For seven years during this second sojourn in Milan, he was prosperous and happy. He built large docks and basins, planned many mills, enlarged and improved the great Martesan canal, two hundred miles long, "which brings the waters of the Adda through the Valtellina and across the Chiavenna district, contributing greatly to the fertility of the garden of Northern Italy," and painted several pictures. "La Monaca," now in the Pitti Palace, is the half-length figure of a young nun. Taine says, "The face is colorless excepting the powerful and strange red lips, and the whole physiognomy is calm, with a slight expression of disquietude. This is not an abstract being, emanating from the painter's brain, but an actual woman who has lived, a sister of Mona Lisa, as complex, as full of inward contrasts, and as inexplicable."

"Flora," a beautiful woman in blue drapery, holding a flower in her left hand, believed by many to be a portrait of Diana of Poictiers, is at the Hague, where the Hollanders call it "Frivolity" or "Vanity." Leda, the bride of Jupiter, with the twins, Castor and Pollux, "playing among the shell-chips of their broken egg," is also at the Hague.

Probably the celebrated La Vierge aux Rochers ("The Virgin among the Rocks") was painted at this time. Of this Théophile Gautier says, "The aspect of the Virgin is mysterious and charming. A grotto of basaltic rocks shelters the divine group, who are sitting on the margin of a clear



THE MADONNA OF THE ROCKS.

National Gallery, London.

spring, in the transparent depths of which we see the pebbles of its bed. Through the arcade of the grotto, we discover a rocky landscape, with a few scattered trees, and crossed by a stream, on the banks of which rises a village. All this is of a color as indefinable as those mysterious countries one traverses in a dream, and accords marvellously with the figures. What more adorable type than that of the Madonna! it is especially Leonardo's, and does not in any way recall the Virgins of Perugino or Raphael. Her head is spherical in form; the forehead well developed; the fine oval of her cheeks is gracefully rounded so as to enclose a chin most delicately curved; the eyes with lowered eyelids encircled with shadow, and the nose, not in a line with the forehead, like that of a Grecian statue, but still finely shaped; with nostrils tenderly cut, and trembling as though her breathing made them palpitate; the mouth a little large, it is true, but smiling with a deliciously enigmatic expression that Da Vinci gives to his female faces, a tiny shade of mischief mingling with the purity and goodness. The hair is long, loose, and silky, and falls in crisp meshes around the shadow-softened cheeks, according with the half-tints with incomparable grace."

This picture was originally on wood, but has been transferred to canvas. There are three pictures of this scene; the one in the collection of the Duke of Suffolk is believed to be the original, while that in the Louvre is best known.

Of the Virgin seated on the knees of St. Anne, now in the Louvre, Taine says, "In the little Jesus of the picture of St. Anne, a shoulder, a cheek, a temple, alone emerge from the shadowy depth. Leonardo da Vinci was a great musician. Perhaps he found in that gradation and change of color, in that vague yet charming magic of chiaroscuro, an effect resembling the crescendoes and decrescendoes of grand musical works."

"St. John the Baptist," in the Louvre, is one of the few pictures, among the many attributed to Leonardo, which critics regard as authentic. "St. Sebastian," now in the Hermitage in St. Petersburg, was purchased by the Tsar of Russia in 1860, for twelve thousand dollars.

When the French were driven out of Lombardy, Da Vinci left Milan, in 1514, and, taking his devoted pupils, Salaï, Francesco Melzi, and a few others with him, started for Rome, whither Michael Angelo and Raphael had already gone. Leo X. was on the papal throne: he cordially welcomed him, and bade him "work for the glory of God, Italy, Leo X., and Leonardo da Vinci." However, the pope gave him very little to do. "The pontiff," says Vasari, "was much inclined to philosophical inquiry, and was more especially addicted to the study of alchemy. Leonardo, therefore, having composed a kind of paste from wax, made of this, while it was still in its half-liquid state, certain figures of animals, entirely hollow and exceedingly slight in texture, which he then filled with air. When he

blew into these figures he could make them fly through the air, but when the air within had escaped from them they fell to the earth.

