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This essay will critically examine the cultural expression of the sky in the following two examples of two-dimensional structures: Vincent Van Gogh's 'Starry Night', with NASA's 'Cosmic Cliffs' image of the Carina Nebula.

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Introduction

This essay will compare and contrast the cultural expression of the sky through the critical analysis of two 2-dimensional representations, namely Vincent van Gogh's painting *The Starry Night* (1889) and NASA's James Webb Space Telescope (JWST) image *Cosmic Cliffs*, taken from within the Carina Nebula in 2022¹². The objective of this research is to look at how these representations consider the cosmos, looking into their creators, the historical and cultural context in which they were created, their methodologies, and any underlying purposes, therefore, this essay will function as a critical review, focusing on how the chosen representations deal with their subject matter. While Albert Boime notes that a popular image of Vincent Van Gogh's work persists as 'the epitome of the mad genius', he and other scholars argue, that it is also based on an accurate astronomical study, this research also looks into the works of Lauren Soth and Richard Thomson, showing the mixed psychological and spiritual symbolism alongside the scientific³. On the other hand, the *Cosmic Cliffs* image is created from a massive scientific collaboration, which by many may be viewed as an empirical representation, although it is not a photograph but a "human-centered process", transforming invisible data into an image through a series of aesthetic choices, which the European Space Agency calls "both a science and an art"⁴. This research will use these two 2-dimensional representations of the sky to explore the similarities and differences in their cultural expression, firstly through a contextual review and summary of the representations, before moving onto an in-depth analysis reviewing four main themes: representation and reality, the role of the creator and intention, historical and cultural context, and finally analysing the human-cosmos relationship and affect.

Context

Representation 1: Starry Night

Vincent van Gogh (1853–1890) was a Post-Impressionist Dutch artist, known for his unique art style, and one of his most well-known paintings was *The Starry Night*, painted in June 1889, oil on canvas, and is about 73.7 × 92.1 cm⁵. This was a difficult time for Van Gogh, he was a voluntary patient at the Saint-Paul-de-Mausole asylum in Saint-Rémy, southern France⁶. Since much of the time he was confined to his room, he

¹ Vincent van Gogh, *The Starry Night*, 1889, Oil on canvas, 73.7 x 92.1 cm, Museum of Modern Art, New York, <https://www.moma.org/collection/works/79802>.

² NASA, ESA, CSA, STScI, 'Cosmic Cliffs in the Carina Nebula (NIRCam Image)', *WebbTelescope.org*, Release ID 2022-031, 12 July 2022 <https://webbtelescope.org/contents/news-releases/2022/news-2022-031>

³ Albert Boime, 'Van Gogh's Starry, Starry Night', p. 1.

⁴ 'How Are Webb's Full-Color Images Made?', *WebbTelescope.org*, 14 February 2023

<https://webbtelescope.org/contents/articles/how-are-webbs-full-color-images-made> [accessed July 2025].

⁵ Richard Thomson, *Vincent van Gogh: The Starry Night* (New York: The Museum of Modern Art, 2008), p. 2.

⁶ Richard Thomson, *Vincent van Gogh: The Starry Night* (New York: The Museum of Modern Art, 2008), pp. 2, 4.

mostly observed the sky through his bedroom window which overlooked a wheatfield and the Alpilles Mountains⁷. This time period also had a lot of societal change, which Terry Eagleton characterises as ‘humanity’s own historic shift from rural to urban existence’⁸. Van Gogh was one of “the most influential Post-Impressionist painters in art history”, this style focuses more on representing feelings and inner thoughts rather than a strictly realistic approach⁹. To make *The Starry Night*, Van Gogh used a ‘paysage composé’, a method which is essentially mixing what he saw in his observations and memories with his imagination, due to asylum restrictions on painting outdoors at night¹⁰. We know that Vincent van Gogh was observing the sky in this way through his letters; for example, in one letter to his brother Theo he notes about seeing “the morning star, which looked very big” from his window¹¹. We can also see in his letters to his brother Theo, and his friend Émile Bernard from as early as April 1888, that he had been wanting to create a starry night painting¹². Moreover, it could be suggested that the ‘thick impasto style paint’ and ‘swirling brushwork’ could be either or a mix of stylistic choice and a reflection of inner feelings¹³. Albert Boime argues that it was not just made out of “mad genius” but was also shaped by his study of astronomy, shaped by an effort to visualize contemporary science, with the painting expanding on reality to include “the latest astronomical discoveries of nebulae” and “new insights into the “unfixed” and dynamic universe”¹⁴. We can also link the chosen colours towards attitudes of celestial observations during that time period, using “citron-yellow, others have a pink glow, or a green, blue and forget-me-not brilliance”¹⁵. He also added some artistic liberties, like painting a crescent moon when astronomical calculations for that date show it was in gibbous, and replacing the local church with a tall, steepled version from his “homeland”¹⁶, and the cypress tree in the foreground: as an evergreen it was traditionally planted in cemeteries, as a powerful symbol suggesting “eternal life, not the more negative notion of death”¹⁷. Van Gogh’s representation in this painting could potentially show his lifelong ‘deep-seated psychological root’ and his ‘essentially religious’ urge to provide comfort in the ‘miseries of life’¹⁸. Even though he was no longer strictly religious, he was religious in the “humanistic sense”, looking for a “scientific surrogate” and finding “non-theological terms for Divine Reality such as

