have remembered—what he had already begun to know—that other reasons than lack of ability may be given for great works being left unfinished. And both Leonardo's indecision and his inability to give himself up steadily to the completion of one

task at a time—nay, the fact that, at this very moment, he was engaged upon two works, either one of which would have taxed to their utmost the powers of any man that ever lived—may account for the failure to complete the statue, far more naturally than the supposition that it was beyond his ability. The model in clay was finished, and at the festivities on the occasion of the marriage of the Emperor Maximilian with Bianca Sforza; it was exhibited to the public on the top of a triumphal arch erected in honor of the newly married pair. Five years later—in 1498—the French troops entered Milan, and took possession of the city, which was abandoned by Lodovico to the enemy. It is believed that, during their occupancy, the



FIG. 17.—THE LAST SUPPER. FROM A FRESCO BY GIOTTO, IN THE ARENA CHAPEL, PADUA.

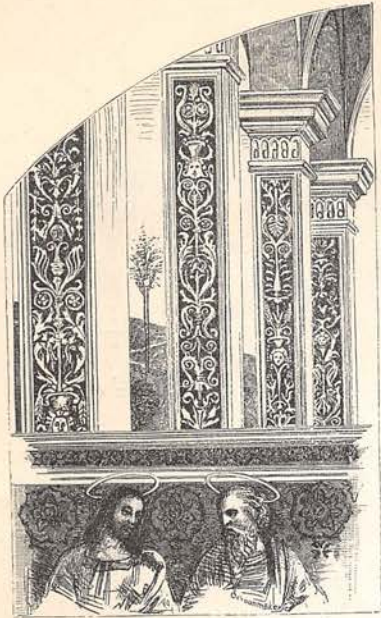


FIG. 18.—DETAIL OF PORTION OF RAPHAEL'S FRESCO.

Gascon bowmen in the pay of Louis XII. made Leonardo's model a mark for their arrows, and that the figure of Francesco, at least, was destroyed by this barbarous usage. As late as the year 1501, the model for the horse itself remained at Milan, but in what condition is not known. In this year the Duke of Ferrara commissioned his ambassador at Milan to ask it at the hands of the Lord Cardinal of Rouen, in order that it



FIG. 19.—GROUP FROM RAPHAEL'S FRESCO.

might serve as a model for a statue which he had long intended to erect at Ferrara to himself, but which work halted in consequence of the death of the artist who had been engaged upon it. The Cardinal replied that, for himself, he had no objections; but that the model belonged to the French king, who had an eye to it for his own use, and that he could not give it up to the duke without consulting with the king. This is the last we hear of it; but it is plain that, whatever may have happened to the figure of Duke Lodovico, the whole statue was not destroyed, as was formerly supposed, by the Gascon bowmen.

What the statue was like we have no means of knowing. But it is hardly probable that Leonardo, who in everything seems to have endeavored to do his own thinking, and to have struck out a way differing from that of his predecessors, would have followed the old Roman equestrian model of which the statue of Marcus Aurelius is so striking an example, and which had been accepted first among the moderns by Donatello as the model for his statue of Gattamelata in Padua, and next by Donatello's pupil Verrocchio for the statue of Colleoni, in Venice. It seems highly probable that the four designs on a single sheet (Fig. 14) in which Leonardo has evidently sought for a suitable motive may contain the one finally chosen. Wherever we may find the model followed by Leonardo for his statue it will be sure to represent something different from anything that had up to his time

been produced, and there can be but little question that the greater life and action which distinguishes modern equestrian statues from those which have descended to us from the antique world—exception made of certain bronzes found in Herculaneum—must have had their beginnings in the wide-spread fame of Leonardo's horse, "breathing life and full of action," as described by one who saw the model. Whether Leonardo would have allowed himself the license of representing his horse and rider in any one of the violent attitudes shown in the four designs on page 348, is more than

doubtful,—he knew too well the laws that govern sculpture,—but he must have succeeded in finding some compromise between this excess of action and the immobility of the antique. The small bronze of a mounted rider (Fig. 15) from the original owned by M. Thiers, and which good judges believe to be by the hand of Leonardo, may perhaps be one of his solutions of the difficulty.

