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An analytical vision of using Indian yellow in the Mughal painting school and Pahari school (11-13AH / 17-19 AD) and its impact on European painting.

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Abstract:

Colors and inks are one of the important tools used by the artist in paintings and drawings. Colors appeared in Indian paintings in a distinctive manner, and one of the most beloved colors is yellow. In addition to the production of yellow from well-known sources available in the environment, such as plants and minerals, there exists a unique color called Indian yellow, distinguished by its shine and radiance. Its association with India suggests its development and spread from there to other countries. The method of manufacturing this color was complex, involving the production of a chemical compound derived from cow urine.

The study aims, through a descriptive and analytical approach, to study samples of paintings from the Indian Mughal school and the Pahari school and its branches. It focuses on studying the color plans in these paintings and the analysis that dealt with the definition of the method used in the production of that color, including the date of their use, the technical characteristics of Indian yellow, and the themes associated with its application. Additionally, the study tracks the artistic and cultural evidence of the use of yellow in India, clarifies how this color was transmitted to Europe, and explores the impact of Indian yellow on European paintings through examples of the works and writings of European artists regarding this color.

Keywords: Indian painting, puri, Indian yellow, Pahari, Kangra, European painting.

المخلص :

تعتبر الألوان والأحبار من الأدوات المهمة التي استخدمها الفنان في التصوير والرسم؛ وقد ظهرت الألوان في التصوير الهندي بطريقة مميزة، ومن هذه الألوان المحببة اللون الأصفر، فبالإضافة إلى إنتاج الأصفر من مصادر معروفة ومتوفرة في البيئة مثل النباتات والمعادن وغيرها، إلا أننا أمام لون فريد يطلق عليه الأصفر الهندي، المميز بلمعانه وإشراقه، ونسبته إلى الهند يدل على تطوره وانتشاره في الهند ومنها إلى الدول الأخرى، وكانت طريقة تصنيع اللون تتميز بالتعقيد، فهو مركب كيميائي ينتج من بول الأبقار.

وتهدف الدراسة من خلال المنهج الوصفي والتحليلي؛ توصيف لنماذج من تصاوير المدرسة المغولية الهندية، ونماذج من تصاوير المدرسة البهارية وفروعها؛ ودراسة الخطط اللونية في هذه اللوحات، والتحليل الذي تناول التعريف بالطريقة المستخدمة في إنتاج ذلك اللون، وتاريخ استخدامه، والخصائص الفنية للون الأصفر الهندي، والأنماط المستخدمة في التلوين، بالإضافة إلى تتبع الدلائل الفنية والثقافية لإستخدام اللون الأصفر في الهند، وتوضيح كيفية انتقال اللون الأصفر إلى أوروبا وأثر اللون الأصفر الهندي في اللوحات الأوربية من خلال نماذج من أعمال الفنانين الأوربيين وكتاباتهم حول هذا اللون.

الكلمات الدالة: التصوير الهندي، البوري، الأصفر الهندي، بهار، كانجرا، التصوير الأوروبي.

Introduction:**Definition of colors and their importance:**

Color is defined as the distinctive appearance of objects such as black and red, or the type of things¹, and it is the pigment with which clothes and others are colored², and it is the characteristic that distinguishes any color so that it can be named and differentiated from else., It is an internal sensation in the human body that uses internal sensors and a range of external factors such as the amount of light, its wavelength, and the angle of reflection³.

It is also a physiological effect resulting from the retina, whether the color is of a pigment material or colored light, or it is a phenomenon of light or visual perception that enables one to distinguish between things that are similar through the light⁴.

Colors are considered one of the tools of visual language, as sight is the most important cognitive ability through which we can coexist with the environment, and

¹ Al-Jawhari.(1987 A.d-1407 AH). . *Al-Sahih Taj al-Lughah wa Sahih al-Arabiyyah - al-Jawhari*. beirut, lebanon: Dar al- Elm lelmalyin., vol 6, p 2167.

² Aḥmad, al-Khalīl ibn. (2009 AD-1431 AH) . *Kitāb al- 'ayn*. Cairo: Dar Al helalm vol 4 p.374.

³ Motawea, Hanan.(2017). "Colors and their significance in the Islamic civilization with application to the models of Arabic manuscripts." *Maǧallaġ Al-Itiḥād Al- 'ām Lil Aġārīyin Al- 'arab* 418-450.

⁴ Gourab, Azza. (2006). "Colors and their political significance in the Abbasid era." *journal of faculty of arts, tanta univeristy* pp, 38-78

the uses of colors in human life are not limited to aesthetic aspects but are used for functional purposes and to express some cultural patterns⁵.

As Colors are represent one of the symbolic expressions for various life or artistic purposes, and it is also a way to express human emotion, the colors were used as a symbol in all cultures, and psychology refers to the effect of color on human feelings and behavior⁶, and colors are used to express certain political connotations, especially if they are associated with the pride and dignity of homelands, where color on the flag represents intended connotations and a specific symbol⁷.

The yellow color was known in ancient civilizations, the ancient Egyptians used yellow ochre and arsenic sulfide since the pre-dynastic era to produce the yellow color, there were many examples of using this color in ancient Egypt⁸. the term "flauus" used to refer to the yellow color in the Roman Empire⁹; according to **Pliny** and **Vitruvius**, the yellow color was derived either from yellow ochre or from arsenic sulfide¹⁰.

The artists in old India used the natural yellow ochre, prepared by washing the natural mineral to remove impurities, then drying, grinding, and sieving. since the Paleolithic era¹¹. They also used the plant pigments since ancient times¹².

Due to The Muslim Indian artist's skill in using colors, the colors showed the beauty of Islamic arts, as he respected the tastes stored in the memory of peoples and not to prejudice the legacy of ancient cultures of colors in which religions, customs, , while preserving the use of colors derived from Islamic ideology¹³.

The yellow color is mentioned in the Holy Qur'an, and carries multiple indications, it was mentioned to indicate pleasure, as it was mentioned to indicate the yellowing of the plant, and to describe the fire of hell¹⁴. The yellow color was also used in the Qur'an to express positive and negative connotations¹⁵.

The importance of the topic lies in, where this region in northern India, which was somewhat far from the Mughal authority, it had mutual relations, especially in the era

⁵ Gourab, Azza. (2006) pp 38-78.

⁶ Obaid, C. (2014). *Colors (their role, classification, sources, symbolism, and significance)*. almuasatat aljamieiat lildirasat walnashr., 2014, pp. 27- 41

⁷ Gourab, Azza. (2006)pp 38-78

⁸ Lucas, Alfred. 1991. *Ancient Egyptian Materials and Industries*. Translated by Mohamed Zakria ghonim Zaki Iskander. Cairo: Madbuli Library. pp. 567-568.

⁹ Bradley, Mark. 2009. *Colour and Meaning in Ancient Rome.*" *Cambridge Classical Studies*. Cambridge.pp 1:35.

¹⁰ Siddall, Ruth. (2006) "Not a day without a line drawn: Pigments and painting techniques of Roman Artists." *infocus Magazine* (Royal Microscopical Society),pp 1-31.

¹¹ Sharma, A., & Singh, M. R. (2021). A Review on Historical Earth Pigments Used in India's Wall Paintings. *Heritage*, 4(3),pp 1970-1994.

¹² Siva, Ramamoorthy. (2007). "Status of natural dyes and dye-yielding plants in India." *Current Science* (Current Science Association Bangalore) 92 (7): 916-925.

¹³ Motawea, Hanan., pp 418-450.

¹⁴ Thannoon, Ahmed.(2012). "Colors (Their Positions & meanings) in Islamic Architecture." *Al-Rafidain Engineering Journal (AREJ)* 30-49. doi:doi: 10.33899/rengj.2012.63360.

¹⁵ Abaza, I Sadek.(2018). *Color symbolism in Islamic book painting*. American University in Cairo, p 42.

of Shahjahan, these states were rich in ancient painting traditions and had relations with Europe in the 17th to 19th centuries.

One of the previous studies in the study of colors and Indian yellow color: Rebecca Ploeger, A. S. (2017). The story of Indian yellow – excreting a solution. *Journal of Cultural Heritage*.

Abaza, I. (2018). *Color symbolism in Islamic book painting* [Master's Thesis, the American University in Cairo] , <https://fount.aucegypt.edu/etds/638>.

Amer, A. I. (2021) The significance and symbolism of colors in Islamic schools of painting in India, Iran and Turkey from) 906 AH-1500 A.D.) till (1135 AH-1722 A.D.) a Comparative archaeological artistic study. PhD, Faculty of Arts, Helwan University.

Study Methodology:

The study is based on the descriptive and analytical approach, and it is divided into an introduction and three topics as follows:

- **Introduction:** definition with addressing the yellow color.
- **First topic:** Descriptive study:
- **Second topic:** Analytical study:
 - The Indian yellow color composition and date of use.
 - The cultural and religious connotations of the Indian yellow.
 - The artistic theme of Indian yellow in both Pahari and Mughal schools.
 - The artistic characteristics of the using Indian yellow.
- **Third topic:** the impact of using Indian yellow in European paintings.
- **Finally:** conclusion and bibliography.

1-Descriptive study:

1-1: Mughal paintings:

No dynasty in history has reached the level that the Mughals have reached in their enlightened and distinguished patronage of the arts¹⁶. The Mughal emperors were famous for patronizing the arts, literature, and paintings, headed by the founder of the Mughal dynasty in India, Zahir al-Din Babur (932-937 AH/1526-1530), followed by his son, Emperor Nasir al-Din Humayun (932-946 AH/1531-1540 A.D.), (962-963 AH/1555-1556 A.D.), who fled to Iran and met with artists of Shah Tahmasp, but he died one year after his return to rule¹⁷.

Akbar (963-1014 AH/1556-1605 A.D.) took over after his father, at the age of twelve, and immediately began to consolidate his control. He almost immediately hired painters and architects, as buildings and even libraries filled with books and manuscripts were tangible and necessary evidence of power.¹⁸

¹⁶ Welch, S. C. (1987). *The Emperors' Album: Images of Mughal India*. Metropolitan Museum of Art., p 13

¹⁷ Farghali, Abu AlHamad M.(2000): *Islamic painting Its Upbringing, The attitude Of Islam Towards It , Origins And Schools*, cairo, pp 363-364.

