



Naturalism in Leonardo Da Vinci and Durer's Work

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Abstract. Naturalism has become an increasingly important part of European art since the fourteenth century, thanks to the Renaissance movement. Following extensive research into various works from various periods, it was discovered that Renaissance artists began to make paintings more realistic by studying various natural sciences, reflecting changes in mainstream social thinking at the time. This paper examines the representation of naturalism in the works of two Renaissance artists, Leonardo da Vinci and Albrecht Durer. Both artists were known for their meticulous observation and depiction of nature, and their works reflect the cultural and intellectual shift towards a more humanistic understanding of the world. Through an analysis of selected paintings and drawings, this paper explores the ways in which da Vinci and Durer portrayed natural phenomena, including light, shadow, texture, and anatomy. It also considers the philosophical and aesthetic implications of their naturalistic style, such as the emphasis on empirical observation and the ideal of beauty as an expression of truth. By examining the convergences and divergences between da Vinci and Durer's approaches to naturalism, this paper illuminates the complex relationship between art and science in the Renaissance period.

Keywords: Naturalism, Leonardo da Vinci, Albrecht Durer, Renaissance, Art History

1 Introduction

From the 14th to the 17th centuries, Europe experienced a period of great intellectual and artistic achievement known as the Renaissance. It was distinguished by a renewed interest in classical antiquity, a shift toward human-centered values, and a growing fascination with nature. Naturalism emerged as a major artistic trend during this time period, emphasizing the accurate depiction of nature through observation and scientific inquiry. This approach questioned the more stylized and symbolic representations of nature that had predominated in medieval art, and it reflected a growing belief in the importance of empirical knowledge and rationality. Naturalism became an important aspect of Renaissance art, architecture, and science, and it helped to develop new techniques and styles that had a long-lasting influence on Western culture.

phenomena. In the north, a comet and rainbow are important elements in Albrecht Durer's engraving *Mel-encolpia* ^[1].

This paper takes a case study approach, starting with naturalism and two related artists in the study, and then analyzing three of their works. Leonardo da Vinci's "The Virgin and Child with St. Anne" is the first, followed by "Leda and the Swan" and "St. Jerome in the Wilderness" by Durer. The significance of this study is to explore the origin and development of naturalism in artworks through a detailed visual analysis of the paintings studied and an analysis of the naturalistic elements derived from them.

2 Introduction to Naturalism

Naturalism is a 19th-century art movement that emphasized the depiction of realistic and detailed everyday life. Naturalist artists attempted to capture the world as they saw it, without romanticizing or idealizing it. This approach to art contrasts sharply with earlier periods' idealized and stylized depictions of life, such as during the medieval period, when paintings were mostly focused on the portrait of gods in order to spread the teachings of the Church. During the medieval period, artists such as Botticelli often depicted characters in a way that was idealized and exaggerated, reflecting the belief in the perfection of nature and gods.

This shift in artistic focus reflected broader changes in society, as people began to question traditional beliefs and challenge long-held assumptions about the nature of the world. For example, artists represented by Leonardo Da Vinci began to study on science, anatomy and nature, then combined them with artworks in order to make subjects more precise and realistic. By emphasizing realism and authenticity, naturalism represented a rejection of the idealized and romanticized depictions of life that had dominated art for centuries, paving the way for new forms of artistic expression in the modern era.

3 Introduction to Leonardo Da Vinci and Albrecht Durer

3.1 Leonardo Da Vinci

Leonardo da Vinci is widely regarded as one of the most accomplished and versatile artists in history. In addition to his artistic talents, he was also a keen observer of the natural world and a pioneering scientist in his own right.

Da Vinci's artwork is characterized by a remarkable attention to detail and a deep understanding of human anatomy, which he acquired through his extensive dissections of human cadavers. This understanding of anatomy enabled him to create some of the most lifelike and realistic depictions of the human form ever produced.