It was for the Church of Santa Maria delle Grazie, the favorite place of devotion of Lodovico's wife, Beatrix d'Este, that Leonardo painted that great picture of the "Last Supper," which has carried his name further and wider than that of any other Italian painter, unless we except the greatest of them all, Raphael. And even this exception may be doubtful; for, while both painters make their subtlest appeal to artists, and both of them demand for their fullest appreciation the artistic understanding at its highest point of cultivation; while both of them, besides, have been accepted by the religious world as the exponent of its tenderest sentiment, Leonardo has been able to command the respect and admiration

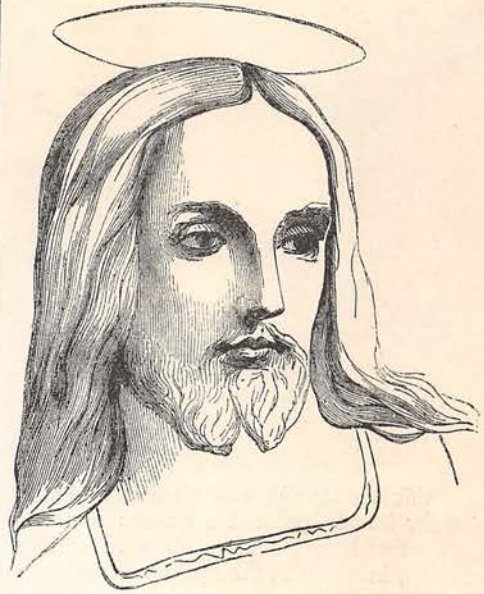


FIG. 20.—HEAD OF JESUS. FROM RAPHAEL'S FRESCO.



FIG. 21.—CARICATURE BY LEONARDO.

of that large body of professing Christians whose sympathies are alike repelled by the ecstasies and by the worldliness of the other great Italians, and by Raphael among the rest. "The Last Supper" is seen in a thousand houses in this country and in England where the "Madonna di San Sisto," or Angelico's "Annunciation," or Titian's "Assumption," or Leonardo's own "Mona Lisa," would feel themselves in an alien atmosphere. Much has been said about Leonardo's modernism, that his art pointed the way and itself took the first strong steps in a direction contrary alike to the antique, properly so called, and to the practice and ideas of the early Italians. His scientific tastes, which he alone of all the Italian artists possessed in any noticeable degree, his subjection of the imagination to the reason, his entire indifference to the religious opinions and practices of his countrymen, his want of interest even in the philosophical subtleties which numbered so many good intellects of his day, his common sense, in fine,—albeit it served him rather in the theory than in the conduct of life,—all these things are summed in the saying that Leonardo was the first of the moderns. And it is this modernism that gives Leonardo his hold on people who know nothing about art, and care nothing for it except as it is mixed up with their beliefs. They are drawn to him in a double sense, as a man far ahead of his time in his



FIG. 22.—FROM LEONARDO'S SKETCH-BOOK.

scientific tendencies, and a useful inventor, and for having painted a picture that can be accepted by people with a reasonable religion, hung up in their parlors, and given out in cheap reproductions as a prize to subscribers to their newspapers. No other of the great Italian painters has ever so completely met their views. Raphael is the only exception to this statement, and he is an exception only by virtue of such pictures as the "Madonna di San

Sisto," the "Madonna of the Chair," and, it may be, one or two others of his simple-hearted pictures of domestic life and motherly love. Even the Madonna of San Sisto owes its large acceptance to its divine concessions to our human sympathies; the art in it is no greater than the art in the school of Athens, but while not one spectator in a thousand really cares for that painted abstract of history, not one mother, not one lover of children in a thousand can be indifferent to that other picture, the great abstraction of the divine love of mothers.

Leonardo accepted this great commission as he would have accepted any other of equal importance. He had no special interest in the subject, nor was he moved by any desire of his own to paint it. But, having once accepted the command to treat it, he entered upon the work with that thoroughness and earnestness with which he began everything,—happily in this case the thoroughness and earnestness were to be persevered in to the end. "The Last Supper" is one of the few of his undertakings that Leonardo finished. The spirit in which he painted it is made plain enough by the novelist Bandello, who describes as an eye-witness Leonardo's interview with certain gentlemen of Milan and an old cardinal, standing before the picture which they had come to look at while it was in progress. The talk is as little religious as possible, and Leonardo, to please the company, tells with particularity the story of the scandalous adventure of the painter-monk, Filippo Lippi. By this time, however, the simple old cardinal, of whom the company made game after he was gone, had retired to his apartment.



FIG. 23.—CARICATURE BY LEONARDO.