¹⁸ Beach, M. C., Welch, S. C., & Lowry, G. D. (1978). *The grand Mogul: imperial painting in India, 1600-1660*. Sterling and Francine Clark Art Institute; First Edition, p 16.

Akbar was keen to take care of the arts and was interested in paintings to the extent that he was determining the scenes that were drawn and entrusted the management of the studio to the master of artists, so Mir Sayed Ali was the first director of the studio, and then Abdul Samad, and Paswan¹⁹. he determined the procedures followed in the Imperial studio, which indicates greater keenness and care for painters and paintings²⁰.

The Indian painting has developed significantly in the era of Jahangir (1014-1037 AH/1605-1627A.D.). He introduced in painting a kind of delicacy in the choice of subjects and colors, and he introduced in his painting techniques of darkness and radiance. Also, his wife Nour Jehan participated in the development of the paintings by spreading a sense of tenderness through the emergence of transparent clothes with delicate colors²¹. Jahangir artists excelled in natural landscape painting, including the painter Mansur, who used the glowing colors of flowers on a yellow background²².

Shah Jahan (1037-1068 AH/1628-1658 A.D.) was born to a Rajput mother. He spent his early years at the court of Akbar, was intelligent and courageous, and was responsible as a young prince for most of the military²³.

After Shahjahan came to power, he was able to bring the concept of justice to the people through the justice of the government, the wise and generous treatment of farmers, the integrity of the courts, He spent a lot of money on the luxury of processions²⁴., Shah Jahan was interested in painting, the portraits of the emperor were very elegant to a grandiose degree, but the portrait was superficial and far from the psychological depth of the characters²⁵.

Aurangzeb (1068-1119 AH/1658-1707 A.D.) was able to reach the Mughal Empire to the top, where he annexed the land of the Deccan in the 17th century; he embraced the Sunni doctrine, copied the Qur'an and religious books, demobilized artists, and invalidated the court's care for the arts. After the Aurangzeb age, the Mughal paintings deteriorated, as did the Mughal Empire, which began to fragment and divide and many revolutions and wars until the beginning of the 19th century²⁶.

Mughal painting techniques were simple, which used opaque watercolors with which to be painted on paper or cloth. The artists were interested in the quality of the papers, the manufacture of brushes, and the preparation of colors made from environmental materials²⁷.

¹⁹ PAL, Pratapaditya, et al. Indian painting., p 177

²⁰ Guy, John. "Mughal Painting Under Akbar: The Melbourne Hamza-Nama and Akbar-Nama Paintings." *Art Journal* 22 (1982). <https://www.ngv.vic.gov.au/essay/mughal-painting-under-akbar-the-melbourne-hamza-nama-and-akbar-nama-paintings/>(Accessed 14/07/2024 20:47 pm)

²¹ Okasha, Tharwat. 1995. *Mughal Islamic Painting In India*. cairo: ministry of culture, pp 117:120.

²² Mehta, Nānālāl Chamanlāl. 1926. *studies in Indian Painting. A Survey of some new material ranging from the commencement of the seventh century to circaA.D. 1870. With 17 plates in colour and 44 half-tone plates*. Bombay: D. B. Taraporevala, Sons & Co., p 82.

²³ Welch, Stuart Cary.(1978). *Imperial Mughal painting*. New York: George Braziller, p 28.

²⁴ Lane-Poole, S. (1903). *Mediaeval India Under Mohammedan Rule:(AD 712-1764)* (Vol. 59). T. Fisher Unwin., p 327.

²⁵ PAL, Pratapaditya, et al. Indian painting., p 32

²⁶ Okasha, T. (1995). *Mughal Islamic Painting In India*. cairo: ministry of culture., p156.

²⁷ Welch, Stuart Cary.(1978). *Imperial Mughal painting*., p 12.

Personal portraits have taken their way to Indian paintings through Chinese influences; the portrait occupied a great place in Indian paintings, especially since the era of Emperor Babur and other emperors who were interested in personal portraits and court scenes of statesmen and those close to them²⁸.

In the following examples of Mughal schools, the study will describe and discuss the yellow color as follows:

Plate: (1) Emperor Akbar in a yellow costume.

Date: Mughal 1008-1012 AH/1600-1603 A.D.

Place of preservation: The Chester Beatty Library, Dublin

Dimensions: 43.5 x 26.8 cm

Miniature: Akbarnamah, fol. 263b²⁹.

Accession number: CBL In 03.

Study and Description: The painting represents the Emperor Akbar sitting in a palace wearing a yellow uniform, where the center of the Council is, and in front of him several courtiers, writers, and ambassadors., The color plan shows richness in the use of colors and diversification in them, yellow color appeared in the costume of the emperor and in the costumes of those attendees, and in the carpet and in the courtyard space around the Council, and below the written strip at the top of the painting., although the picture is a night scene where the stars and the moon appear in the dark sky, the yellow color in the painting worked on self-lighting in the painting.

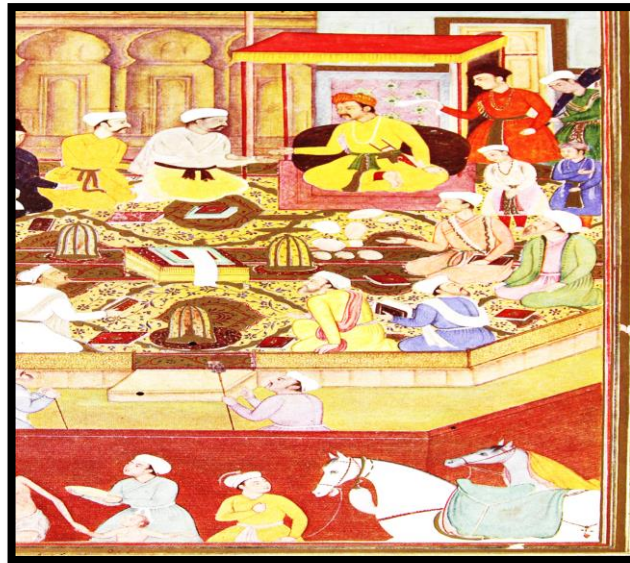


Plate: (1) Emperor Akbar in a yellow costume.

Akbarnamah, Mughal 1008-1012 AH /1600-1603 A.D. (43.5 x 26.8 cm)

The Chester Beatty Library, Dublin, (No.: CBL In 03- fol. 263b)

Arnold, (T. W.), and (J.V.S.) Wilkinson. (1936). *The library of A. Chester Beatty*.pl 36.

²⁸ Hasssan, M. A. (2002). *Islamic painting in india, prsonal potraite in magul painting*. cairo: dar al nasher lelgameaat.pp 35: 36.

²⁹ Arnold, (T. W.), and (J.V.S.) Wilkinson. (1936:36). *The library of A. Chester Beatty: a catalogue of the Indian miniatures*. [London]: J. Johnson at Oxford university press: and pub. by E. Walker, Ltd.pl 36.

Plate: (2) Squirrels in A Plane Tree and yellow background

Date: Mughal, 1018AH-1610 A.D.

Place of preservation: The British Library, London.

Dimensions: 36.2 ×22.5 cm

Miniature: Album.

Accession numbers: (Johnson Album 1, no. 30)

Study and Description: The painting is a scene of nature, depicting a group of squirrels on the trunk of a huge tree and looking annoyed by the man who is trying to climb this tree, and the tree with colored leaves and a group of birds, and in the ground around the tree a group of deer that graze in tranquility, and colorful sponge rocks abound. Scenes of the views were painted on a colorful background in bright yellow, which works to clarify the details of the picture.

This miniature is one of the most famous images of natural history that Mansur painted for Jahangir, and it reflects the emperor's pleasure in animals and birds and the effectiveness of his encouragement of the artists Mansour and Abu al-Hassan. The emperor gave Mansour the title "Nadir AZ-Zaman" because Mansour's portraits were painterly, not pictorial. Unlike Abou El Hassan, who could draw anything, Mansour was very specialized, and he was happier and more comfortable with the natural world. He recorded the gestures and expressions of the animal world—the looks of squirrels when one gets a nut and the other covets it³⁰.

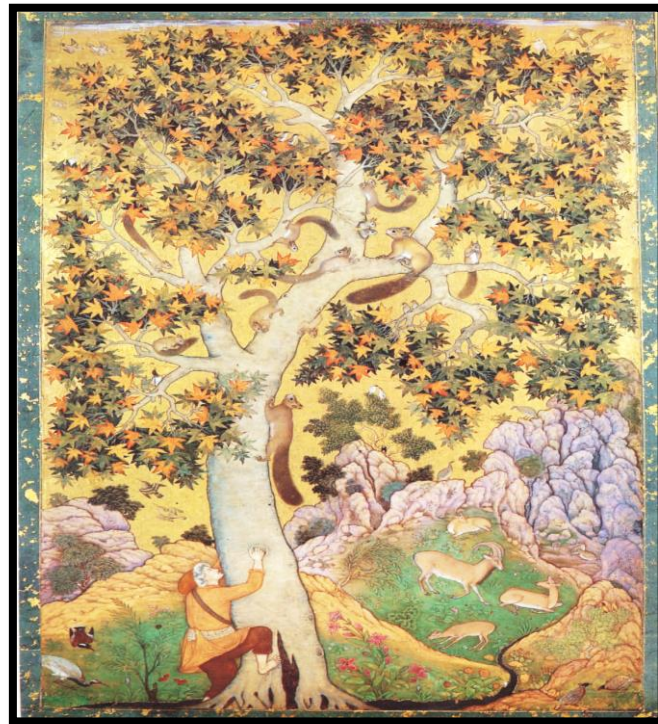


Plate: (2) Squirrels in A Plane Tree and yellow background

Album, Mughal (1018AH-1610 A.D) (36.2 ×22.5 cm).