"One day the vine-dresser of the Belvedere found a very curious lizard, and for this creature Leonardo constructed wings made from the skins of other lizards, flayed for the purpose; into these wings he put quicksilver, so that when the animal walked the wings moved also, with a tremulous motion; he then made eyes, horns, and a beard for the creature, which he tamed and kept in a case; he would then show it to the friends who came to visit him, and all who saw it ran away terrified."

When the pope asked him to paint a picture, Leonardo immediately began to distil oils and herbs for the varnish, whereupon the pontiff exclaimed, "Alas! this man will assuredly do nothing at all, since he is thinking of the end before he has made a beginning to his work." It is supposed that Leonardo painted for Leo X. the "Holy Family of St. Petersburg," with the bride of Giuliano de Medici as the St. Catherine.

Louis XII. of France having died, the brilliant young Francis I. succeeded him January 1, 1515, and soon after won back Lombardy to himself in battle. At once Leonardo, who had been painter to King Louis while in Milan, joined himself to Francis, not wishing to remain in Rome. He was received by that monarch with the greatest delight, and given the Château of Cloux with its woods, meadows, and fish-ponds, just outside the walls of

the king's castle at Amboise. Here he abode with his dear pupils, who were content to live in any country so they were with Da Vinci; and was allowed a pension of seven hundred crowns of gold and the title of Painter to the King.

He was sixty-three. He had done many great things, but now, with ease and every comfort, perchance his genius would be more brilliant than ever. When about this age, Michael Angelo had completed his wonderful statues in the Medici chapel, and later even painted his "Last Judgment" and planned the great dome of St. Peter's. But Leonardo, the versatile, luxury-loving, "divine Leonardo," no longer urged to duty by necessity. did nothing further for the world. He mingled in the gayeties of the court, walked arm in arm in his gardens with the beautiful Salaï, his long white hair falling to his shoulders, and made a unique automaton for the great festivities of the conquering young king at Pavia, a lion filled with hidden machinery by means of which it walked up to the throne, and, opening its breast, showed it filled with a great number of fleurs-de-lis. He soon fell into a kind of languor that presaged the sure coming of death.

In early life he had been so devoted to science that Vasari tells us "by this means he conceived such heretical ideas that he did not belong to any religion, but esteemed it better to be a philosopher than a Christian." Now he turned his thoughts toward the Catholic church, and made his will, which recommends his soul "to God, the glorious Virgin Mary, his lordship St. Michael, and all the beautiful angels and saints of Paradise." He wishes that at his obsequies "there shall be sixty torches carried by sixty poor persons, who shall be paid for carrying them according to the discretion of the said Melzi, which torches shall be shared among the four churches above named."

To his beloved pupils, ever with him, he gives his property. Nine days after this, says Vasari, May 2, 1519, at the age of sixty-seven, Leonardo died in the arms of his devoted King, Francis I.; but later historians have considered this doubtful. He was buried under the flag-stones in the Church of St. Florentin at Amboise.

In the religious wars which followed, the church was demolished, the gravestones sold, and the lead coffins melted for their metal. Many persons have tried to find the grave of the great master, and M. Arsène Houssaye made a last and perhaps successful attempt in 1863. He says, "More than one Italian had gone to Amboise for the purpose of finding the tomb of Leonardo da Vinci, and had gazed sadly on the spot where the church once stood, now covered by thick growing covert.

"The gardener's daughter had been often questioned, and it was she who first gave me the idea, some years ago, of seeking for the tomb of the painter of the 'Last Supper,' but I do not know whether the fact of her having the painter's name sometimes on her lips arose from the fact of her

hearing him spoken of by her father or by visitors. She it was who pointed out to me the spot where the great painter of Francis I. might be found; a white-cherry tree was growing there, whose fruit was so rich from the fact of its growing above the dead.

"On Tuesday, the 23d of June, 1863, the first spadeful of earth was turned up before the mayor and the archbishop of Amboise. I set the men to work on three different spots, some to reconnoitre the foundations of the church, others to look for the ossuary, and the rest to search the tombs. It was necessary to dig down deeply, the soil having risen over the site of the church to the height of two or three yards. . . .