The subject of the Last Supper had not been so commonly treated by Italian artists—apart, at least, from the series of events in the life of Christ—as might have been looked for, considering its importance. Giotto, in the chapel of the arena at Padua (Fig. 17), following the Byzantine models, had treated the subject as a simple assemblage of people about a table, with hardly any attempt at composition, and with no dramatic aim whatever. In the frescoes painted by Domenico Ghirlandajo in the refectories of the convents of the Ognissanti and of San Marco, the former dated 1480, the latter not dated, but probably painted about the same time, there

it which we give here (Fig. 16) shows nothing more than the general composition; Fig. 18 gives a little better notion of the ornamentation of the piers (in Fig. 16 only one of these piers is shown as ornamented, and the rich decoration of the seat, with its carved ends, and its cornice, is merely hinted at), while in Fig. 19 one of the groups is given in larger size to suggest the studied grace which runs through all the attitudes and the gestures of the personages. The head of Jesus (Fig. 20) follows, as in Giotto's picture, the Byzantine type, refined to a more classic regularity in its effeminate beauty; and in the elegance, the variety and



FIG. 24.—THE LAST SUPPER. LEONARDO DA VINCI.

is far more pictorial effect attempted than was possible in Giotto's time; but though there is, in reality, but little more dramatic action or aim at story-telling, there seems, at first blush, to be more, owing to the greater animation in the heads and the greater variety in the gestures. The composition also is far more orderly and symmetrical, and by the introduction of rich architectural details, elaborate draperies, and a great variety of dishes, water-bottles, drinking-glasses, and also by a quantity of very well painted cherries scattered over the table, a festive air is given to the scene, and the splendid sumptuousness with which, at a later date, Paul Veronese was to make the significance of this event in the life of Jesus disappear entirely from sight is, as it were, precluded.

Raphael, in 1505, painted in the refectory of the convent of St. Onofrio, in Florence, a fresco which is still in existence and in good condition. The small wood-cut sketch of

the refinement of the hands, and with their aristocratic and courtly movement, it may not be far fetched to discover a rivalry with Leonardo, in whose picture the action of the hands is one of the most noticeable features.

Leonardo sought in his picture, as in everything he undertook, to carry out his own thought in his own way, and to be, so far as was possible,—seeing that he was executing a commission and not choosing a subject for himself,—independent of all recipes and conventionalities. No tender religious recollections moved him to introduce the motives employed by the early painters and their followers in the mystic traditions, and he had too much taste, too clear a sense of congruity to destroy the solemnity and the meaning of such a scene as this by the sumptuous paraphernalia of a princely banquet. He had a large space of wall to cover, for the picture is twenty-eight Paris feet in length by eighteen in height,

and the thirteen figures are one-and-a-half times the size of life, and on such a scale he knew that the larger his masses and subdivisions were kept the grander and calmer would be the effect produced. He therefore avoided, as far as possible, all details that could belittle his work. He placed the scene in a large room, which is only shown to be an upper room, if indeed he intended to indicate this fact at all, by the prospect of a distant landscape seen through the three square openings at the back. The coffered arrangement of the beams of the ceiling is one common in Italy; the walls are ornamented with large paneled spaces, filled in with a damasked pattern, alike in all.

So much has been written about the grouping and the expression of the heads in this famous picture that there is not left anything new to be said. Once for all, Leonardo broke up the old formality and immobility of the earlier painters, and brought life and action into the scene. He was not painting a picture merely to support a dogma, or to fill its place in a series; he wished to interest a much wider, a universal audience, by telling, in the most dramatic way, and with all the variety he could contrive, a story essentially interesting to all men of his race and creed. And he proceeded, without

prejudice, and without the undue intrusion of his own personality, to allow the story to unfold itself, and the characters to play their several parts.

For the first time the story is told, not as a religious legend, but as a purely human and historical event. For the first time, and for the only time in Leonardo's age, the personages are deprived of their halos, and no religious attributes or suggestions remove the scene from the domain of history. The passions and emotions that excite the actors in this episode are expressed rather by their gestures and attitudes than by their faces, for Leonardo, though all his life an observer of human faces, had never attained to any subtlety of command over emotional expression, and in many of these heads we find, if sober truth may be spoken, only so many examples to be added to the list of Leonardo's so-called caricatures. By this is not meant that the faces are vulgarly distorted, but only that they are the results of experiments after certain recipes for "expression." In this picture,—which was one of the great events in the history of the art of his time, which was visited by thousands as one of the wonders of the city, and the fame of which, aided by numerous copies, several of them of great merit, had been carried into all Europe,—Leonardo set the fashion—for all that had been done before him in that direction was mere child's play—of attempting to convey to the mind of the beholder by certain muscular formulas the passions that were agitating the souls of his actors.