The British Library, London. (Johnson Album 1, no. 30)

Welch, S. C. (1985). *India: art and culture*, pl 141.

³⁰ Welch, S. C. (1985). *India: art and culture, 1300-1900*. Metropolitan Museum of Art., pl 141, p 215.

Plate: (3) Shah Jahan on Horseback

Date: Mughal, (1038-1041 AH/ 1627-1630 AD.)

Place of preservation: The Metropolitan Museum³¹.

Dimensions: 38.9 × 25.7 cm

Miniature: Shah Jahan Album.

Accession Number: 55.121.10.21

Study and Description: The painting depicts Emperor Shahjahan riding on his piebald horse, which consists of black and white colors., The painting is the work of the artist Bayaj, and refers to Shahjahan's interest in horses, especially Arabian horses and their acquisition³², the horse appears in full adornment, raising one of the front legs and driving one of the rear feet in a graceful movement, and in the neck of the horse a pendant of yellow hair, and the emperor holds the horse bridle, and the emperor sits on the horse's back on an elegant saddle and behind him the quiver of arrows and the bottom of his feet are yellow brushes decorated with floral motifs, and the emperor appears sideways wearing a white costume, and behind His head is a halo like the sun hollowed out from the inside, and the painting is decorated with a set of narrow frames and a wide yellow frame containing bundles of plants with colorful flowers, and the yellow color is used in horse ornaments, and in the halo around the emperor's head, and the bulk of the yellow color occupies the outer frames and floors of the yellow frames.



Plate: (3) Shah Jahan on Horseback

Shah Jahan Album, Mughal (1038-1041 AH/1627-1630 AD.), (38.9 ×25.7 cm).

The Metropolitan Museum. N.: 55.121.10.21.

<https://www.metmuseum.org/art/collection/search/451267>

³¹ <https://www.metmuseum.org/art/collection/search/451267> (access 28-8-2024, 18:45 pm)

³² Shoky, A. A. (2020). Individual Horses Painting in the Mughal and Rajasthan Schools. *Bulletin of the Center Papyrological Studies*, 1-78.

Plate: (4) personal portrait with yellow background

Date: Mughal CE 11AH/17 A.D.

Place of preservation: The British museum³³.

Dimensions: 25 ×11.90 cm

Miniature: Album.

Museum numbers:1974,0617,0.2.29.

Study and Description: The painting represents one of the statesmen in the era of Aurangzeb, who was painted in sideview. He appeared in a lateral position with his head and three-quarters of his body, wearing a white costume decorated with repeated flowers, standing in a strict manner and holding in his right hand the jewel-decorated dagger in the middle, and his other hand placing it over the shield attached to the middle and showing the sword underneath, and wearing orange pants and elegant green shoes, and stands On a floor with green grass mixed with yellow, the background of the yellow extends to the horizon of the sky with gray clouds. The color plan shows the use of yellow color in the floor and background, and the distinctive Indian yellow color gave the painting depth in addition to showing the details of the personal portrait painting.



Plate: (4) personal portrait with Indian yellow background

Mughal Album,11AH/ 17A.D. CE (25 ×11.90 cm)

British Museum: 1974,0617,0.2.29.³⁴

1-2: Indian Pahari paintings:

Initially, the Pahari school emerged as a folk art, but later, it gained royal care due to its religious connotations. After refinement, it flourished under the name Pahari Qalam. The Ramayana and Bhagavata Parana were illustrated in Guler. We often imagine that the lush, pointed cypress trees, flowering shrubs along the wavy flowing rivers, prominent tamarisk clouds pierced by winding lightning bolts, and the white

³³ https://www.britishmuseum.org/collection/object/W_1974-0617-0-2-29 (access 19-7-2023, 17:30pm)

³⁴ https://www.britishmuseum.org/collection/object/W_1974-0617-0-2-29 (access 19-7-2023, 17:30pm)

skins of cranes heralding rains - all are characteristic features of the typical Guler style³⁵.

The real flourishing of Indian painting emanated from the northern Himalayan states, and these states included Pashuhli, Jammu, Champa, Nurpuru, gulro, kangra, Bilaspur, kululo, Mandi, Garwal, and Punjab. These states produced paintings known as Pahari painting, also called Rajput School³⁶, characterized by simple-colored stereotypes, usually a pictorial copy of a manuscript of poetry written on top on a yellow background like Ragamala subjects³⁷.

The artistic products varied from miniature depictions in the Pahari school with its various branches, and we will study models of the depictions of these schools, as they have artistic origins rooted in the land of India, and for their influence and effectiveness with Mughal art, and from the branches of the Pahari painting school, which has a lot of use of the yellow color, the following:

1-2-1: Basohli paintings:

Basohli was an important state, four miles long and fifteen miles wide, bordered on the south by Lakhanpur, on the west by Jasrota, Bhada, and Kotman, on the north-west by Bandralita, on the south-west by Bhaderwah, on the east by Chamba, and on the south-east by Nurpur. It was founded as a branch of Kullu in the 8th century, and its capital included Vilapura (Balawar, Palur) until 1630 A.D.³⁸

Basohli painting style developed in the last quarter of the seventeenth century; the first dated examples date back to the time of Raja Kirbal Pal (1678–1693). There are three dated examples: the illustrated Rassamangari 1695 A.D., Gita Jovinda 1730 A.D., and Ramayana painting 1816 A. D.³⁹

Plate: (5) Radha and Krishna in yellow background.

Date: Rajput, Basohli school, 1143-1148AH/ 1730-1735 A.D.

Place of preservation: Victoria and Albert Museum⁴⁰.

Dimensions: 25.5× 16 cm.

Miniature: Gita Govinda.

Accession number: IM.87-1930.

Study and Description: The plate is one of the Gita Govinda paintings, where Radha sits on the side of the painting; on the other side, Krishna sits with a group of gobies and embraces two of them; and there are others playing sitar and clapping. The background of the painting is yellow.

The color plan shows the richness in the use of yellow in the background, as it gave an infinity depth to the painting; that kept it away from the flattening and gave it a hint of sanctity associated with Lord Krishna.

³⁵ Bhat, Younis Iqbal (2008)., Indian Paintings at Maharaja Pratap Singh Museum, P 59

³⁶ Okasha, 1995, p 41.

³⁷ Mehta, 1926, p. 42

³⁸ Bhat, Younis Iqbal 2008., P 99.

³⁹ Singh, Chandramani. (1974). "A review of Basohli style in Indian painting." pp,134-147.

⁴⁰ <http://collections.vam.ac.uk/item/O41854/radha-and-krishna-painting-unknown/> (Accessed 20-07-2023/ 02:44 pm)



Plate: (5) Krishna and Radha in yellow background.

Rajput, Basohli school, 1143-1148AH / 1730-1735 A.D, (25.5× 16 cm.)

Victoria, and Albert Museum; IM.87-1930

<http://collections.vam.ac.uk/item/O41854/radha-and-krishna-painting-unknown/>

(Accessed 20-07-2023/ 02:44 pm)

Plate: (6) Krishna painting in a yellow frame.

Date and place: Basohli school, 1143AH/ 1730 A.D.

Place of preservation: Harvard art museums ⁴¹.

Dimensions: 25.4 x 20.3 cm.

Accession number: 1991.177.

Miniature: from Bhagavata Purana.

Study and Description: The painter used the yellow to color the frame around the painting of the blue god Krishna; the frame has worked to give the painting some holiness associated with the depictions of the lord Krishna in addition to the background, which seems like a green layer over the yellow color foundation; also, yellow has been used to color the jewels worn by the Lord Krishna. The hot orange, red, and yellow fire colors were balanced with the dark blue of Krishna leather and gray smoke. The yellow border contains the image and perfectly complements it⁴².

⁴¹ <https://harvardartmuseums.org/collections/object/310732> (Accessed 20-7-2023/03:05 pm)

⁴² Kossak, Steven. *Indian court painting, 16th-19th century*, p 85

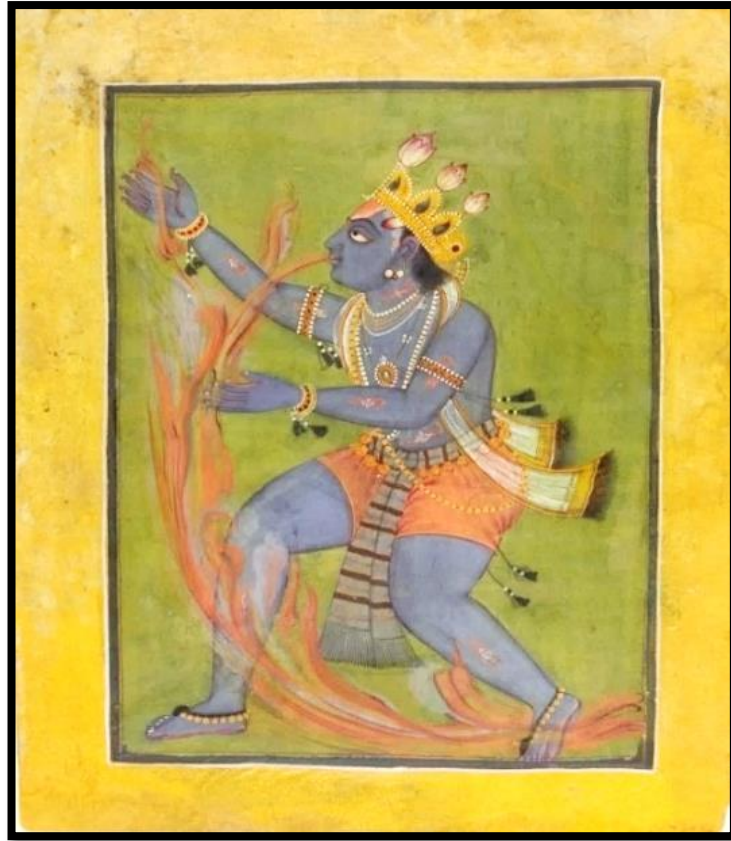


Plate: (6) Krishna painting in a yellow frame.