In addition to his artistic achievements, da Vinci also made significant contributions to the field of natural science. He was particularly interested in the study of geology, botany, and hydrodynamics, and conducted a number of experiments in these areas. He also made important observations about the behavior of light and shadow, which he incorporated into his paintings to create a greater sense of depth and realism. His

unmatched scrutiny and study of nature, which resulted in his depictions of both nature and human figures being so lifelike, may have been what made him outstanding among his contemporaries.

It should be noted that Leonardo adapted the idea of approaching landscapes with a naturalistic quality from Flemish artists and early Dutch paintings. Realism has always been central to critics' assessments of fifteenth-century Flemish painting. In the fourteenth century, with the rise of popular piety and empathetic devotion, abstract metaphors were transformed into realistic narratives ^[2]. It implies that the development of landscape studies was a highly innovative scientific approach, with its precision and accuracy in observing and applying natural landscapes on the painting, and it plays an important role in addressing realness and authenticity.

Da Vinci's ability to combine his artistic talents with his scientific interests was truly groundbreaking, and paved the way for a new era of interdisciplinary study that continues to this day.

3.2 Albrecht Durer

Albrecht Durer was another artist who was deeply influenced by his time's natural world and emerging sciences. Durer, like da Vinci, was a master of his craft, creating some of the most famous prints and engravings of the Renaissance.

Prior to the French Revolution, at the height of the Renaissance, there was no clear dividing line between art and technology, or between art and science. Durer created and published two books on art theory, *The Four Books of Human Proportions* and *A Guide to Metrology Using the Round and Straight Ruler*, in such a creative environment. These two volumes are widely regarded by art historians as among the most important monographs on Renaissance painting techniques. Durer outlines in detail the methods of gauging human dimensions and analyzes the mathematical principles involved in these approaches in these two volumes, where painting technique, mathematical science, and artistic style create a beautiful harmony ^[3].

Durer's sketches, prints, and paintings frequently demonstrate the merger of "art and science" through accurate and dynamically proportioned human figures and metaphorical realistic still lives. Durer's own aesthetic style and humanism beliefs got increasingly profound and sophisticated as a result of this interweaving and merging. His contributions to both fields left an indelible mark and continue to inspire artists and scientists alike to this day.

4 The Presentation of Naturalism in Artworks

4.1 Naturalism in Leonardo da Vinci's "The Virgin and Child with St. Anne"

Introduction. The painting depicts the Virgin Mary, St. Anne, and the Christ child in a landscape that features a winding river, rocks, and trees. The background is dominated by a steep mountain, which is a recurring theme in many of Leonardo's works such as "The Virgin in the Rocks". Besides, the upper part of the background, in a clear blue color tune, mainly contains depiction of river across mountains. His study of both water

and rocks was illustrated in large amount of sketching in his notebook. Other natural objects in the painting include symbolic depictions of people and animals, as well as very detailed depictions of various herbaceous and woody plants. "The Virgin and Child with St. Anne," by combining figures, landscape, flora, and fauna, represents a very comprehensive understanding of natural science in the later stages of Leonardo da Vinci's works.

Analysis. "Virgin and Child with St. Anne" is perhaps the one which Leonardo's composition of all his designs, he considered longest and in greatest depth, apparently because he felt attracted by the particular formal and iconographical problems presented by the subject^[4].

The first and the most apparent way in which "The Virgin and Child with St. Anne" is connected to natural history is through the depiction of the natural world. The landscape is not merely a backdrop for the figures; it is an integral part of the painting. The winding river and rocky outcroppings create a sense of depth and realism. When viewed from above, the top of the painting is a pale blue blank space, followed by a winding valley and a river flowing between the mountains in the distance. Although the artist has blurred this part of the landscape because it was not completely finished, the part still reflects a very realistic spatial relationship. The closer part of the painting is mostly made up of rocks and trees. The left side of the painting is flat, but rich in ground texture; the right side of the painting is a subalpine coniferous tree with a very vivid trunk and branches, unlike other painters who portrayed it as completely symmetrical. Botany as a science did not exist when Leonardo was born^[5]. Unlike other painters who portrayed perfectly symmetrical plants, Leonardo da Vinci's plants are more dynamic, reflecting his constant observation and study of plants in order to be more closely related to the naturalism of creation. The bottom and right side of the picture are also covered with rocks of different levels and sizes, similar to Leonardo da Vinci's "Virgin in the Rocks", and such detailed depiction of rocks was very much at the forefront of Renaissance painting.

