

Leonardo da Vinci



And his inventions



Leonardo di ser Piero da Vinci, was an Italian polymath: painter, sculptor, architect, musician, scientist, mathematician, engineer, inventor, anatomist, geologist, botanist and writer. He was born on the 15th of April in 1452. Leonardo has often been described as the archetype of the Renaissance man, a man whose unquenchable curiosity was equaled only by his powers of invention. He is widely considered to be one of the greatest painters of all time and perhaps the most diversely talented person ever to have lived. Marco Rosci points out, however, that while there is much speculation about Leonardo, his vision of the world is essentially logical rather than mysterious, and that the empirical methods he employed were unusual for his time. Born the illegitimate son of a notary, Piero da Vinci, and a peasant woman, Caterina, at Vinci in the region of Florence, Leonardo was educated in the studio of the renowned Florentine painter, Verrocchio. Much of his earlier working life was spent in the service of Ludovico il Moro in Milan. He later worked in Rome, Bologna and Venice and spent his last years in France, at the home awarded him by Francis I.

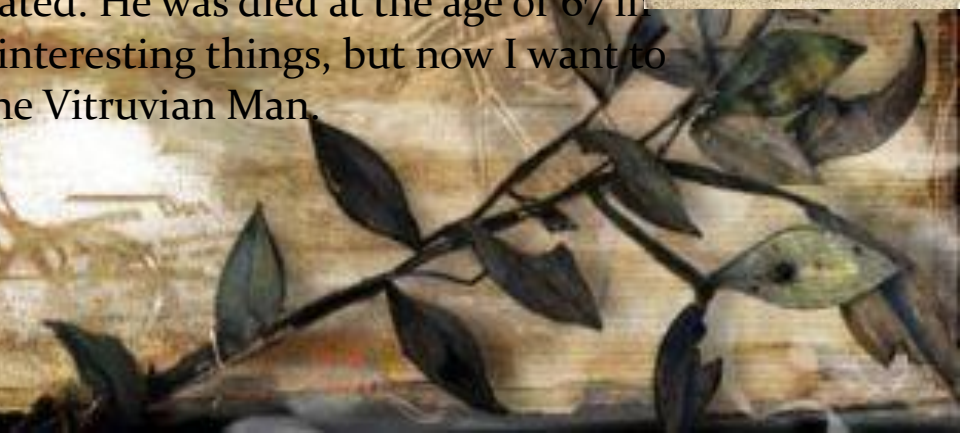
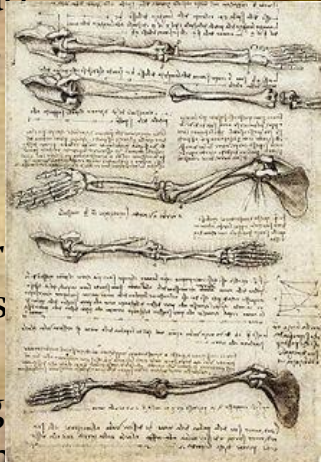
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Leonardo was and is renowned primarily as a painter. Two of his works, the Mona Lisa and The Last Supper, are the most famous, most reproduced and most parodied portrait and religious painting of all time, respectively, their fame approached only by Michelangelo's Creation of Adam. Leonardo's drawing of the Vitruvian Man is also regarded as a cultural icon, being reproduced on everything from the Euro to text books to t-shirts. Leonardo is revered for his technological ingenuity. He conceptualized a helicopter, a tank, concentrated solar power, a calculator, the double hull and outlined a rudimentary theory of plate tectonics. Relatively few of his designs were constructed or were even feasible during his lifetime, but some of his smaller inventions, such as an automated bobbin winder and a machine for testing the tensile strength of wire, entered the world of manufacturing unheralded. As a scientist, he greatly advanced the state of knowledge in the fields of anatomy, civil engineering, optics, and hydrodynamics.