Folio from Bhagavata Purana, Basohli school, 1143AH/1730 A.D., (25.4 x 20.3 cm.).

Harvard art museums; 1991.177

Kossak, Steven. Indian court painting, pl 49.

1-2-2: kangra painting:

Kangra represents the most glorious phase of Paharin art, as mentioned in Ain-e-Akbari. Kangra, located in the eastern part of Himachal Pradesh, became widely famous for drawing subjects of Gita Govinda, which has exquisite paintings. This style was copied in later Mughal painting, which was patronized by many Rajput rulers who ruled different parts of the region.⁴³

Kangra depicted Bhagavad Purana paintings and included scenes from the life of Lord Krishna and some other popular subjects. Artists tried to show the effect of the seasons throughout the year on human emotions. Kangra painters used colors made from plants and mineral extracts. Vatu, Parkhu, and Kushana were important artists of this school. Love was the main theme of Kangra miniatures, and the great poetic of Keshavadas was the chosen subject of Kangra artists. The Kangra style reached its pinnacle with paintings of Radha and Krishna.⁴⁴

⁴³ LAVANYA, B. (2019) "Women in Pahari Miniature Paintings.", International Journal of Applied Social Science Volume 6 (3), March (2019), pp, 681-686.

⁴⁴ LAVANYA, B. "Women in Pahari Miniature Paintings 681-686.

Plate: (7) The golden city.

Date and place: Kangra school, 1235-1241 AH/ 1820-1825 A.D.

Place of preservation: Ludwig Habighorst collection.

Dimensions: Painting 28.1 × 41.5 cm.

Accession number: Sotheby's New York, 1 December 1993, lot 163, Svetoslav Nikolaevich Roerich collection.

Miniature: Folio from a Kedara Kalpa series.

Study and Description: The painting represents the journey of five men to a holy city located on the bank of a river, and the city's buildings and streets are characterized by a golden yellow color scattered throughout the city, in addition to many people busy performing certain rituals.

The painting represented One of those magnificent sights is clearly in the story of Five Men. They went to the land of Shiva through snow-capped mountains; they were encountering the greatest difficulties, and they entered the golden city. Three of them got some clothes in the form of animal skins, and all wore hats made of animal skins. The painting represented One of those magnificent sights is clearly in the story of Five Men. They went to the land of Shiva through snow-capped mountains; they were encountering the greatest difficulties, and they entered the golden city. Three of them got some clothes in the form of animal skins, and all wore hats made of animal skins.⁴⁵

The color plan of the painting consists of the prevalence of the yellow color that expresses the golden city, including walls, buildings, and even the city's courtyards and floors with golden yellow, which works to illuminate the image from the inside and highlight it as if it is illuminated by golden sunlight, and dark colors such as blue worked to increase the internal glare of the yellow color in the painting.

⁴⁵ Galloway, Francesca., J.P. Losty; (2020). Paintings for the Pahari Rajas, Asia Week New York, p 94.

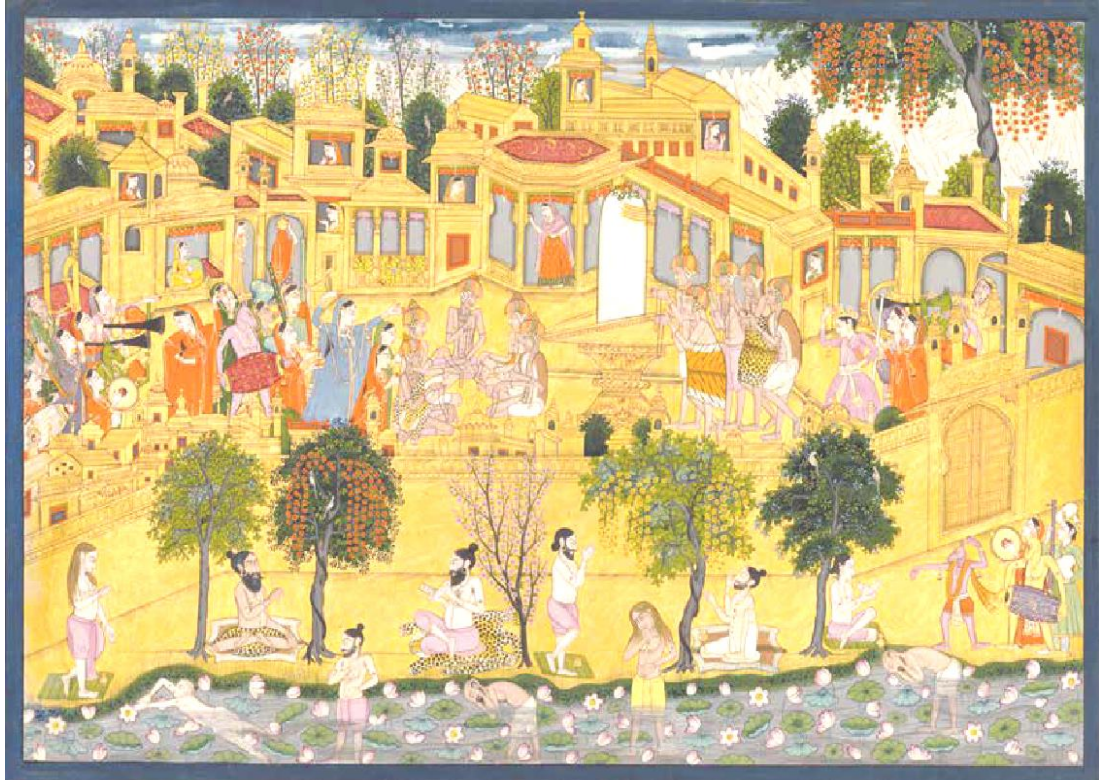


Plate: (7) The Golden City.

Kedara Kalpa series, Kangra, 1235-1241AH/1820-1825 A.D., (28.1 × 41.5 cm)

Ludwig Habighorst collection- Sotheby's New York, 1 December 1993,

lot 163 Svetoslav Nikolaevich Roerich collection

Galloway, Francesca., J.P. Losty; Paintings for the Pahari Rajas, pl 24.

Plate: (8) Krishna and Radha celebrations on yellow ground⁴⁶

Date and place: Pahari, Kingdom of Kangra, 1174 AH/1760 A.D.

Place of preservation: the Cleveland Museum of art.

Dimensions: 20.5 x 15.3 cm.

Accession number: Edward L. Whittmore Fund 1975.9

Miniature: Ragamala.

Study and Description: In another scene of Krishna and Radha, which is the swing that represents the musical situation of Hindula Raja, where it represents the vigor of love between young people through the love story of Radha and Krishna, where Radha and Krishna were sitting on a swing amid a crowd of musicians dancing and having fun, the color plan showed the use of yellow professionally in the floor of the painting, which extends to the background which appear arcuate upwards; and surrounded by flowering trees that resemble the fence that surrounds the scene, the yellow color show the land raised or dented upwards, and the yellow with black and red color also make more contrast of the painting.

⁴⁶ The Cleveland Museum of Art Members Magazine, 1996, p. 9.

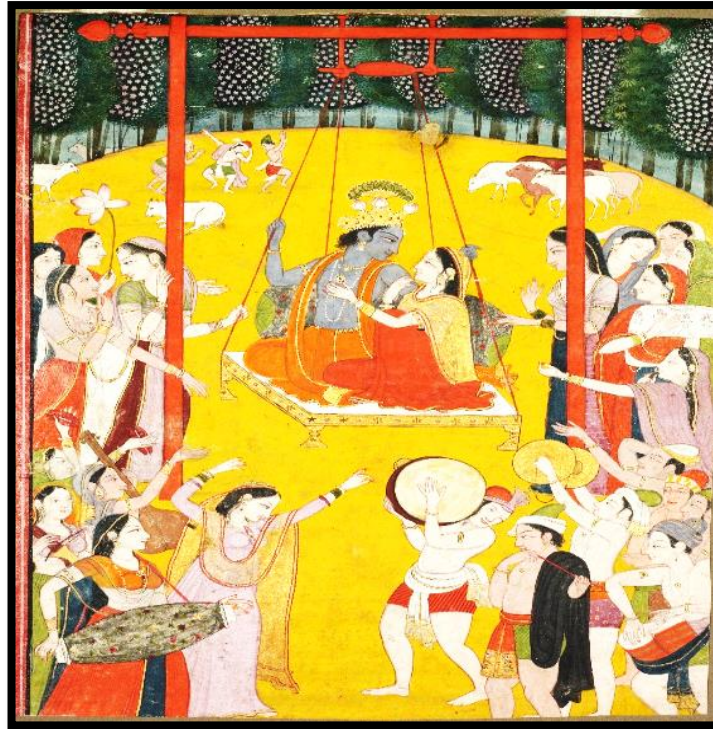


Plate: (8) Krishna and Radha celebrations on yellow ground.
Pahari, Kangra, 1174 AH/ 1760 A.D, Ragamala (20.5 x 15.3 cm).

Cleveland Museum of art. Edward L. Whittmore Fund 1975.9
<https://www.clevelandart.org/art/1975.9> (Accessed 20-7-2023/03:25 pm)

1-2-3: Bilaspur school of painting:

Since the 17th century, the rulers of Bilaspur became distinguished patrons of Pahari miniature painting. Raja Devi Chand (1741–78), a great patron of the art, was attracted to his court artists and traders from the plains who settled in Bilaspur around 1750 AD. The Rajmala paintings, the finest works of Raja Devi Chand's court painters, are a unique blend of three different arts: music, poetry, and painting. Musicians, poets, and painters were involved in the production of art in the studios at that time, enabling the artists to produce musical notes through their brushes⁴⁷.

In addition to Rajmala, there were some religious and fiction paintings produced in Bilaspur, such as the collection of paintings Nala Damayanté, Puranas, and Bhagavata Purana. This comes late in the reign of Devi Chand after his marriage of Princess from Kangra; she was the guardian of her son Mahan Chand (1778–1824), who ruled at the age of six, and this series focusing on the exploits of young Krishna may be related to him.⁴⁸

Plate: (9) Scene from Ragamala Series.

