

Uroscopy and art in the 17th century

The interaction of science and aesthetics

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Abstract

In the 17th century, uroscopy was represented in many ways through art. While medical masters tried to uncover the causes of disease through macroscopic urine analysis, master painters created works of art that reflected medical knowledge. This interaction between two cultures resulted in realistic and naturalistic art, in which paintings visually depicted medical knowledge, the uncertainty in the face of disease and the customs of that time.

This article highlights how the essence of uroscopy as part of that era's medical practice was captured, and the experience depicted. The article underscores the relationship between uroscopy and 17th century art. Furthermore, it explores some artistic and cultural elements portrayed in paintings of uroscopy during this historical period. (*Acta Med Colomb* 2025; 50. DOI: <https://doi.org/10.36104/amc.2025.3312>).

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Introduction

The 17th century represents a crucible of innovation and creativity in which fascinating elements of history, medicine and art converge. During this period of profound transformation and discovery, many brilliant minds contributed doses of curiosity, wisdom and artistic expression, leaving an indelible imprint on the history of humanity, despite multiple wars like the Franco-Spanish or Three Kingdoms wars, and multiple plague epidemics.

In the field of medicine, this century witnessed significant advances. Semiology, histology and physiology, for example, flourished significantly thanks to figures like Thomas Sydenham in clinical observation, Marcelo Malpighi in microscopy and William Harvey in the understanding of blood circulation (1). These advances, together with social and religious changes, shaped new schools of thought and worldviews, which were reflected in the period's art. In this scenario, masters of painting like Rembrandt, Gabriël Metsu and Gerard Dou used their masterpieces to depict an emphasis on emotion, the use of light and shadow, dynamism (2), and the portrayal of reality without disdain for the anti-aesthetic or disagreeable (3).

This article seeks to highlight the bridges built between uroscopists and 17th-century painters. It also explores the intersections between medicine, culture, and art during this period of history, emphasizing the way in which medical practice influenced artistic production and how art reflected the medical beliefs and practices of that time.

Uroscopy, realism and naturalism

The 17th century was characterized by a variety of styles. It was a complex period, and religious conflicts, specifi-

cally in Protestant countries, led to certain topics being left aside, with a focus on contemplating nature, representing it objectively and realistically (4). Details took on importance, and everyday scenes with common people became popular. The focus, therefore, was on traditional things and what had previously been overlooked, leading to genre scenes (those depicting everyday life) being common (5).

Uroscopy, in turn, was realistic. What could be more real than the appearance, smell or taste of urine? The physicians of that period were well aware of this, and their diagnoses were based on urine discs: pictures with different hues of urine and their respective pathological significance, which had long been used to hone clinical judgement. In addition to providing detail, the paintings that narrated uroscopy sought, in some way, (intentionally or unintentionally) to vindicate medical practice, elevate its status and provide it with a certain aura of scholarship and scientism.

In the medical context, there is nothing more realistic than patient examination, especially for the topic addressed in this article, that is, urine. Urine has been accorded importance since ancient times. For example, Hippocrates (460 BC-370 BC) distrusted transparent and foamy urine (6), while Rufus of Ephesus (70-110 AD) discussed kidney and bladder abnormalities, as well as evident characteristics of urine like color, foam, or sediment, which theoretically revealed the underlying organic problem. In the Middle Ages and Renaissance era, many books addressed uroscopy. Rivers of ink were used to describe urine and its attributes, mainly reflecting abnormalities in the blood and humors (7). However, in the 17th century, uroscopy (which was the term given to closely inspecting urine through the senses) acquired a special connotation due to the clinical boom introduced by

figures like Thomas Sydenham, elevating sensorial urine examination to the next level (Figure 1).

In a historical period in which useful medical devices, like microscopes, had recently appeared, uroscopy dealt with something organic, visceral and clinical. It embodied the body studying the body. It also represented the enigma of studying pathology, somewhat like dissecting the body to explore the internal organs, although uroscopy was more clinical. There were few more corporeal things in medicine during this period than uroscopy.

For the spectators, especially the patients, it was beyond strange. Probably many artists in that era sought medical assistance with a flask of urine in hand, or witnessed someone, perhaps a relative, carrying a container of urine to the doctor's office. A certain interculturality emerged from this, from the relationship between the medical and artistic cultures, in which the work of art became a bridge between cultures with a double interaction: the first bred between the urine deposited in the flask and the physician; the second, between the medical act and the artistic impulse.