Another way in which the painting is connected to natural history is through the use of symbolism. The fate of the lamb is, of course, the most obvious application of symbolism in the painting. The Virgin tries to separate Christ from the lamb; however, St Anne represents the Church and thus encourages the baby to keep going. This is because the sacrificed lamb would represent Christ's Suffering, and so the fate of the Cross. The artist would have wrestled with this concept for some time before coming up with a composition that could convey all of this significance at once^[6]. The tree behind St. Anne is also significant, as it is thought to symbolize the Tree of Knowledge from the Bible. More importantly, the connection between characters in this painting shows a symbol of human nature. The Virgin Mary is rarely shown sitting on her mother's lap. The harmony of the three figures, their freedom of movement, the sweetness and melting nature of the features, and the mountains in the background have all drawn praise from critics of art. With Leonardo's dreamy mountains in the background, which hint to the Madonna's setting, the family members almost blend together in their rhythmic harmony.

4.2 Naturalism in Leonardo da Vinci's "Leda and the Swan"

Introduction. "Leda and the Swan" is a well-known work by Leonardo da Vinci. This picture represents the ancient Greek tale in which Zeus transforms himself into a swan and seduces Leda, the queen of Sparta. With Leda's body positioned diagonally across the canvas and the swan's wings forming a graceful arc above her, the composition is strikingly balanced.

The literary documentation does not even associate Leonardo with a Leda and the Swan until 23 years after his death. The brief entry for 1518 in I/ Libro di Antonio Billi lists his major works but no Leda ^[7].

The picture is thought to have been made in the early 16th century and is now located at Rome's Galleria Borghese. It is a Renaissance masterwork that demonstrates da Vinci's remarkable attention to detail and talent at depicting human anatomy.

Analysis. Leonardo da Vinci represents several elements of nature in this picture, including water, sky, trees, and animals. To begin with, water takes up a lot of area in this painting. The painting's main protagonists, Leda and the swan, are standing in a pool of clean water. Da Vinci enhanced the realism of the image by using clear and flowing lines to finely show the nuances of ripples and ripples on the sea surface ^[8].

Second, the sky is an important natural element in this picture that should not be overlooked. The sky's color shifts from bright blue to mauve, and this color gradation accentuates the visual effect. Da Vinci also employed the shape and texture of the clouds to create a sense of three-dimensionality and space in the painting. More importantly, the trees and vegetation in the image can be the subject of this study, and he depicted these plants with remarkable botanical expertise. On the left side of the image, people can see a massive tree with finely drawn branches and leaves. There are many short grasses and flowers surrounding the tree, which provide sense of layers to the image. This sense of layers is an important development of paintings in Renaissance compared to these in the past. Prior to the Renaissance, Byzantine style paintings depicted people and nature as flat portraits, whereas after the Renaissance, painters such as Leonardo da Vinci made the nature in the pictures more realistic through their own observation and research on nature and science, rich in light and shadow and layered effects.

The painting's beauty lies in its intricate details and the way da Vinci depicts Leda and the swan's interaction. Leda's expression is a mix of surprise and delight, and her body language suggests that she is both open to and wary of the swan's advances. The swan, on the other hand, is meticulously depicted, down to the texture of its feathers and the curve of its beak. As it dominates the space above Leda, it exudes a sense of power and grace. The painting can be interpreted as a commentary on the complex relationship that humans have with nature, as well as the intersection of the human and animal realms. The swan's physical features are carefully crafted by Da Vinci, elevating it from a mere animal to a powerful symbol of divinity and desire, while Leda's human form is presented as both vulnerable and alluring.