Date and place: Himachal Pradesh, Bilaspur 1122 AH/ 1710 A.D.

Place of preservation: Metropolitan Museum of Art.

⁴⁷BUNDELA, Y. R. (2022). Garland Of Musical Paintings Bilaspur (Kehloor). pp 45-55.

⁴⁸ Losty, Jeremiah P. (2018). Indian Paintings: From the Ludwig Habighorst Collection. Francesca Galloway, p 38.

Dimensions: 18.6 x 11.7 cm.

Accession number: 2006.5

Miniature: Folio from Ragamala series.

Study and Description: One of the scenes of Ragamala is Vasanti ragini, which shows two women in the spring, each holding a basket that picks roses and puts them in the basket and stands on a floor of dark green grass, while the background appears with a yellow color extending to the horizon.

The color plan shows the excessive use of yellow in the background of the painting, if it represents the most visible colors, which gives breadth to the painting while at the same time expressing about the spring, and the yellow color highlighted the shape of red twigs, leaves, and flowers.



Plate: (9) Scene from Ragamala Series.

Folio from Ragamala Series, Bilaspur 1122AH/ 1710 A.D. (18.6 x 11.7 cm.)

Metropolitan Museum of Art: 2006.5

www.metmuseum.org/art/collection/search/73149 (Accessed 20-07-2023).

Plate: (10) Krishna with yellow Dhoti.

Date and place: Rajput, Bilaspur, 1194 AH / 1780 A.D.

Place of preservation: American Institute for Indian Studies.

Dimensions: 18.6 x 26.8 cm.

Accession number: ACSAA-04381⁴⁹

Miniature: Folio From a poem of Bhagwan Kavi.

⁴⁹https://vmis.in/ArchiveCategories/collection_gallery_zoom?id=491&search=1&index=36180&search_string=krishna#focused_div (Accessed 21-07-2023/02:30 PM)

Study and Description: One of the most concerned topics in the depictions is the pictorial subjects related to the god Krishna; he always appears wearing the yellow dhoti that covers the bottom of his body like pants, which is an unsewn cloth wrapped on the legs and tightened to the waist, which is one of the traditional costumes in India, called also the Pitamber from yellow silk that is worn on happy occasions⁵⁰, and the Indian yellow color appears in the dhoti, where it highlights the image of the god Krishna and distinguishes it from other gods. The artist used green mixed with yellow in the trees on which the god Krishna rests.

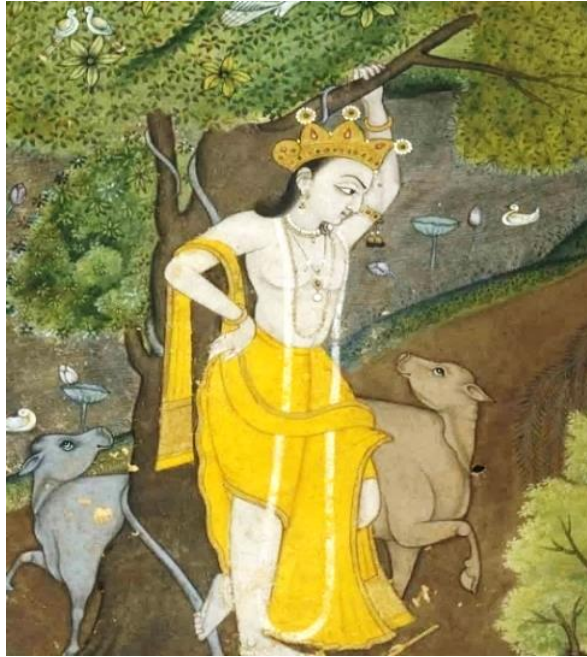


Plate: (10): Krishna with yellow Dhoti.

Kavi Bhagwan poem Rajput, Bilaspur, 1194AH/ 1780 A.D. (18.6 x 26.8 cm.)

Michigan - ACSAA (Set 43, Kanoria Collection 1); ACSAA-04381

https://vmis.in/ArchiveCategories/collection_gallery_zoom?id=491&search=1&index=36180&searchstring=krishna#focused_div (Accessed 21-07-2023/02:30 PM)

1-2-4: Garhwal School of Painting:

Although Garhwal was one of the largest states in the Punjab hills, it was poor due to its mountainous terrain and unsuitability for agriculture; even the Mughal emperors did not take tribute from its inhabitants⁵¹.

Sonpal (the Chand ruler) is believed to have been the first Raja of Garhwal, with his capital at Bhilang Valley. He assumed sovereignty over the whole of western Garhwal as well as the pilgrimage routes to Gangotri. Sixty-four small states that existed at that time were united into one state; this federation came to be known as Garhwal. Initially, Dewalgarh was its capital, and later it was shifted to Srinagar⁵².

Garhwal school is the most prolific of the Rajput schools. It's back to 1658 A.D.; it was founded by both Sham Das and Har Das, father and son, who came to the

⁵⁰ Bhandari, V. (2005). *Costume, Textiles and Jewellery [i.e. Jewelry] of India*. London, p 107.

⁵¹ Srivastava, Rajeshwar P. (1983) Punjab Painting. Abhinav Publications, 1983., p 8.

⁵² Kamboj, Bhagwati (2003). Prakash. Early Wall Painting of Garhwal. Indus Publishing, p 21.

court of Raja Prithipat Shah (1625-60) at Srinagar, the then capital of Garhwal. They arrived in 1658 A.D. with the refugee Sulaiman Shikoh, son of Aurangzeb's brother Dara. Sham Das and Har Das belonged to the Shahjahan studio, and Mula Ram (1743-48) was the greatest artist of the Garhwal school⁵³.

A school of Garhwal declined because there was no patron of art, and even when the British government took it over, artists' wages were abolished, and because artists did not pass on the secrets of their art to their grandchildren and pupils. This resulted in the extinction of an important artistic tradition for this school⁵⁴.

Plate: (11) Rituals of worship in nature.

Date and place: Garhwal school, 1199 AH/ 1785 A.D.

Place of preservation: New South Wales museum.

Dimensions: 20.8 x 26.4 cm.

Accession number: 24.2010.

Study and Description: this scene belonging to the Garhwal region in the Himalaya Mountains, the use of yellow color in the floor adjacent to the riverbank, where two monks perform loyalty to an Indian god, and the yellow color occupies a wide area to express the depth of paintings and lead to great shine in the painting, and the difference between dark color and white color make a High contrast to the objects of the painting.



Plate (11): Rituals of worship in nature.

Garhwal school, 1199 AH/1785 A.D, (20.8 x 26.4 cm)

New South Wales museum.: 24.2010

www.artgallery.nsw.gov.au/collection/works/24.2010/(Accessed 21-07-2023).

1-2-5: Chamba School of Painting:

Champa takes its name from Champavati, Raja's tenth-century daughter, the city surrounded by its snow-capped mountains enjoyed relative immunization from the

⁵³ Mukandi Lal, (1968)., Garhwal Painting, Government of India, p 15.

⁵⁴ Mukandi Lal, (1968)., Garhwal Painting, Government of India., p 16.

Mongol invasion. Although it had a good number of quarrels with its neighbors, Champa was able to retain its ancient traditions and institutions and great wooden temples in Brahmaur and Châtralthoughch were built by Raja I⁵⁵.

The first king with the title Raja Champa is Pratap Singh verman (1559 A.D.), Akbar tried to extend his control over the hill states, including Chamba, and annexed areas of these to his territory. Aurangzeb ordered Raja Chamba Chatur Singh (1664-1694 A.D.) to demolish the temples, Northern India witnessed a relatively peaceful period during the Mughal rule under Raja Prithvi Singh (1641-1664), who was a favorite of Shahjahan and visited the imperial court several times⁵⁶. Champa was in constant conflict with her neighbors, and the painting tradition passed to Champa in three successive waves, from Pasohli, Guller, and Kangra⁵⁷.

Champa people are distinguished by their beautiful appearance, which was reflected on painting, and the collections of Hill Rajas were of great importance in studying the source of the paintings and their artistic style, many of which were preserved by Raja Buri Singh, who gifted a complete collection to a museum named after him in Champa in September 1908 A.D.⁵⁸

Plate: (12) seated woman, yellow background.

Date and place: Chamba, 1153-1163 AH /1740 -1750 A.D.

Place of preservation: The British Museum⁵⁹

Dimensions: 31.78 cm x 39.78 cm.

Accession number: 1923,0716,0.13

Miniature: Folio From Ragamala, Asavari Ragini.

Study and Description: The painting represents one of the musical situations Asavari Ragini, Which is depicted in the form of a girl sitting on a chair next to two trees of short size, many scarlet snakes climb over the bushes and can watch the psychological state of the girl in a state of grief as she extends both hands towards the trees to caress snakes, and there are no other elements in the painting as the yellow space covers the floor and background of the image until the top of the sky, which appears by some gray clouds, the yellow color worked on the inner brightness of the image and increased of its area in a big way and also worked to help highlight the sadness it represents a state of endless blurring as far as the eye can see.

⁵⁵ Chaitanya, Krishna. (1976). A history of Indian painting. Vol. 2. Abhinav publications, p 63.

⁵⁶ M.S. Randhawa, (1967). Chamba Painting, Indian Art Lalit Kala Akademi, India, p 4.

⁵⁷ Chaitanya, Krishna. A history of Indian painting. Vol. 2. Abhinav publications, 1976.,p 65.

⁵⁸ M.S. Randhawa, Chamba Painting, Indian Art Lalit Kala Akademi, India, 1967, p 4.

⁵⁹ <https://www.bmimages.com/results.asp?I2=1923,0716,0.13> (Accessed 21-08-2024/12:49 pm).



Plate: (12) seated woman, yellow background.

Ragamala, Chamba, 1153-1163 AH /1740 -1750 A.D,(31.78 cm x 39.78 cm)

The British Museum: 1923,0716,0.13.

<https://www.bmimages.com/results.asp?I2=1923,0716,0.13>

(Accessed 21-08-2024/12:49 pm).

Plate: (13) Krishna and Radha in front of the yellow meadows.