Uroscopy and painting in the Netherlands

Painting in the Netherlands deserves a small section, with notable protagonism in the 17th century and marked influence from the Italian, Caravaggio (8). Of course, various



Figure 1. Visit to the Doctor. Hendrick Heerschop. Public domain.
Source: https://commons.wikimedia.org/wiki/File:Hendrick_Heerschop_Beim_Arzt.jpg

schools, like the Delft school, saw the emergence of figures with great artistic talent, several of whom were captivated by medical practice and the topic of uroscopy. Adriaen van Ostade (1610-1685) is one example of this. A painter and engraver originally from Haarlem, Ostade specialized in genre scenes, especially those in taverns, although he frequently depicted peasants' daily life or life in the villa (9). He depicted uroscopy in one of his paintings. This work, an oil painting on wood titled *A Physician Examining Urine*, shows a seasoned doctor seated with his right hand in the folds of his clothes over his abdomen, gazing steadily at the urine flask held in his left hand (Figure 2).

One of the most emblematic Dutch painters was Gerrit Dou (1613-1675), a pupil of Rembrandt's (10). Belonging to the Leiden school, Dou specialized in genre scenes and candlelit nighttime scenes. He addressed the uroscopy theme on several occasions, and one of these works, an oil painting on metal, shows a doctor examining the urine against the light, while an expectant patient watches him. Another painting depicts a pale woman reclining in a chair and assisted by a servant while a young woman cries at her feet; this painting is titled *The Hydropic Woman*, considered to be his masterpiece (11). In this scene, the doctor, elegant and refined, inspects the urine flask against the light, trying to discern the cause of her ills. It highlights the skill with which the pale shafts of light illuminate the physician, whose gaze is focused on the bottom of the flask. It should



Figure 2. A Physician Examining Urine (1665). Public domain.
Source: <https://wellcomecollection.org/works/syvcrbxgl/images?id=r6n57xde>

be noted that Hydropic refers to hydropsia, known today as edema, ascites or fluid retention, whose causes could be as diverse as its treatment, which included elderberry and laxatives.

Clearly, depicting the uroscopy experience was a challenge. Not only did it require the proper composition and dimensions, but it also needed to convey the uncertainty of the diagnosis and, therefore, the prognosis. This was masterfully depicted by the Dutch painter Gabriël Metsu (1629-1667), who created *The Doctor's Visit*, a 1660 painting in which a feeble patient reclines in a chair, gazing at the floor. On the left, the doctor is standing upright holding the container of urine in his left hand, with his right hand on his waist. The physician's gaze is lost in the depths of the container, with a thoughtful look on his face, immersed in the diagnostic possibilities. Another interesting painting was one by Hendrik Heerschop, a Dutch painter who, in his *Visit to the Doctor*, captures well a physician faced with the uncertainty of diagnosis, who therefore warily inspects the urine, peering cautiously over his glasses, and appearing to babble. At the same time, the patient looks at the flask of urine hoping to discover the source of her ills.

Other painters also chose this topic. One of these was Pieter Bloot (1602-1658), a Dutch painter who specialized in genre scenes and landscapes. One of his works, an oil painting on wood, shows a doctor examining a container of urine. The painting depicts a comfortably seated physician inspecting the urine, holding the container with his left hand; the patient, an elderly lady who is rather enthusiastic, watches attentively with a subtle smile. Another painter who addressed the subject was David Teniers the Younger (1610-1690). A very prolific Flemish painter, he did a great deal of work on genre and landscape paintings and also did a painting on uroscopy. This painting is called *The Village Doctor*, a work which dates from between 1660 and 1665, and shows an elderly physician comfortably seated performing uroscopy. He holds the flask in his right hand, while with his left he holds a reference book open.

The urine flask

A renowned Dutch author, Jan Steen (1626-1679), was a tireless and skilled painter who specialized in genre painting and portraying everyday life with an element of buffoonery (12). Two of Steen's works are notable with regard to uroscopy. One is *The Lovesick Maiden*, painted in 1661, which shows a seated woman holding her head. In the scene, the doctor holds the urine flask in his right hand but is not looking at it at that moment; rather, he holds it while he says something to a nun standing next to him.

The other painting is *The Doctor's Visit*, painted between 1661 and 1662, with a similar scene: a seated woman holding her head while the doctor takes the patient's pulse and listens to what a servant appears to whisper in his ear, but this time it is she, the servant, who holds the vessel. Clearly, the urine flask is not the protagonist in these paintings,

but rather an additional object in the scene, an accessory (Figure 3).

In Jan Steen's work, the urine flask also played another role in the composition of the painting. *The Doctor and His Patient*, an oil painting on wood from 1660, depicts, as though in a video or movie, a moment after the uroscopy, which must have occurred minutes before. By that point, the doctor has had time to conduct his clinical assessment, perhaps consult one of the urine color discs and, comparing his knowledge of anatomy and physiology with some textbook, has already made the diagnosis and is ready to prescribe. The center of this painting has a triangular composition. The doctor is at the base of the triangle on the right, the patient on the left, and in the mid-upper portion what appears to be a servant or relative, holding the urine flask in her hands. The doctor is shown seated, leaning on his desk, writing what may be the prescription with which he plans to combat the patient's disorders.