⁷ Albert Boime, ‘Van Gogh’s Starry, Starry Night’, p. 3.

⁸ Terry Eagleton, *The Idea of Culture* (Oxford: Blackwell, 2000), p. 1.

⁹ Xinjie Zhou, ‘Vincent Van Gogh’s “The Starry Night”’, *Journal of Education, Humanities and Social Sciences*, 51 (2025), p. 149.

¹⁰ Richard Thomson, *Vincent van Gogh: The Starry Night* (New York: The Museum of Modern Art, 2008), p. 20.

¹¹ Vincent van Gogh, Letter 593 to Theo van Gogh, c. June 1889, cited in Albert Boime, ‘Van Gogh’s Starry, Starry Night’, p. 3.

¹² Lauren Soth, ‘Van Gogh’s Agony’, *The Art Bulletin*, 68.2 (1986), p. 301.

¹³ Thomson, *The Starry Night*, p. 21.

¹⁴ Albert Boime, ‘Van Gogh’s Starry, Starry Night’, pp. 7-8.

¹⁵ Vincent van Gogh, Letter W7, cited in Albert Boime, ‘Van Gogh’s Starry, Starry Night’, p. 3.

¹⁶ Lauren Soth, ‘Van Gogh’s Agony’, *The Art Bulletin*, 68.2 (1986), p. 304.

¹⁷ Richard Thomson, *Vincent van Gogh: The Starry Night* (New York: The Museum of Modern Art, 2008), p. 31.

¹⁸ Soth, ‘Van Gogh’s Agony’, p. 308.

'Infinity,' 'Immensity,' and 'Force'" in the universe¹⁹. Soth argues this culminated in the painting becoming a sublimated version of *The Agony in the Garden*, a religious subject Van Gogh had tried and failed to paint the previous year²⁰. This shows that this painting's representation has great personal and cultural significance, showing Vincent van Gogh's ability to connect his suffering with his love of the cosmos.



Figure 1. Vincent van Gogh (1853-1890), *The Starry Night*, 1889, Oil on canvas, 73.7×92.1 cm, Museum of Modern Art, New York. Image: Museum of Modern Art.

Representation 2: Cosmic Cliffs

The *Cosmic Cliffs* image, take from a “gaseous cavity within NGC 3324”, shows a star-forming region in the Carina Nebula around 7,600 light-years away and was shown to the world on July 12, 2022²¹. The image shows what NASA calls “mountains and valleys”, of dust and gas, with the ‘cliffs’ being humongous structures created by “intense ultraviolet radiation and stellar winds” from massive young stars, common with

¹⁹ Albert Boime, 'Van Gogh's Starry, Starry Night', pp. 4, 5, 6.

²⁰ Lauren Soth, 'Van Gogh's Agony', (1986), p. 312.