Date and place: Pahari Kingdom of Chamba,1174AH/ 1760 A.D.

Place of preservation: the Cleveland Museum of art.

Dimensions: 21.2 x 17.9 cm.

Accession number: 2018.86⁶⁰

Miniature: Folio From Bhagavata Purana.

Study and Description: in the painting representing the story of Krishna and the Gopis, painted on a yellow ground separated by rocky masses and yellow plains in the background of the scene, the god Krishna stopped the Gopis on their way to bring milk to the priests, where he pretends to be the owner of the land and demands a tax, and Radha raises her hand to snarl him in order to protect the land instead of flirting with women,... the color plan appears: the richness in the use of the Indian yellow color in the background, as it added a kind of depth to the image in addition to its agreement with the color of the costume of Krishna, and the yellow of mango fruits, as the artist used the harmony that results from the yellow and green colors in the elements of his painting, and the yellow works with the red frame that surrounds the painting on the high contrast of the paintings.

⁶⁰ <https://www.clevelandart.org/art/2018.86> (Accessed 20-7-2023/03:25 pm)

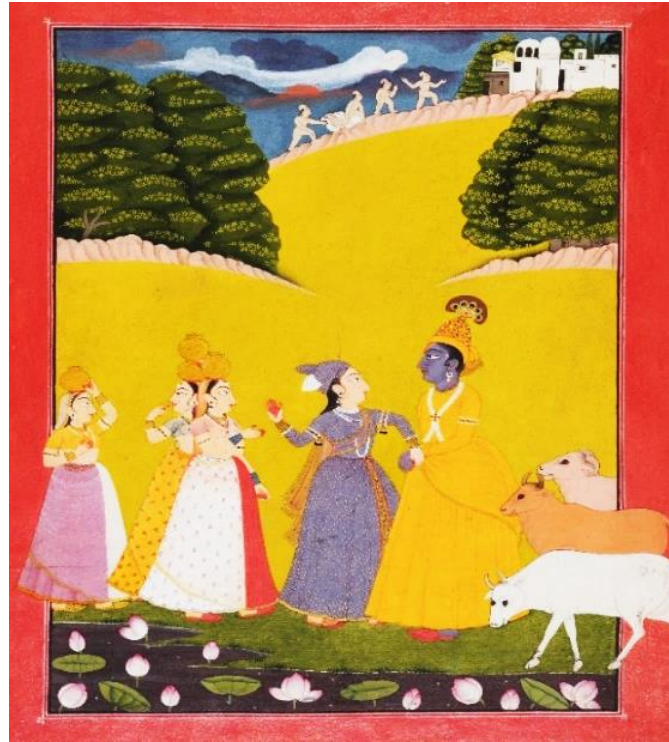


Plate: (13) Krishna and Radha in front of the yellow meadows
Kingdom of Chamba, Bhagavata Purana 1174AH/1760 A.D, (21.2 x 17.9 cm.)
Cleveland art museums; 2018.86
<https://www.clevelandart.org/art/2018.86> (Accessed 20-7-2023/03:25 pm)

1-2-6: Jammu and Kashmiri school of painting:

The earliest known example of art in Kashmir back to Neolithic, from the 7th century A.D. onwards, the Kashmiri school absorbed some features of the Gandhara and Gupta schools and reached its peak during the reign of Lalita Daitya (725 A.D. - 735 A.D.) The Kashmiri art continued up to the 10th and 12th centuries, and its fame spread throughout the Himalayan region⁶¹.

The art of painting flourished in Punjab Hills thanks to the brothers Manaku and Nainsukh and their pupils who were trained in the idealized and romantic naturalism that echoed Mughal painting in its deep spaces, cool colors, observed nature, and idealized faces. The most striking feature was the extensive use of landscape⁶².

During successive eras, there were some decorations and wall paintings in Kashmir and Jammu, and there were some depictions associated with the Buddhist faith. After the Mughals extended their power over the region, the influences of Mughal and Persian art appeared. In the late 18th and early 20th centuries, Kashmiri artists influenced by the Basohli and Kangra painters produced some of the Sanskritic subjects. Attempts were made to produce portraits that conformed to realism.⁶³

⁶¹ Bhat, Younis Iqbal (2008). pp 14- 47.

⁶² Kossak, S. (1997). Indian court painting, 16th-19th century. p 32.

⁶³ Bhat, Younis Iqbal, 2008, pp 14- 47.

One of the most popular products of Jammu and Kashmir is miniatures. Ramayana Shangri are in important public and private collections around the world, including the New Delhi Museum, Bharat Kala Bhavan, Binaris, Victoria and Albert Museum, British Museum, London, and Metropolitan Museum, New York ⁶⁴.

Plate: (14) the king Dasharatha with his courtiers on yellow ground.

Date and place: Punjab Hills, Jammu, 1101-1122AH/1690-1710 A.D.

Place of preservation: Metropolitan Museum of Art.

Dimensions: 19.7 x 29.5 cm.

Accession number: 1994.310

Miniature: Folio from the Shangri Ramayana Series.

Study and Description: the painting represents one of the Shangri Ramayana Series, the scene describes the lineup of King Dasharatha going in procession to attend Rama's wedding⁶⁵, the scene consists of several levels of painting consisting of men, horses, and elephants, then the procession carriages and around them the soldiers, the artist used colors that did not determine the horizons of painting, and the characters sit in front of solid blocks of colors whose juxtaposition creates a harmonious background to describe the scene⁶⁶, the painting has background colored in Indian yellow, on which the artistic elements of the procession were painted, the yellow color worked on the breadth of the painting area, and also created self-lighting for the subject, and worked to increase the contrast between the colors used to highlight the subject of paintings, the Red color lined with black in the frame also helped to improve visual focus.



Plate: (14) the king Dasharatha with his courtiers on yellow ground.

Shangri Ramayana, Jammu 1101-1122AH/1690–1710 A.D. (19.7 x 29.5 cm).

Metropolitan Museum 1994.310⁶⁷

Kossak, S. (1997). Indian court painting, 16th-19th century. pl 42, p76

⁶⁴ Losty, J. P. (2015). Into the Indian Mind. An Insight through Portraits, Battles and Epics in Indian Painting, London, p 78.

⁶⁵ Saleh, S. f. (2018). Drawings of Umbrella Through models of manuscripts and albums in the Indian Mughal School and its. *the General Union of Arab Archaeologists "Studies in the Archaeology of the Arab World*, 648-648.

⁶⁶ Losty, J. P. (2015)., p 78.

⁶⁷ <https://www.metmuseum.org/art/collection/search/38010> (Accessed 20-7-2023/06:12 pm)

2- Analytical study:

Ancient Indian man knew colors and found in the depictions of primitive caves colorful themes like painting in Ajanta caves⁶⁸, where the colors were extracted from the blood of animals, or from nature soil such as white from chalk and black from charcoal and extracted from Plant sources that produce yellow color, such as turmeric⁶⁹, saffron⁷⁰ or the flower of *Butea frondosa*⁷¹, and some fruits and some mineral materials⁷² like arsenic trisulfide and others⁷³.

2-1: The Indian yellow color composition and date of use:

- A. Date of using: it is not known specifically the date of the use of the distinctive Indian yellow color in India- Indian yellow- where some studies indicate that it was used in the fifteenth century, where it was introduced from Persia⁷⁴, and used in the areas of Jaipur has been called puri or google, meaning the land of cows, and was used in miniatures during the Pahari period in the seventeenth and nineteenth centuries⁷⁵.
- B. Color composition: Indian yellow is made from cow urine through a complex process in which cows feed on mango leaves, where urine is vaporized, and the raw that is formed manually is deposited in the form of balls, and it is called peori, It is believed that it originated in Persia and then moved to India between the fifteenth and nineteenth centuries⁷⁶, and the chemical composition of the Indian yellow color consists of the resulting reaction between Euxanthone acid

⁶⁸ Mehta, 1926, p.15

⁶⁹ Turmeric or curcumin is one of the natural sources of yellow pigment, where the roots have been used for thousands of years because of their unique color and are concentrated in the western states of India and use as a natural coloring. See Rathaur, P., Raja, W., Ramteke, P., & A, S. (2012). Turmeric: The Golden Spice Of Life. International Journal Of Pharmaceutical Sciences And Research, 1987-1994.

⁷⁰ saffron plant, where saffron has been known for its medicinal properties since ancient times and has also been used in dyeing and coloring, it represents one of the patterns of yellow color, the saffron plant produces a reddish golden yellow pigment, where the color of saffron consists of a mixture of orange and yellow, and symbolizes enlightenment or new beginnings, it is the color of sunrise; He can purify anything, in the Buddhism: a Buddhist monk wears saffron color for spiritual elevation that brings them closer to their gods, see: Tran, A. (2023). What Color is Saffron? About Saffron Color. Retrieved 07 19, 2023, from <https://marketingaccesspass.com/what-color-is-saffron-about-saffron-color/> BASKER, D., & NEGBI, M. (1983). Uses of saffron. *Economic Botany*, 228-236.

⁷¹ Brown, P. (1924). Indian Painting under the Mughals, AD 1550 to AD 1750. Clarendon, pp. 189-190.

⁷² Beday, M. (2019). Religious beliefs and their impact on Indian painting. *majalat hiwar janub*, pp. 28:44.

⁷³ arsenic trisulfide, which is found in nature, and is collected, washed and grinded, and then deposited in pots filled with water and transferred from one jar to another to remove impurities, and then the resulting dye is dried, yellow color also came from a soft clay found near Multan in Punjab, called Moltanel Mitte., see: Nardi, I. (2006). *The Theory of Citrasutras in Indian Painting A Critical Re-evaluation of their Uses and Interpretations*. London: Routledge.p. 128.& Percy, 1924, pp. 189-190.

⁷⁴ Aceto, M. (2021). Pigments—the palette of organic colourants in wall paintings. *Archaeological and Anthropological Sciences*, 13(10), 159.

⁷⁵ Rebecca Ploeger, A. S. (2017). The story of Indian yellow – excreting a solution. *Journal of Cultural Heritage*, pp 197-205.