All his life Leonardo had been studying human faces, and not content with taking them as he found them, or as they show themselves in the life of every day, he sought them in phases of excitement, whether of tavern jollification, or street brawls, or of peasant wonder at miraculous tales. "Leonardo," says Vasari, "was so much pleased when he encountered faces of extraordinary character, or heads, or beards, or hair of unusual appearance, that he would follow any such more than ordinary attraction through the whole day, etc., etc." And we are told that Leonardo, wishing to make a picture to contain many laughing faces, invited a number of peasants to a tavern, and plying them with wine and telling them droll stories, made them all



FIG. 25.—GROUP OF BARTHOLOMEW, JAMES THE LESS AND ANDREW. FROM LEONARDO'S LAST SUPPER.

laugh, and noted down in memory the contortion of their several faces. He always carried with him a little book in which he noted down the features he met, eyes and mouths, noses and chins, necks and shoulders, and at home would combine these to make up such heads as he wanted. Finally, one writer tells us that his father described Leonardo as frequenting for long months all the lowest taverns and places of vile resort, searching for a head and face bad enough for his Judas, and these stories, true no doubt in the main, however exaggerated, tell us what was his aim and by what methods he essayed to accomplish it (Figs. 21, 22, 23).

His MS. books in Milan, Paris, Windsor, and his drawings in all the great collections are proof enough of his industry in these researches, and the "Last Supper" is the great occasion for the display of what he had acquired (Fig. 24). The care bestowed upon his composition is infinite, there is nothing spontaneous or unsought to be found.



FIG. 26.—GROUP OF JUDAS, PETER AND JOHN. FROM LEONARDO'S LAST SUPPER.



FIG. 27.—GROUP OF THOMAS, JAMES THE GREATER AND PHILIP. FROM LEONARDO'S LAST SUPPER.

The composition of groups containing long lines of heads,—examples of which are met with in all ancient art, in Egyptian wall-paintings, in Greek and Parthenon marbles, in early Italian pictures, and notably in previous treatments of this same subject,—is here broken up by grouping into threes, and by directing the heads of the whole row in two opposite directions, all looking toward the central figure of Jesus. The pulse of emotion that runs through the assembled disciples unites each group with its neighbor, and each with all, so that the division into threes is left to be discovered by analysis, it is not pedantically obtruded (Figs. 25, 26, 27, 28). In the six personages on the right of the spectator, Leonardo has used a device more clumsily employed by earlier artists, among them by Giotto in one of his Paduan frescoes where (see Fig. 29) the suitors of Mary are handing in their rods to the high-priest. The action and the fact are emphasized by the device of a continuous line—adroitly, but somewhat angularly, broken—of hands and rods stretching across the middle of the picture. In the same way, though managed with infinite dexterity, the hands of the apostles on the left are so



FIG. 28.—GROUP OF MATTHEW, THADDEUS AND SIMON. FROM LEONARDO'S LAST SUPPER.

arranged that the eye is inevitably led by them to the central figure, while on the other side, by a device of a directly contrary nature, by the slanting away from his figure of all the leading lines, Jesus is isolated and made prominent to the eye.

Every one knows that we owe to Vasari the belief that Leonardo, unable to satisfy himself with the head of Jesus, left it unfinished, but all the evidence we have assures us that the head was finished as completely as all the rest. The story is a part of the Leonardo legend, so much of which has

disappeared with the growth of time. Leonardo does appear to have hesitated long before deciding upon his model, but finally he made his peace here with tradition, and accepting the type of head employed for Jesus by the early Italians and especially by Giotto, he refined it into still greater effeminacy, and succeeded by devices well understood to-day, of vagueness and indecision, in putting into this head the only real expression to be found in the whole group. The head now in the Brera gallery, and of which an engraving is here given (Fig. 30),

shows the essential difference in the type selected for this one character from that employed in the other heads. In the head of Christ, he refuses the model, as was done by his predecessors, and works out his design from ideal abstractions of the human face, whereas in all the other personages the model is either strictly followed, or, as we are told his fashion was, made up by assembling selected portraits of features into one supposed consistent whole. The face of Jesus was left vague, trembling, un-resolved, like faces seen in



FIG. 29.—FROM GIOTTO'S FRESCO IN THE ARENA CHAPEL, PADUA. THE SUITORS OF MARY HANDING IN THEIR RODS TO THE HIGH-PRIEST.

clouds or in the fire, where, indeed, as well as in the cracked and stained surfaces of ruined walls, Leonardo himself counsels his pupils to look for suggestions of definite forms. In this sense it may be allowed the head was unfinished, but Leonardo, with a definite purpose, intentionally left it so. The head of Judas, on the other hand, is far from answering to Vasari's prattle about "the force and truth with which the master has exhibited the imperious determination, hatred and treachery of Judas." What all this is worth is shown by the very next words in which he assures us that "the whole work indeed is executed with inexpressible painstaking even in its most minute parts. Among other things may be mentioned the table-cloth, the texture of which is copied with such exactitude that the linen cloth itself could scarcely look more real." Leonardo himself doubtless knew better than this. He could paint a table-cloth, but he had learned by sad experience that "there is no art to find the mind's construction in the face," and he knew he could not paint Judas's treachery by the same rules that served for painting the folds in linen. He has gone more manly and sensibly to work, has given Judas the face, not of a monster, but of a man, using, as may be believed, the same model that served him for Peter, whose profile, directly above that of the traitor, repeats its dark lines in light, and making him no worse looking than many of his neighbors. Indeed, if it be not too bold to say so, it may be declared that among such a set of hard faces as are about this table it were difficult to light on Judas if Leonardo had not given him the bag to carry, made him ostentatiously upset the salt, and thrown his face strongly out of the line of apostolical succession and into pronounced shadow. The story of the troublesome prior is one of the stock pieces of Italian legendary art history, and never comes amiss with Vasari, from the days of Spinello Aretino to those of Michelangelo.