"The 20th of August we lighted on a very old tomb, which had been, at the demolition of St. Florentin, covered with unequal stones. No doubt the original tombstone had been broken, and, out of respect for the dead, replaced by slabs belonging to the church, and bearing still some rude traces of fresco painting. . . . It was in the choir of the church, close to the wall, and toward the top of the plantation, where grew the white-cherry tree.

"We uncovered the skeleton with great respect; nothing had occurred to disturb the repose of death, excepting that towards the head the roots of the tree had overturned the vase of charcoal. After displacing a few handfuls of earth, we saw great dignity in the attitude of the majestic dead.

The head rested on the hand as if in sleep. This is the only skeleton we discovered in this position, which is never given to the dead, and appears that of a deep thinker tired with study.

I had brought with me from Milan a portrait of Leonardo da Vinci... and the skull we had taken from its tomb corresponded exactly with the drawing. Many doctors have seen it, and consider it to be the skull of a septuagenarian. Eight teeth still remain in the jaws, four above and four below.

The brow projects over the eyes, and is broad and high; the occipital arch was ample and purely defined. Intellect had reigned there, but no especial quality predominated.

"We collected near the head some fragments of hair or beard, and a few shreds of brown woollen material. On the feet were found some pieces of sandals, still keeping the shape of the feet. . . .

"The skeleton, which measured five feet eight inches, accords with the height of Leonardo da Vinci. The skull might have served for the model of the portrait Leonardo drew of himself in red chalk a few years before his death. M. Robert Fleury, head master of the Fine Art School of Rome, has handled the skull with respect, and recognized in it the grand and simple outline of this human yet divine head, which once held a world within its limits."

In 1873 Italy raised a monument to her great genius, at Milan. His statue stands on a lofty pedestal, which has four bas-reliefs, representing scenes from his life. At the four corners are placed statues of his principal scholars, — Cesare da Sesto, Marco d' Oggione, Beltraffio, and Andrea Solario.

All Leonardo's precious manuscripts were bequeathed to Francesco Melzi, and unfortunately became scattered. About the end of the seventeenth century they were mostly in the Ambrosian Library at Milan; but the French under Napoleon took fourteen of the principal manuscripts, leaving only two, which now form the "Codex Atlantico" at Milan. The latter is a collection of four hundred of Leonardo's drawings and manuscripts. One volume on mathematics and physics is among the Arundel Manuscripts, at the British Museum. At Holkham is a manuscript of the Libro Originali di Natura.

In 1651 Raphael Trichet Dupresne, of Paris, published a selection from Da Vinci's works on painting, the *Trattato della Pittura*, which has been reprinted twenty-two times in six different languages, "one of the best guides and counsellors of the painter." A "Treatise on the Motion and Power of Water" was published later. In 1883 Jean Paul Richter, Knight of the Bavarian Order of St. Michael, after years of labor over the strange handwriting of Da Vinci, from right to left across the page, published much of the work of the great painter, reproducing his sketches by photogravure. He had access to the manuscripts in the Royal Library at Windsor, the Institute of France,

the Ambrosian Library at Milan, the Louvre, the Academy of Venice, the Uffizi, the Royal Library of Turin, the British and South Kensington Museums, and Christ Church College, Oxford.

Richter says, "Da Vinci has been unjustly accused of having squandered his powers by beginning a variety of studies, and then, having hardly begun, thrown them aside. The truth is that the labors of three centuries have hardly sufficed for the elucidation of some of the problems which occupied his mighty mind."

Leonardo's astronomical speculations, his remarks on fossils, at that time believed to be mere freaks of nature, his close study of botany, his researches in chemistry, color, heat, light, mechanics, anatomy, music, acoustics, and magnetism, have been an astonishment to every reader.

Among his inventions were "a proportional compass, a lathe for turning ovals, an hygrometer; an ingenious surgical probe, a universal joint, dredging machines, wheelbarrows, diving-suits, a porphyry color-grinder, boats moved by paddle-wheels, a roasting-jack worked by hot air, a three-legged sketching-stool which folded up, a revolving cowl for chimneys, ribbon-looms, coining presses, saws for stone, silk spindles and throwers, wire-drawing and file-cutting, and plate-rolling machines." No wonder he was called the "all-knowing Leonardo."