⁷⁶ Eastaugh, N., Walsh, V., Chaplin, T., & Siddall, R. (2008). *Pigment Compendium: A Dictionary and Optical Microscopy of Historical Pigments (Routledge Series in Conservation and Museology)*. London, pp. 193-199

and Glucuronic acid⁷⁷; (figure 1) Indian yellow is usually described chemically as the magnesium salt of euxanthic acid; C₁₉H₁₆O₁₀. It also contains significant quantities of the analogous calcium salt, both salts occurring as the basic hydrates⁷⁸.

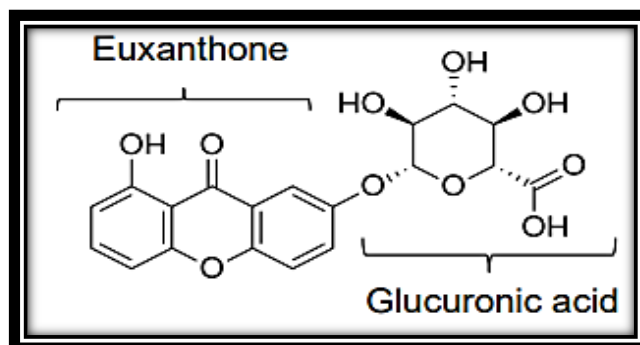


Figure: (1) Relation between Euxanthone acid and Glucuronic acid
Spendel, K & others (2016) Preparation of a Synthetic Indian Yellow, poster.

The color is manufactured from the formed balls after drying, (figure 2); where dried urine balls are grinded, and the solvent medium is added to be used for the purposes of coloring and drawing, and this technique ended in the nineteenth century because of the bad effect on cows, the Indian yellow called peori or gaugoli by artists in the Rajasthan region⁷⁹.

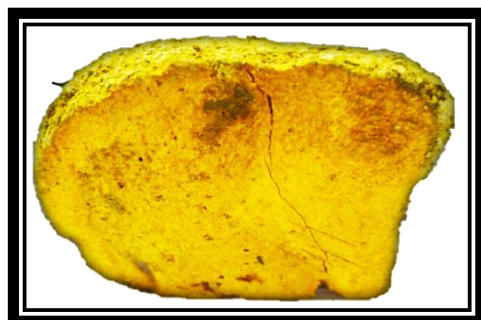


Figure: (2) The ball of the Indian yellow color
Ploeger, R., & Shugar, A. (2017). The story of Indian yellow. 24, 197-205. fig.1.

2-2: Cultural and religious connotations of Indian yellow:

Colors are an integral part of Indian culture; they represent different aspects of life, in religion, politics, festivals, or celebrations throughout India⁸⁰, and the colors were semiotic stemming from the culture and environment of the land of India and

⁷⁷ Spendel, K., Goodman, M. S., Ploeger, R., & Shuga, A. (2016, May 13-18). Poster. *Preparation of a Synthetic Indian Yellow*. Montreal Canada: SUNY- Buffalo State-Chemistry Department.

⁷⁸ De Faria, Dalva LA, et al. (2017). "A definitive analytical spectroscopic study of Indian yellow, an ancient pigment used for dating purposes." *Forensic science international* 271, pp 1-7.

⁷⁹ Nardi, 2006, pp. 128-167.

⁸⁰ Singh & Tiwari, 2018, pp. 26-28

played a distinctive role in people's social and cultural life, and religious rituals clearly, as evidenced by the annual celebrations in India in colors⁸¹.

The magic of Indian paintings lies in the colors, and artists have worked to introduce colors in all industries and arts as in textiles, architecture, and wonderful paintings, and the environment may have a major role in this, the large area of sedimentary lands, which acquires a monotonous yellow color due to the absence of rain during the greater part of the year, as compensation for this single-color of their environment; they used the multi color⁸², The artist painted the costumes of the characters in bright colors on a lemon-yellow background, and this may have been the artist's way of expressing the effect of sunlight on the desert land⁸³.

The Indian artist excelled in the use of colors and coordination between them by combining bright and dark colors for the aesthetic function performed by colors in art⁸⁴, the yellow is one of the hot or warm colors that include both (red, orange, yellow), where it tends to be a light and fire color source of heat⁸⁵, which is the color of enlightenment, wisdom, and maturity⁸⁶.

Yellow with its patterns represents eternity, the color of gold, and the color of the sun, which is a strong, violent, and warm color and has multiple symbols in the beliefs of ancient civilizations, including the golden color, which is associated with wisdom, from which Buddhist monks take their clothes⁸⁷.

The use of Indian yellow in the Pahari school can be explained by its association with Buddhism, as a product of sacred cows used for purification, The post-Vedic period texts describe cow products like milk, dung, etc. as purifying agents, with references dating back to the Rgveda. Baudhayana mentions their role in purification or for the expiation of a sin, The concept of pancagavya, five cow-derived products, in the Dharmasutras it also introduces gorocana, a yellow pigment from cow urine or bile, as a purifying substance⁸⁸.

Indian culture considered the yellow color a symbol of knowledge and learning, happiness, peace, meditation, and mental development⁸⁹, which was confirmed by recent studies that colors help attract attention, and the yellow was used specifically to increase concentration in education⁹⁰

The yellow color in India represents the color of spring and activity, and the clothes of Indian Gods, such as Vishnu Krishna, symbolize knowledge, and yellow

⁸¹ Shokouhibidhendi, Talebi, & Sariri, 2014, pp. 18-25

⁸² Brown, P. (1924). p 25-26.

⁸³ Brown, P. (1924). p 25-123.

⁸⁴ Hussin, M. I., & Syed, H. A. (2020, january). Forms of curtains drawn in the depictions of Mughal manuscripts AD) to 1526 / AH 932 AD Indian period from 1857 AD / 1268 AH. *mǧlt ālmw`rĥ ālmšry*, I(56), pp. 1-31

⁸⁵ Obaid, 2014, pp. 21-22

⁸⁶ Motawea, Hanan., 2017, p. 421.

⁸⁷ Obaid, 2014, pp. 107-129.

⁸⁸ Jha, D. N. (2002). *The myth of the holy cow*. Verso.,pp 128-137.

⁸⁹ Shokouhibidhendi, Talebi, & Sariri, 2014, pp. 18-25.

⁹⁰ Chang, Xu, & Watt, 2018, pp. pp. 1-7.

overlaps with the color of saffron, which consists of a mixture of orange and yellow, which is one of the sacred colors of Hindus and symbolizes purity and love⁹¹.

One of the religious cultural connotations is the use of colors on the feast of Holi, which represents the victory of good over evil, as in the legend that Prahlad son of Kashiab, the king of demons, wand his father and followed the god Vishnu, so his father conspired to kill him with the help of King Hulika's sister, but Prahlad won at the end⁹².

Yellow is also one of the distinctive colors in Buddhism, where it is one of the five colors expressing the five heavenly images of the Buddha (green, blue, white, red, and yellow) and also expresses one of the five Buddhas called Ratnasambhava with yellow skin, and also Buddha Yamantaka, god of death, and Buddha Vajrapani is the bearer of lightning, as well as Buddha Vaishravana, also one of the sacred colors in Buddhism, as it has been associated with the Mandala and Thangkas symbols.⁹³

Yellow is a part of all religious ceremonies and represents the Sun God, it has been considered an auspicious and noble color and is widely used in the clothing of both men and women (Kesaria). Yellow was used in the Rajputs' clothing, in their wedding robes, and was also associated with brave warriors who died fighting on the battlefield.⁹⁴

yellow lahariya is one of the turban style worn during the monsoon season, and the yellow turban is also worn during Basant Panchami, the fifth day of spring.⁹⁵

2-3: The artistic theme of Indian yellow in both Pahari and Mughal schools.

A. The use of Indian yellow in Mughal painting came in several theme as follows:

- In the context of colors: The yellow color was used in Indian Mughal painting in the context of colors, and color was not used explicitly except when expressing its characteristic, such as yellow in the sand in the space. plate No. (1) or the luminous radiant halo like sun. Plate No. (3).
- painting backgrounds: Yellow color was used in the background of the images in the Mughal painting, as in the paintings that express the landscape, plate No. (2), and used in the background to increases the clarity of the character. plate No. (4).
- costumes: Indian Yellow was used in Mughal costumes. Plate No. (1) Akbar was in yellow costumes and surrounded by his men; some of them wore a yellow costume.
- Colored frames: were one of the distinctive elements of the Mughal manuscripts, and yellow was among the colors used in drawing and coloring frames and their various themes, as in plate No. (3).
- Used in the background of writing; the most of background in Indian paintings which used for typing the texts or comments to painting was the yellow⁹⁶. plate No. (1).

⁹¹ Shokouhbidhendi, Talebi, & Sariri, 2014, pp. 18-25.

⁹² Fenn & Joshi, 2021, pp. 1192-1197.

⁹³ Blau, Tatjana, and Mirabai Blau (2003). Buddhist symbols. Sterling Publishing,. pp .177&191

⁹⁴ <https://abhipedia.abhimanu.com/Article/State/Njg1MjcEEQQVV/Colour-Symbolism-in-Rajasthan-Costumes-Rajasthan>

⁹⁵ Crites, M., & Nanji, A. (2008). Indiacolor: spirit, tradition, and style. Chronicle Books.,p 95.

A. The use of Indian yellow in Pahari painting came in several theme as follows:

- Background of painting: The Indian yellow color came in the background of the Pahari paintings in two forms: first form represents the landscape backgrounds, like; desert, sand dunes, or yellow meadows. plates No. (5 ,9 ,11, 13)., the second form Idiomatic backgrounds; It is the depiction of the characters in front of a background in Indian yellow, which only highlights the features of the character. plate No. (12).
- Expression of the gold color: Indian yellow was used as an expression of the golden color because of its radiance properties and luminous luster, and it was used to express the golden city and its yellow buildings, plate No. (7)
- Land of painting: Yellow was used to color the convex floor in plate No. (8), land color was bright yellow surrounded with green trees. As it was also used to color the floor in plate No. (14) which represents King Dasharatha and his soldiers.
- clothes: Indian yellow used in coloring the Dhoti of Lord Krishna⁹⁷, plate No. (10).
- Paintings Frames: The yellow color is used in coloring frames in paintings as a kind of contrast in showing colors within the image, as shown in plate No. (6).