²¹“Cosmic Cliffs” in the Carina Nebula (NIRCam Image)', *WebbTelescope.org*, 12 July 2022
<https://webbtelescope.org/contents/media/images/2022/031/01G77PKB8NKR7S8Z6HBXMYATGJ> [accessed July 2025].

active star birth processes²². The image was created with the coming together of NASA, the European Space Agency (ESA), and the Canadian Space Agency (CSA), all managing the James Webb Space Telescope project, with the image made in a multi-stage “human-centered process” that also involved specialists at the Space Telescope Science Institute (STScI), a great representation of the Big Science movement²³. The data that JWST received with its Near-Infrared Camera (NIRCam) is actually “invisible to our eyes”, sent to Earth as raw “bits” and “black-and-white exposures”, which imaging specialists transform by “stretching or rescaling” to show the unseen details, and “removing artifacts” like black star cores, striations, and cosmic rays²⁴. The colours are chosen by giving different hues “to each monochromatic (grayscale) image associated with an individual filter”; basically, this “representative colour” approach translates invisible wavelengths into visible colours for us²⁵. This process is in some ways subjective, specialists follow “the visual principles of photography to bring out details that may appear flat or dull”, like in *Cosmic Cliffs*’ orientation, was chosen to avoid looking “heavy” if inverted, showing a familiar landscape feel²⁶. This colourising of images, “based on aesthetic preference”, aligns with the contemporary philosophical movement in scientific communication that focuses on making complex data accessible and aesthetically compelling to the average person²⁷. There were a few intentions behind the *Cosmic Cliffs* image. Firstly, it was to get unveil “the earliest, rapid phases of star formation that were previously hidden”²⁸. Secondly, it was to show the public a demonstration of JWST’s cutting-edge capabilities with its “truly paradigm shifting” resolution and sensitivity in infrared wavelengths²⁹. Thirdly, its widespread release, including displays in Times Square and London’s Piccadilly Circus, was to engage a global public and help us to “inspire us to dream big”³⁰. As UK astronomer Dr. Hannah Wakeford exclaimed upon seeing the first images, “Twelve and a half hours to look back over 13 billion years of time. In that image is thousands of galaxies, billions of stars and trillions of planets. How can you not be in awe?”³¹. NASA’s administrator Bill Nelson said these images show “what NASA does best... We take dreams and turn them into reality for the benefit of humanity”, this public

²² ‘NASA Reveals Webb Telescope’s First Images of Unseen Universe’, *NASA.gov*, 12 July 2022 <https://www.nasa.gov/news-release/nasa-reveals-webb-telescopes-first-images-of-unseen-universe/> [accessed July 2025]; “Cosmic Cliffs” in the Carina Nebula (NIRCam Image).

²³ ‘NASA Reveals Webb Telescope’s First Images of Unseen Universe’; ‘How Are Webb’s Full-Color Images Made?’, *WebbTelescope.org*, 14 February 2023 <https://webbtelescope.org/contents/articles/how-are-webbs-full-color-images-made> [accessed July 2025].

²⁴ ‘How Are Webb’s Full-Color Images Made?’.

²⁵ ‘How Are Webb’s Full-Color Images Made?’.

²⁶ “Cosmic Cliffs” in the Carina Nebula (NIRCam Image).

²⁷ ‘How Are Webb’s Full-Color Images Made?’.

²⁸ ‘NASA Reveals Webb Telescope’s First Images of Unseen Universe’.

²⁹ ‘A message from the past: UK astronomers comment on the first JWST image’, *The Royal Astronomical Society*, 12 July 2022 <https://ras.ac.uk/news-and-press/news/message-past-uk-astronomers-comment-first-jwst-image> [accessed July 2025]; ‘NASA Reveals Webb Telescope’s First Images of Unseen Universe’.

³⁰ ‘NASA Reveals Webb Telescope’s First Images of Unseen Universe’.

³¹ ‘A message from the past: UK astronomers comment on the first JWST image’.

engagement implicitly carries the intention of justifying the immense public investment needed for such large-scale projects, aligning with John M. Steele's view on the historical function of astronomy, which uses symbolic uses to show a culture's power through patronage³²³³.



Figure 2. NASA, ESA, CSA, STScI, *Cosmic Cliffs in the Carina Nebula (NIRCam Image)*, 2022, JWST NIRCam Image. Image: NASA, ESA, CSA, STScI.

Summary

The Starry Night by Dutch Post-Impressionist painter Vincent van Gogh shows a sky that feels almost alive, swirling above a village with a church spire and a cypress tree. Its representation is from a blend of observed reality, memory, and imagination, made with thick impasto paint. The subject matter deals with a representation of the night sky above a landscape, but it is not a literal translation of reality. Scholars such as Lauren Soth believe that a “powerfully suggested” point of the painting was to create a representation of consolation through a feeling of “being in tune with the deeper forces of the universe” with artistic imagination and emotional and spiritual meaning³⁴. The JWST *Cosmic Cliffs* image is a scientific representation showing a star-forming region in the Carina Nebula around 7,600 light-years away. Its key content consists of empirical data showing “landscape of “mountains” and “valleys” speckled with glittering stars” and hot ionised gas structures created by ultraviolet radiation and stellar winds from massive

³² 'NASA Reveals Webb Telescope's First Images of Unseen Universe'.