All his work as a poet is lost, save one sonnet:-

[&]quot;Who cannot do as he desires, must do What lies within his power. Folly it is

To wish what cannot be. The wise man holds That from such wishing he must free himself. Our joy and grief consist alike in this: In knowing what to will and what to do; But only he whose judgment never strays Beyond the threshold of the right learns this. Nor is it always good to have one's wish; What seemeth sweet full oft to bitter turns. My tears have flown at having my desire. Therefore, O reader of these lines, if thou Wouldest be good, and be to others dear, Will always to be able to do right."

In Richter's works of Leonardo are many fables: "A razor, having come out of the sheath in which it was usually concealed, and placed itself in the sunlight, saw how brightly the sun was reflected from its surface. Mightily pleased thereat, it began to reason with itself after this fashion: 'Shall I now go back to the shop which I have just quitted? Certainly it cannot be pleasing to the gods that such dazzling beauty should be linked to such baseness of spirit. What a madness it would be that should lead me to shave the soaped beards of country bumpkins! Is this a form fitted to such base mechanical uses? Assuredly not. I shall withdraw myself into some secluded spot, and, in calm repose, pass away my life.'

"Having therefore concealed itself for some months, on leaving its sheath one day and returning to the open air, it found itself looking just like a rusty saw, and totally unable to reflect the glorious sun from its tarnished surface. It lamented

in vain this irreparable loss, and said to itself, 'How much better had I kept up the lost keenness of my edge, by practising with my friend the barber. What has become of my once brilliant surface? This abominable rust has eaten it all up.' If genius chooses to indulge in sloth, it must not expect to preserve the keen edge which the rust of ignorance will soon destroy."

Richter also gives many pages of terse moral sentiments, showing that Da Vinci, in his more than thirty years of writing,—he began to write when he was about thirty,—had thought deeply and probably conformed his life to his thoughts.

"It is easier to contend with evil at the first than at the last.

"You can have no dominion greater or less than that over yourself.

"If the thing loved is base, the lover becomes

"That is not riches which may be lost; virtue is our true good, and the true reward of its possessor. That cannot be lost, that never deserts us, but when life leaves us. As to property and external riches, hold them with trembling; they often leave their possessor in contempt, and mocked at for having lost them.

"Learning acquired in youth arrests the evil of old age; and if you understand that old age has wisdom for its food, you will so conduct yourself in youth that your old age will not lack for nourishment. "The acquisition of any knowledge is always of use to the intellect; because it may thus drive out useless things, and retain the good.

"Avoid studies of which the result dies with the worker.

"Reprove your friend in secret, and praise him openly."

In the midst of the corruption of that age, we hear no word breathed against the character of this eager, brilliant, many-sided man. He won from his pupils the most complete devotion, and he seems to have given as fond an affection in return. This possibly satisfied the craving of the human heart for love. Perhaps, after all, life did not appear as satisfactory as he could have wished, with all his worship of the beautiful, for he says, "When I thought I was learning to live, I was but learning to die." He seemed at the zenith of his powers when death came; but who shall estimate the value of a life by its length? He said, "As a day well spent gives a joyful sleep, so does life well employed give a joyful death. . . . A life well spent is long."

RAPHAEL OF URBINO.

"In the history of Italian art Raphael stands alone, like Shakespeare in the history of our literature; and he takes the same kind of rank—a superiority not merely of degree, but of quality... His works have been an inexhaustible storehouse of ideas to painters and to poets. Everywhere in art we find his traces. Everywhere we recognize his forms and lines, borrowed or stolen, reproduced, varied, imitated,—never improved.

"Some critic once said, 'Show me any sentiment or feeling in any poet, ancient or modern, and I will show you the same thing either as well or better expressed in Shakespeare.' In the same manner one might say, 'Show me in any painter, ancient or modern, any especial beauty of form, expression, or sentiment, and in some picture, drawing, or painting after Raphael I will show you the same thing as well or better done, and that accomplished which others have only sought or attempted.'

"To complete our idea of this rare union of greatness and versatility as an artist with all that could grace and dignify the man, we must add such personal qualities as very seldom meet in the