2-4: The artistic characteristics of the using Indian yellow.

The use of the Indian yellow color had multiple characteristics in the Mughal and Pahari paintings, where yellow was a distinctive color associated with the art of the Mughals and associated with holiness in the depictions of the Rajput's in the Bihar region, and these topics can be mentioned as follows:

- Give the impression of wide space; the Indian artist was distinguished by his ingenuity in the use of colors, so he used light colors in the foreground of the image and dark colors in the background⁹⁸. Light colors, including yellow, work to increase the area of things with a size larger than their real area⁹⁹; the paintings of the Mughal have adopted this technique in Plate No. (1), Pahari school used yellow color abundantly in the painting to create a wide area of drawing. plates No. (5, 8, 11, 13, 14).
- increased the contrast; The difference between colors and their degrees leads to contrast, which works to clarify the painting¹⁰⁰, in Mughal painting yellow color worked to increase the contrast and showed all the details of the painting. plate No. (2), the yellow color in the background with black and white in the clothes of the character worked to increasing the contrast. plate No. (4), Pahari school used Indian yellow in the background with red women's clothes to increase the contrast. plate No. (5), the yellow with green colors also worked to increase the contrast. plate No. (13).
- Illumination and Brightness: The yellow color is used in the Mughal painting to work on the brightness and Illumination; in plate No. (1), the yellow color worked in the spacious space next to the Emperor's Council although the timing of the painting is at night; the yellow color worked in the background of the painting on the Illumination

⁹⁶ Mehta, 1926, p. 42.

⁹⁷ Bhandari, 2005, p 107.

⁹⁸ Okasha, 1995, p. 17.

⁹⁹ Obaid, 2014, pp. 21-22.

¹⁰⁰ Alrabiee, 2010, pp. 1-21.

of the painting. plate No. (4); in the Pahari painting, the yellow color was an important factor for the brightness of the painting and lighting. Plates: (5, 8, 9, 11, 12, 13, 14).

- impression of sacredness: the yellow color used with the themes of Indian gods such as Krishna or Radha to indicate their holiness; it is also used to draw backgrounds in most religious paintings in Pahari.
- Extract colors: The yellow color considers one of the primary colors¹⁰¹, it's essential for creating a wide range of color, like green, orange¹⁰².

3-The impact of the use of Indian yellow in European paintings

The yellow pigment arrived at Europe through trade exchange, in the form of blocks of the Indian yellow compound by ships in sealed containers to European ports, and then it was purified and ground for use¹⁰³. The components of the Indian yellow color were unknown in Europe, it was used since the 17th century in the Netherlands and the 18th century in England, to refer to that dye that is manufactured from cow urine, the use of Indian yellow flourished for its transparency, beautiful pure yellow color, soft texture, and its usefulness in the composition of green, orange, and other colors¹⁰⁴.

The German chemist Eibner described Indian yellow in 1905 A.D. as a pure pigment with a beautiful, deep, shiny golden yellow color unparalleled in shade, which is achieved without the addition of other pigments¹⁰⁵. Dutch painter, Jan Vermeer (1632-1675A.D) used the distinctive and brilliant Indian yellow color¹⁰⁶. Laboratory results of one of his paintings have proven the use of Indian yellow¹⁰⁷.

The Indian Yellow was one of the traditional colors used by J.M.W. Turner in his works¹⁰⁸, as in the painting of the angel standing in the sun. plate No. (14).

¹⁰¹ Motawea, Hanan. , pp 418-450.

¹⁰² Rebecca Ploeger, 2017, pp. 197-205.

¹⁰³Hinduaesthetic: <https://hinduaesthetic.medium.com/the-mystery-of-the-origin-of-indian-yellow-7a0d19bc8db5> (Accessed 20-7-2023 /07:52 pm)

¹⁰⁴ Rebecca Ploeger, 2017, pp. 197-205.

¹⁰⁵ Feller, Roy, FitzHugh, & Berrie, 1986, pp. 17-36.

¹⁰⁶ <https://www.winsornewton.com/uk/articles/colours/spotlight-on-indian-yellow/> (winsornewton, 2023, Accessed 20-7-2023/ 07:41 pm)

¹⁰⁷ Kühn, H. (1986). *A study of the pigments and the grounds used by Jan Vermeer, Report and studies in the history of art.*, pp. 154-202.

¹⁰⁸Hulsey, John; Trusty, Ann 2018, <https://www.artistsnetwork.com/art-subjects/plein-air/turners-mysterious-yellow/> (Accessed 28-7-2023/3:26)



Plate: (15) the Angel Standing in the Sun

William Turner, 1775–1851A.D. Collection of (Tate) no. N00550.

[tate.org.uk/art/artworks/turner-the-angel-standing-in-the-sun-n00550](https://www.tate.org.uk/art/artworks/turner-the-angel-standing-in-the-sun-n00550) (Accessed 20-7-2023)

The artist Joseph Turner (1775-1851) is one of the greatest English nature artists. His several travels have affected the development of his style, and he was influenced in his paintings by the Dutch school of painting. After he visited Italy, he used strong colors, and after 1830 A.D., his interest in colors was at the expense of the subjects of painting¹⁰⁹.

Van Gogh(1853-1890A.D.) was one of the famous artists of Dutch origin, he had a school in painting since 1880A.D., where he lived with the influential school, and invented his distinctive style, which was characterized by strong lines and he produced several paintings dominated by the yellow color, such as the yellow house painting, and the sunflower painting¹¹⁰. Van Gogh used Indian yellow to draw the moon in the painting of the Starry Night circumstances¹¹¹. Plate No. (16).

¹⁰⁹ Allam, N. I. (2010). *Western Art In Modern Times*. Cairo: Dar Al Ma'arif. p.59.

¹¹⁰ AlFiqi, O. (2017). *the oil schools painting*. cairo: The Anglo Egyptian Bookshop.pp. 160-161.

¹¹¹ <https://www.winsornewton.com/uk/articles/colours/spotlight-on-indian-yellow/> (Accessed 20-7-2023/ 07:41 pm)



Plate: (16) using the Indian yellow in Van Gogh painting the Starry Night
Van Gogh 1889A.D, the Museum of Modern Art, New York
<https://www.moma.org/collection/works/79802> (Accessed 28-7-2023/05:41 pm)

The Indian yellow was used in 19th century paintings in dyeing and coloring synthesis by Wagner (1859-1860 A.D.), and the method used in dyeing was to dissolve the dye in the hot water and dip the cloth in the yellow color solution¹¹².

The artist Charles Sims (1873-1928 A.D.) is considered one of the European artists with a distinctive style, as he used in his early paintings Indian colors, the technical examination showed the use of Indian yellow in his works¹¹³.

Conclusion:

The study focused on the Indian yellow color that characterized the paintings of Pahari schools' paintings, and its uses in the Mughal paintings; Through the descriptive, analytical study, there are some of the conclusions as follows:

The study clarified the definition of colors and their importance in expressing the artistic and spatial identity stemming from the environment of India, which has had a great impact on the use of colors, especially the yellow color and its link to the shape of the land, the diversity of the seasons of the year, and even crops and plants.

The study dealt with the study of the color plan for 4 paintings from the Mughal school and 10 paintings from the Pahari school, and it was found that the use of yellow color in the Indian Mughal paintings throughout its period was the use of mixed colors, which express the ingenuity of the painter; the yellow was used according to the reality of the situation, such as the colors of clothes and carpets, but in the Pahari school, the yellow colors used in the paintings were explicit colors that do not have a kind of creativity, but they indicate an abundance in the color material.

¹¹² Feller, Roy, FitzHugh, & Berrie, 1986., p. 17-36.

¹¹³ Colbourne, J. F. (2011). A Critical Survey of the Materials Colbourne and Techniques of Charles Henry Sims RA (1873-1928) With Special Reference to Egg Tempera Media and Works of Art on paper. Newcastle: Northumbria University, pp. 265-412.

The study concluded that the influence of the Mughal school in Pahari art was great in painting styles. The Garhwal school, which was founded by both Sham Das and Har Das, who belonged to Shahjahan Studio, came to Raja Prithipat (1625-60) court. Therefore, we found depth in painting despite the simplicity of colors; the artists transformed into local patrons because of the carelessness of Late Mughal Emperors to arts, local schools benefited from this and worked on artistic production at a distinguished level of accuracy.

The study made an inventory of the methods of extracting the yellow color and its sources in India, where it showed the presence of many components, including plant and mineral sources, although the method that distinguished the Indian yellow, which was produced by the urine of cows that are fed with mango leaves only, which was derived from Persia, but it spread in a large way in India,

The study showed the technical and cultural evidence for the use of the yellow color, which made the Indians accept to use it in their depictions, clothes and buildings, because it represents wisdom, peace and knowledge, and it has technical characteristics that enabled painter to control the image and make a depth for it and increase the contrast in it, and they also knew that the yellow color is It is one of the warm colors that express emotions, which was helpful in coloring the Rajmala paintings.

The study also explained the religious role of yellow in terms of being the color of priests' clothes and worn by some deities as a distinctive color, such as Lord Krishna. Indian yellow was also associated with cows as one of the purification products "pancagavya" that is mentioned in Vedic texts. The study concluded that there is a relationship between the subject of the image and the colors used, especially the images that depict deities, which gives the depiction a kind of sanctity and privacy.

The study clarified the effect of using Indian yellow in European painting. It was praised by major European artists; they considered it a distinctive color and painted paintings with the distinctive Indian yellow color, which was able to express multiple colors and give more layers, as in the paintings of artists Turner and Van Gogh, in which the moon and stars were depicted using Indian yellow. The study concluded that the Indian yellow arrived from India through trade and British colonies that exploited India's resources, especially the northern Pahari region.

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