Space fails in which to follow Leonardo's life through all the obscurity of the years after he left Milan, when the duke's power was overthrown, and all his hopes of employment came to an untimely end. He returned to Florence with his friend Luca Pacioli, for whose book on perspective he had drawn the figures of the solids, and there, besides several easel pictures, among them his most famous existing work, the portrait of Mona Lisa, he executed the cartoon for the picture he was to paint on the

wall of the council hall of the Palazzo Vecchio. This cartoon is destroyed, like that of his great rival Michelangelo, intended for the same room. Leonardo's picture, the "Battle of Anghiari," was begun upon the wall, but owing to his having made some serious mistake in experimenting with the ground, the colors sunk in so irregularly that he abandoned the work in disgust.

It was while he was in Florence that he painted, in 1500-1504, the celebrated portrait of Mona Lisa del Giocondo, the original of which is now in the Louvre (Fig. 31). This lady was the third wife of Francisco del Giocondo, and was married to her husband in 1495. Francesco does not appear to have commissioned the portrait; at all events, he did not own it when it was finished, and it passed directly from the artist's hands into those of Francis I., who paid for it the sum of four thousand gold crowns. So much eloquence, poetry, and rhetorical enthusiasm have been expended upon this famous picture, to say nothing of the "windy suspirations of forced breath," and mystic vaporings to which we are every now and then treated, that it is pleasant to turn to Vasari's description of the picture, and hear what was said of it by one who saw it when it was in its original beauty and freshness, before it had darkened with time. Vasari's description deals wholly with externals, and his enthusiasm vents itself in admiration at the miraculous painting of the eyes, with their lashes, and the eyebrows, "where fuller and where more thickly set, with the separate hairs delineated as they issue from the skin, every turn being followed and all the pores exhibited in the most natural manner; the nose, with its beautiful and delicate roseate nostrils; the mouth, admirable in its outline, its lips uniting the rose-tints of their color with that of the face; and the carnation of the cheek which does not appear to be painted, but hints of flesh and blood; he who looks earnestly at the pit of the throat, cannot but believe he sees the beating of the pulses," etc., etc. He tells us, too, that Mona Lisa was exceedingly beautiful, and that while Leonardo was painting her portrait, he had some one constantly near her to sing, or play on instruments, or to jest, or otherwise amuse her, to the end that she might continue cheerful, and that her face might not exhibit the melancholy expression often imparted by painters to the likenesses they take. In this portrait of Leonardo's, on the contrary, there is so pleasing an expression and a smile so sweet, that while

looking at it one thinks it rather divine than human, and it has ever been esteemed a wonderful work, since life itself could exhibit no other appearance.

To understand this eulogy, which must always have far exceeded the bounds of truth, it is necessary to remember that the portrait of *Mona Lisa* was the first great portrait in the noble series of such works created by the art of modern times. As in so many other things Leonardo here pointed out the way, and was himself the first to walk

raphers, and the few hints gathered from accidental sources. His art was essentially logical, and the methods he employed were the outcome, not of the imagination, but of the reason. To him, the surest way of expressing the personality of his sitter, was to let no point of his or her physical structure escape his observation. He believed that the painting of a human being should begin with the marrow of his bones, and he would be one of the weightiest authorities on the side of whoever should