4.3 Naturalism in Albrecht Durer's "St. Jerome In the Wilderness"

Introduction. Other than Leonardo, Albrecht Durer would support the notion of in-depth landscape research by real observation. One of the instances with significant backdrop representations would be "St Jerome in the Wilderness". This double-sided oil on canvas artwork, made around 1496, is now on display at the National Gallery in London. Although it is not as well-known as Durer's other works, the picture depicts the link between people and nature in a very realistic and precise manner, and the mix of animals, plants, landscapes, and evening sun is incredibly spatial.

Saint Jerome is depicted in late age during his retreat to the Syrian desert, where he lived as a hermit. The saint, kneeling amid a rocky environment and staring at a crucifix, represents loyalty to the Father in Heaven and the Son of God.

Analysis. Durer's imagination that it seemed almost to do office for the monogram" so surprisingly absent from the St Jerome ^[9]. Durer's use of actual rock studies in the backdrop, as well as other drawings from nature that are now destroyed, lends the landscape a 'truth to nature' character. It could be seen from the examples of his rock studies; nature observation provided him with the capacity to balance the color of the rocks using specialized techniques such as Chiaroscuro. Durer most likely meant to increase the emotional effect of the image by making the saint stand out in stark contrast to his rocky backdrop. The miraculous view of the Alps with dawn breaking behind them must have been based on some watercolor study made during Durer's journey back from Italy, and even the group of contrasting trees seen against the sky, so typical of Durer's preoccupation with the endless variety of nature, must have been based on individual drawings made originally to satisfy less his pictorial than his scientific curiosity. It is possible to infer that not only is the terrain suitable for generating great visual effects, but it also demonstrates Durer's careful approach to nature studies.

Durer was well-versed in geometrical composition and used polygons in several of his paintings. The figure of St Jerome is highlighted in this artwork by emphasizing the person's proximity to the landscape. St. Jerome is at the center of the artwork, at the peak of the geometrical arrangement shown. The rising slope draws attention to St Jerome's figure while leaving him isolated and with plenty of room. Durer's studies of visual representation and knowledge of beauty are completed by this composition, which also applies to the symmetrical distribution. The uncertainties of sense and experience and their relationship to the imagination are more subtly expressed in Albrecht Durer's paintings than anywhere else in Renaissance art ^[10].

5 Conclusion

The study of naturalism in the works of Leonardo da Vinci and Albrecht Durer provides valuable insights into the Renaissance period's intellectual and cultural transformations. Naturalism was not just a stylistic choice; it was also a reflection of the period's broader shift toward human-centered values, empirical knowledge, and scientific inquiry. Naturalism in art reflected a growing belief that nature was not only a source of wonder and mystery, but also a subject for study and analysis. Advances in science and

technology made it possible for artists to observe and document natural phenomena with greater accuracy and precision.

Leonardo da Vinci and Albrecht Durer were two of the Renaissance's most notable artists, and their works exemplified the integration of art and science. Their naturalistic approach reflected their shared interest in empirical observation, anatomy, and optics, and it inspired new forms of artistic experimentation and innovation. Furthermore, their works represented a new way of thinking about the relationship between art, science, and philosophy, embodying the Renaissance ideal of beauty as an expression of truth. The achievements of Leonardo da Vinci and Albrecht Durer continue to inspire and influence artists and scientists today. Their naturalistic approach paved the way for new artistic forms such as scientific illustration, landscape painting, and still life.

Furthermore, their work pushed the traditional boundaries between art and science, creating new opportunities for interdisciplinary collaboration and investigation. Finally, their contributions to the history of art and science serve as a reminder of human curiosity, creativity, and innovation's transformational power.

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