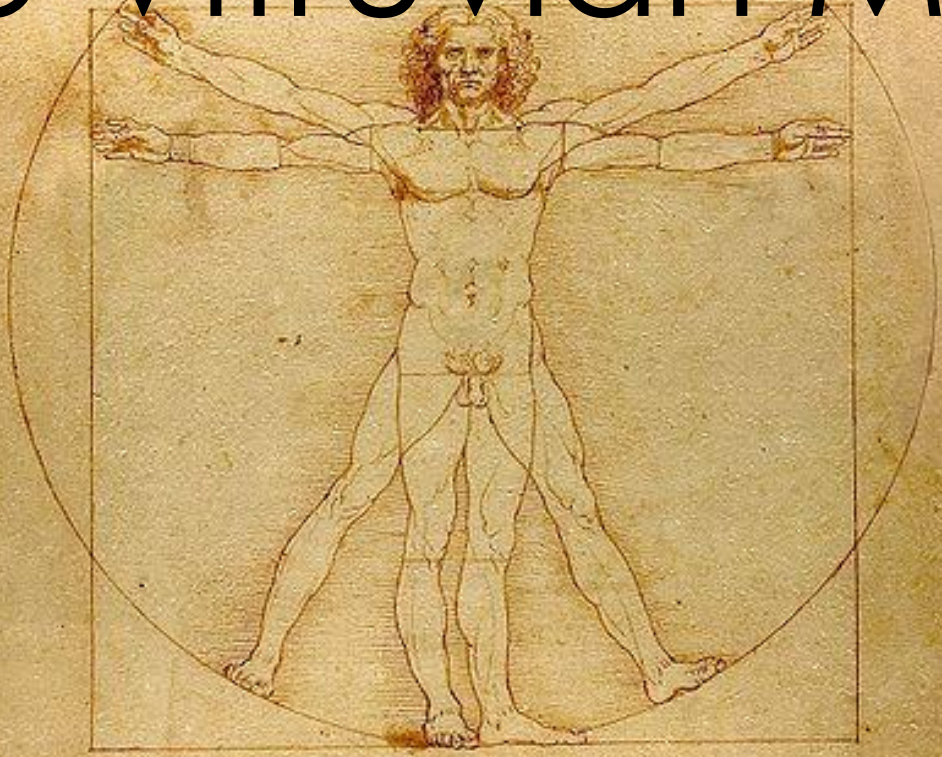


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Leonardo had many friends who are now renowned either in their fields or for their historical significance. They included the mathematician Luca Pacioli, with whom he collaborated on a book in the 1490s, as well as Franchinus Gaffurius and Isabella d'Este. Leonardo appears to have had no close relationships with women except for his friendship with Isabella d'Este. He drew a portrait of her while on a journey which took him through Mantua, and which appears to have been used to create a painted portrait now lost. Despite the recent awareness and admiration of Leonardo as a scientist and inventor, for the better part of four hundred years his enormous fame rested on his achievements as a painter and on a handful of works, either authenticated or attributed to him that have been regarded as among the supreme masterpieces ever created. He was died at the age of 67 in France. His biography has a lot of interesting things, but now I want to tell you about The Vitruvian Man.



The Vitruvian Man



Handwritten text in Italian, likely a transcription of Vitruvius's text or Leonardo's notes. The text is arranged in several lines below the drawing. A small circular stamp or mark is visible at the bottom center of the page.

The Vitruvian Man

The Vitruvian Man is a world-renowned drawing created by Leonardo da Vinci around the year 1487. It is accompanied by notes based on the work of the famed architect, Vitruvius Pollio. The drawing, which is in pen and ink on paper, depicts a male figure in two superimposed positions with his arms and legs apart and simultaneously inscribed in a circle and square. The drawing and text are sometimes called the Canon of Proportions or, less often, Proportions of Man. It is stored in the Gallerie dell'Accademia in Venice, Italy, and, like most works on paper, is displayed only occasionally. The drawing is based on the correlations of ideal human proportions with geometry described by the ancient Roman architect Vitruvius in Book III of his treatise *De Architectura*. Other artists had attempted to depict this concept, with less success. Leonardo's drawing is traditionally named in honor of the architect.

This image exemplifies the blend of art and science during the Renaissance and provides the perfect example of Leonardo's keen interest in proportion. In addition, this picture represents a cornerstone of Leonardo's attempts to relate man to nature.

The Vitruvian Man

According to Leonardo's preview in the accompanying text, written in mirror writing, it was made as a study of the proportions of the (male) human body as described in Vitruvius:

- a palm is the width of four fingers
- a foot is the width of four palms
- a cubit is the width of six palms
 - a pace is four cubits
- a man's height is four cubits (and thus 24 palms)
 - the length of a man's outspread arms (arm span) is equal to his height
- the distance from the hairline to the bottom of the chin is one-tenth of a man's height
- the distance from the top of the head to the bottom of the chin is one-eighth of a man's height
- the distance from the bottom of the neck to the hairline is one-sixth of a man's height
 - the maximum width of the shoulders is a quarter of a man's height
- the distance from the middle of the chest to the top of the head is a quarter of a man's height
- the distance from the elbow to the tip of the hand is a quarter of a man's height
 - the distance from the elbow to the armpit is one-eighth of a man's height
 - the length of the hand is one-tenth of a man's height
- the distance from the bottom of the chin to the nose is one-third of the length of the head
 - the distance from the hairline to the eyebrows is one-third of the length of the face
 - the length of the ear is one-third of the length of the face
 - the length of a man's foot is one-sixth of his height




The Vitruvian Man

The drawing itself is often used as an implied symbol of the essential symmetry of the human body, and by extension, of the universe as a whole.

It may be noticed by examining the drawing that the combination of arm and leg positions actually creates sixteen different poses. Note that Leonardo's drawing combines a careful reading of the ancient text with his own observation of actual human bodies. In drawing the circle and square he correctly observes that the square cannot have the same center as the circle, the navel, but is somewhat lower in the anatomy. This adjustment is the innovative part of Leonardo's drawing and what distinguishes it from earlier illustrations. He also departs from Vitruvius by drawing the arms raised to a position in which the fingertips are level with the top of the head, rather than Vitruvius's much lower angle, in which the arms form lines passing through the navel.

The Vitruvian Man is now used as a contemporary symbol of medical professionals and medical establishments. Many medical companies have adopted this artwork as the symbol of their group, company or organization, particularly in the United States, Saudi Arabia, India, and Germany. The Vitruvian Man remains one of the most referenced and reproduced artistic images in the world today.

The background is a textured, aged parchment or paper with various stains and faint illustrations. In the top right corner, there is a small, white, curled object with red markings, possibly a piece of fabric or a small animal. In the bottom right corner, there is a branch with dark green leaves and a cluster of small, yellowish-brown flowers. In the bottom left corner, there is a circular, dark, woven pattern. The overall appearance is that of an old, weathered document or book cover.

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