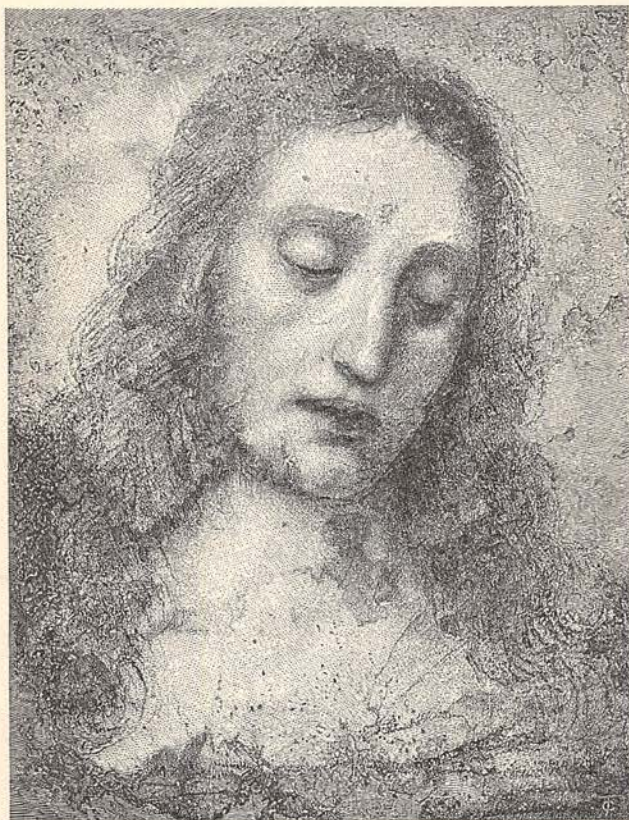


FIG. 30.—HEAD OF CHRIST. BY LEONARDO. SUPPOSED DRAWING FOR THE CHRIST OF THE LAST SUPPER. BRERA GALLERY, MILAN.

in it. Raphael was the first who greatly followed, and in his portrait of *Madalena Strozzi*, in the Pitti Palace, he is thought to have tried his hand in rivalry with the *Mona Lisa*.

The ecstatic interpretations to which this famous portrait has been subjected by English and French writers find little countenance in Leonardo's character, as revealed in his other works, in what we learn from his voluminous MSS. of the nature of his mind, as well as from the report of his biog-

advocate the founding of the arts of figure-painting and sculpture on anatomy, in contradiction to those who teach the uselessness of studying anything below the skin. The reality and the vividness of the *Mona Lisa*, even in these days, when time has hurt it so, are the logical result of this long, prolonged microscopic study of the detail, united with a sleepless eye lest the largeness of the forms should be belittled or broken up by the minuteness of the finish.

M. Clément thinks that a picture which formerly belonged to Louis Phillippe, but which is now in private hands, and which represents a woman reclining upon a couch and nearly nude, is a portrait of Mona Lisa. And he hints mysteriously at the explanation of the fact that Leonardo should have been allowed to paint the wife of Giocondo in such surroundings. He adduces the fact that, from the time he painted the portrait of this lady, all the paintings and all the drawings we possess by his hand bear a striking likeness to the original picture. Surely there is a simpler and less compromising explanation. Leonardo was essentially a mannerist, a man of rules and recipes; he imposed them upon others, he obeyed them himself. During the four years that he labored over the portrait of Mona Lisa, he was striving to lay hold on the secret of expression; and he found it, and fixed it upon that face in the look and the smile that mean such different things to different people. It is a trick,—a splendid trick, indeed, but still, at bottom, only a trick,—belonging to the same order with that by which a vulgar portrait-painter makes the eyes of his image follow the amazed spectator whichever way he turns.

The seven years of Leonardo's stay in Florence were not very eventful in the history of his life. They were interrupted by a tour through Urbino and the Romagna in 1502, made in company with Cæsar Borgia, the Duc de Valentino, who had appointed him his architect and military engineer. For his new master, as for his old one, Lodovico Sforza, he designed engines of war for offense and defense, and looked into the condition of the duke's strongholds, and recorded in his note-books the numerous projects of all sorts that were suggested to his untiring mind by every thing he saw on his journey. Here we find him devising a dove-cot, the symbol of peace, and here some machine to help on the horrors of war. At Pesaro, on the 1st of August, he makes designs for certain machines of this sort, and on the 8th we find him sitting by a fountain at Rimini, listening to the sound of its falling waters, and trying to learn the law of its music. On the 11th, at Cesena, he designs a wagon for carrying the grapes home from the vineyards, and on the 6th of September he makes a design for the port of Cesenatico. At Siena he studies and describes a curious clock, and at Piombino he is struck by the regular cadence of the waves beating on the sea-shore.*