The urine flask was usually a protagonist in these works of art. Often, this vessel was in the center of the pictorial composition, and the characters' gazes sometimes converged there. An interesting, though unusual, example is Trophime Bigot's (1579-1650) painting (13), possibly between 1630 and 1633, which is in the Ashmolean Museum in Oxford. In this painting, the doctor conducting the uroscopy is looking at the spectator, but the glass vessel which he is holding up to a candle is quite large with a



Figure 3. The Physician's Visit. Jan Steen. (1658-1662). Public domain. Source: [https://es.wikipedia.org/wiki/La_visita_del_m%C3%A9dico#/media/Archivo:JanSteen-Doctor'sVisit\(1658-1662\).jpg](https://es.wikipedia.org/wiki/La_visita_del_m%C3%A9dico#/media/Archivo:JanSteen-Doctor'sVisit(1658-1662).jpg)

very different shape from that of the vessels depicted in dozens of paintings on the subject. A painting by the French engraver Isaac Sarrabat (1667-1701) is also interesting, as it (unlike most paintings) shows a collection of flasks with a great variety of shapes and sizes on a shelf behind the doctor conducting the uroscopy, although the predominant design is a large, rounded base with a short, narrow neck.

Uroscopy: Between light and shadow

Chiaroscuro was an important technique in the 17th century that allowed three-dimensional depictions (14). A characteristic of the paintings in this century is the contrast between light and shadow also known as tenebrism. In this style, the illuminated areas become important, giving a sense of volume (15). This technique not only added depth and realism, but also focused attention on the illuminated point, creating emotional and dramatic atmospheres. Many paintings in the 17th century on the topic of uroscopy have these characteristics, and one of these scenes was by the Flemish painter Joos van Craesbeeck (1605-1660). In *The Urine Examination*, the doctor, who remains seated, carefully analyzes the container of urine he is holding in his right hand, a little above eye level, while with his left hand he holds a quill, ready to take notes. Behind the doctor, the patient watches attentively, and the doctor and patient's gazes converge on the rounded part of the vessel.

Seventeenth century art reflects the complexity and duality of the practice of uroscopy. On the one hand, it shows



Figure 4. *Detail of Science*. Gerard Thomas (End of the 17th century). Public domain.

scenes in which the doctor, engrossed and concentrated, examines the urine looking for clues to the patient's condition. On the other hand, urine becomes a symbol of knowledge, diagnosis and understanding of human pathophysiology. This intersection between medical practice and artistic representation offers a unique perspective of how science and art intertwine to explore medical, artistic and cultural topics. All of this is depicted by Gérard Thomas (1663-1720) who specialized in pictures of taverns, alchemy laboratories, medicine men and quacks in action. In one of his paintings, titled *Science*, an alchemist who is examining the flask of urine has set out a book on a table to help the diagnosis, while pharmaceutical and surgical operations are being performed in the rest of the room (Figure 4).

The aesthetic in paintings of uroscopy tells parallel stories. There is clearly a meticulous attention to detail, which communicates realism and a sense of life and movement, but they are also laden with symbolic significance. Another painting by Gerrit Dou in 1653, titled *The Physician*, is an example of this, with the inclusion of allegorical objects. On the right side of the painting there is a large anatomy book open to a page showing a complete human skeleton. In addition, the doctor wears elegant and luxurious clothes, and, also on the right, there is a globe, symbolizing exploration, discovery, knowledge and wisdom. Finally, above the



Figure 5. *The Physician*. Gerrit Dou (1653). Public domain.
Source: [https://es.wikipedia.org/wiki/El_m%C3%A9dico_\(Gerrit_Dou\)#/media/Archivo:Gerard_Dou_-_The_Physician_-_Christchurch_Art_Gallery.jpg](https://es.wikipedia.org/wiki/El_m%C3%A9dico_(Gerrit_Dou)#/media/Archivo:Gerard_Dou_-_The_Physician_-_Christchurch_Art_Gallery.jpg)

window or balcony frame, there is a decorative cloth symbolizing opulence and status but also refinement, elegance, and prestige (Figure 5), which the medical profession had lost in the previous centuries, such as during the Black Plague or the 16th century, and which was embodied as death mocking doctors, a classic in the iconography of the dance of death (dance macabre).

Conclusions

The 17th century witnessed the emergence of distinguished artists who, inspired by uroscopy, created a pictorial narrative that merged art, medicine and popular culture. The practice of uroscopy embodied a clinical enigma and a mystery to be solved, in which the physician was faced with a challenge, a struggle that entailed deciphering the secret behind the illness converted into a symptom. The works of art inspired by uroscopy also represent the capture of a unique moment in the art of medicine, that is, the very moment of clinical assessment. There, the physician imagines the possible internal problems, reflects on the disease and mentally recreates the pathological process to determine a possible diagnosis. Pictorial art depicting uroscopy represents a meeting point between two cultural spheres: medicine and art, where each stroke and work of art tells a story, reflecting the experience of the disease for

the physician, the patient, and those who witness it.

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