In 1507 he returned to Milan, where he

made a brief stay, renewing his engineering projects, finishing, among other things, the reservoir of the canal of San Cristoforo, on the completion of which Louis XII. of France, then in possession of the city, gave him a right to twelve inches of water from the canal. His father had died in 1504, and in 1511 we find him again in Florence disputing at law with his brothers his right to the inheritance both of his father and his uncle. Again, in 1512, he was at Milan, but the times became so stormy that he determined to return once more to Florence, though he could hardly have hoped to find employment in a city which he had left with so little honor. Shortly after his arrival in Florence he was invited by Giuliano de' Medici to go with him to Rome, to assist at the coronation of his brother Giovanni as Pope under the title of Leo X.; but no employment awaited him from the Pontiff, who seems to have looked upon him with no favor, partly it may be from his knowledge of his conduct in Florence in the matter of the wall-painting in the Palazzo Vecchio, and partly perhaps as seeing in him the friend of the French, the enemies of his country, or at least a man wholly indifferent to the stirring political questions of his time. Nor was Leo X. content with ignoring Leonardo and his claims as an artist. He did give him a small commission, but finding that he was busy with distilling certain herbs for the varnish to be employed when it should be finished, he laughed and exclaimed "Oh, this man will never do any thing, for he is thinking of the end before he has made a beginning." He did paint several small easel pictures in Rome, but his life there was made uncomfortable, not merely by his disappointment at receiving no important employment, but by the perpetual discord between himself and Michelangelo, a sorry continuation of the feud so long ago begun in Florence. Tired out at last, Leonardo, learning now that Francis I. had entered Lombardy, hastened to join his court, and being cordially received by the pleasure-loving monarch, who named him a painter to the king, and gave him salary and appointments, he found himself once more in his element. It was while the king was at Pavia that Leonardo, punning on his own name, made the automatic lion of which Vasari tells us, which advanced to the king, rose on its hind feet, and opening

* Mrs. Heaton, "Leonardo da Vinci." London: 1875; pp. 52, 53.

its breast showed the fleur-de-lys loyally inscribed on his heart. Pope Leo came to Bologna while Francis was there, and Leonardo had his quiet revenge for the slight he had received in Rome, appearing among the other courtiers of the king, and amusing his comrades with caricatures of the followers of the Pontiff. When Francis returned to France he easily persuaded Leonardo to follow him, and he gave him as a residence a small chateau, with its

and a half of his stay he employed himself on nothing more serious than the project for the canal of Romorentin, designs for which have been found among his papers.

Leonardo was now in his sixty-fifth year, and, though not really an old man, he was worn out with life-long labors that had ended only in disappointment. His health failed him, and he rapidly declined, until in 1519, on the 2d of May, he died serenely at Amboise in the possession of all his faculties,



FIG. 31.—MONA LISA DEL GIOCONDO.

garden and dependences, called the Château de Clou, near Amboise, where the French court at that time was often in residence. Whatever hopes Francis may have formed from the fame of Leonardo with regard to the enrichment of his palaces with pictures from his hand, he was destined to disappointment. From the time of his coming into France, Leonardo did no serious work, nor undertook any. During the three years

having distributed his small property by will, and having gone through with the, to him, unmeaning formulas of reconciliation with the church. Without such reconciliation in the Europe of that time, happily far removed in spirit from the Europe of to-day, his last hours would have been troubled with perfunctory importunities, the administration of his will would have been obstructed, and his body would hardly have been allowed burial

in consecrated ground. Leonardo, always compliant, and who, throughout a long life, had shown a complete indifference to the dogmas of the church and to religious ideas, his mind easily resting in a refined Epicurianism, would make no more objection to this last complacency than he had to that which had made him kiss the hands of those earthly princes to whom he had looked for advantage.

Vasari's story that Leonardo died in the arms of Francis is not believed to-day, objections having been brought forward, founded on the supposed impossibility of the king being at Amboise on a day when the court was in residence at St. Germain-en-Laye, where Francis would himself think it necessary to be, as his queen was every day expecting her confinement; and as, moreover, Leonardo's friend Melzi, whom he made his executor, makes no mention of a circumstance so singular in the letters which he wrote to Leonardo's brothers announcing his death. But it is a legend, if legend we must allow it, which shows Francis in so amiable a light, and does his heart so much honor, that the world will always be unwilling to deprive him of the benefit of a doubt in a circumstance so much to his credit.

Leonardo was remarkable, both in youth and in his later years, for the beauty of his face and person, and for the mansuetude and dignity of his disposition and manners. He was accomplished in all social graces and in all manly arts, and with the same hand that could paint the eyelashes of a *Mona Lisa*, he was able to bend one of the iron rings used for the knockers of doors, or a horse-shoe, as if it were lead. We are told that he was left-handed, by which perhaps is rather meant that he was ambidexter, and while neither word would account for his peculiarity of writing backward, if we suppose he had the equal use of both hands, as several artists of modern times have had, it may help us to understand his indefatigable industry, since by this gift he could work uninterruptedly, one hand relieving the other. Though he himself has written a satiric verdict upon those who spend their time in dressing their bodies and curling their hair, yet, according to Michelet, who gives no authority for a statement the origin of which cannot be traced, "he was the object of such an idolatry in France that at the age of eighty* he changed the fashions, and in his dress, and in the cut of his hair

and beard, he was copied by the king and by all the court." Yet one of the few anecdotes we have of him, outside of what is told us by Vasari, describes him as walking through the streets of Florence with a friend, wearing a short rose-colored cloak only reaching to the knee, the fashion being to wear them long, and with a magnificent head of hair, which fell in carefully dressed curls as far as his breast. He had no prudence, and valued money only for what it would bring; so that, in prosperous times, he indulged himself in a lordly habit of spending, and lived like a prince, with servants and horses; but when the wind blew adverse and employment failed, he was sometimes driven into corners and put to it for means to live. Yet these dark hours refuse to live in memory, and only the tradition of his splendor-loving nature remains, his beauty, his grace, and what Vasari calls the radiance of his countenance, lighting up his name from his own time down to ours.

He had, on the surface, much in common with Lord Bacon, who was reputed a great philosopher and discoverer on similar grounds, though in neither was there anything of the true philosophizing or scientific spirit. Lord Bacon, with all his fanciful guessing, made hardly a suggestion worth noting of something useful, although he knew so well "to make his English sweet upon the tongue" that the collection of the *Silva*, with all its futilities and commonplaces, is "as entertaining to read as a Persian tale." Leonardo, on the other hand, though he never dived to the bottom of any speculation, nor completed any invention of moment, yet made a thousand ingenious speculations, and suggested—from the wheelbarrow and the derrick, to optic glasses by which the moon may be made to look larger—a whole world of useful inventions. Both of these great men had the gift of tongues. Ben Jonson tells us that when Lord Bacon spoke, no one thought the time long, nor could any one turn aside or cough; and of Leonardo we read that his honeyed words and persuasive eloquence so bewitched his hearers that if he had said a certain tower could be lifted from its foundations and transported to the other side of the Arno without injury, everybody would have believed him. Both in Bacon and in Leonardo was inborn the love of luxury and splendid living, while in neither did the moral sense have that fineness of temper and splendor of polish which, by rights, belonged to the splendid sheath of faculties in which it was lodged in both.

* Even the old date of Leonardo's birth 1445, would only make him seventy-two years old in 1517.

"Flee from storms" was Leonardo's motto, and he followed the advice implicitly throughout a long life, not in obedience to his will, but in sympathy with the laws of his temperament. He has been reproached with want of patriotism, with coldness of heart toward his benefactors, recording the downfall of his friend, Duke Lodovico in a brief, unsympathetic note, and with the pliant knee that could bend in turn to Louis XII., who carried off that friend to a lingering death in cruel prison, to Cæsar Borgia, to Giuliano de' Medici, to Leo X. and to Francis I. But much of this criticism is unjust, forgetting the times, and the dependence of artists upon the princes and the prelates, through whom, for the most part, all commissions came, and forgetting, too, that in Leonardo's unhappy time Italians could not be said to have a country. He fled from storms, and, for himself, no doubt, he did wisely, since his life must have been on the whole a happy one, absorbed in his

art, his studies, and the society of the amiable and accomplished young men he gathered about him as pupils, and who loved and served him not as a teacher and master but as a friend. Beautiful as his pictures must have been, from the united testimony of all who knew them in their prime, they hardly exist for us, since nothing that he did survives in perfection, and not one picture bearing his name that remains is of undisputed authenticity. His best legacy is to be found in the MS. books scattered over Italy, France, and England, in public and royal collections and in private hands. These are a delightful treasure, inexhaustible in interest, carrying the mind in every direction, over every field of human investigation in the material world, rich in suggestion, and leaving us, after every fresh perusal, more and more astonished at the independence, the originality, and the virginal freshness of the mind that has recorded in them its unweary questioning of the spirit of the world.

AN EPITAPH.

THIS poet was very wealthy. If he missed
 Worlds' honors, and worlds' plaudits, and the wage
 Of the worlds' deft lackeys, still his lips were kissed
 Daily by those high angels who assuage
 The thirstings of the seërs. For he was
 Born unto singing, and a burthen lay
 Mightily on him, and he moaned because
 He could not rightly utter to the day
 What God taught in the night. Yet oft would fall
 Swift Power upon him, and winged tongues of flame;
 And blessings reached him from poor souls in thrall,
 And benedictions from black pits of shame,
 And little children's loves, and old men's prayers,
 And a Great Hand that led him unawares.

INTERPRETATION.

A DREAMING Poet lay upon the ground.
 He plucked the grasses with his listless hands.
 No voice was near him save the wishful sound
 Of the sea cooing to the unbosomed sands.

He leaned his heart upon the naked sod.
 He heard the audible pulse of nature beat.
 He trembled greatly at the Word of God
 Spoken in the rushes rustling at his feet.

With inward vision his outward sight grew dim,
 He knew the rhythmic secret of the spheres,
 He caught the cadence, and a noble hymn,
 Swam swan-like in upon the gliding years.