³³ John M. Steele, 'Astronomy and Politics', in *Handbook of Archaeoastronomy and Ethnoastronomy*, ed. by C. L. N. Ruggles (New York: Springer, 2015), pp. 93-101 (p. 94).

³⁴ Lauren Soth, 'Van Gogh's Agony', *The Art Bulletin*, 68.2 (1986), 301-13 (p. 308).

young stars³⁵. The main purpose was to study active star birth processes and to demonstrate the James Webb Space Telescope's capabilities at looking at previously unseen areas of star birth, helping to advance our understanding of the universe, serving a dual purpose, their goals were "to release images that are scientifically accurate and immediately engaging."³⁶, from from far from the immediate more personalised comforting goal of Van Gogh's representation.

Analysis

1. Representation and reality

The Starry Night and the *Cosmic Cliffs* show their view of reality in very different ways, with close links to their epistemological background, with *The Starry Night* prioritising an internal and felt reality over realism, representing both what Van Gogh saw and how he felt about it. Van Gogh used sky observations in his representation, however, just as Albert Boime would argue, the centre vortex was also a mix of sky observations, studies of astronomy, and knowledge of the vortical theory of sky mechanics around in the late 19th century³⁷. Boime also suggests that Van Gogh's choice with the stars with specific colours of "citron-yellow...pink glow...green, blue and forget-me-not brilliance", also shows an empirical attentiveness to the sky³⁸. However, as Lauren Soth notes, the sky could also be greatly linked to Van Gogh's internal turmoil, noting also how with him "Unable to paint *The Agony in the Garden*, Van Gogh projected its emotional content onto nature and created a sublimated image of his deepest religious feelings. At its most profound level, the *Starry Night* is Van Gogh's *Agony*.", making the painting a direct visual expression of his inner anguish³⁹. We can also see through his letter to his brother Theo in September, how he used his exaggerated representations, nothing in some of work his "exaggerations from the point of view of arrangement, their lines are as warped as old woodcuts.""", re-imagining and intensifying these to reflect his inner feelings and spiritual longing, rather than providing a literal representation⁴⁰. His artistic choices like painting a crescent moon when it was astronomically gibbous, or the change and relocation of the church spire, show that *The Starry Night* is not a factual representation but "...an imaginative amalgam, the question arises whether it has any

³⁵ 'NASA Reveals Webb Telescope's First Images of Unseen Universe', *NASA.gov*, 12 July 2022 <https://www.nasa.gov/news-release/nasa-reveals-webb-telescopes-first-images-of-unseen-universe/> [accessed July 2025]; "'Cosmic Cliffs' in the Carina Nebula (NIRCam Image)", *WebbTelescope.org*, 12 July 2022 <https://webbtelescope.org/contents/media/images/2022/031/01G77PKB8NKR7S8Z6HBXMYATGJ> [accessed July 2025].

³⁶ 'How Are Webb's Full-Color Images Made?'

³⁷ Albert Boime, 'Van Gogh's *Starry, Starry Night*'.

³⁸ Albert Boime, 'Van Gogh's *Starry, Starry Night*'.

³⁹ Lauren Soth, 'Van Gogh's *Agony*', *The Art Bulletin*, 68.2 (1986), 301-13 (p. 312).

⁴⁰ Richard Thomson, *Vincent van Gogh: The Starry Night* (New York: The Museum of Modern Art, 2008), p. 33.

specific meaning, either intended or unconscious”⁴¹. On the other hand, the *Cosmic Cliffs* image views reality through empirical data taken by JWST’s infrared technology, with the main objective being to communicate objective knowledge about physical processes like star formation. However, the raw data sent to Earth is not an image but bits of data that look “appear almost totally black” because of the invisibility of infrared light to us⁴². The representation process involved many stages of interpretation and aesthetic choice, and the imaging specialists “stretch, or rescale” the raw images to reveal hidden information, remove ‘artifacts’ like cosmic rays, and most significantly, “image processors translate these wavelengths of light, in order, to visible colors.”⁴³. This ends up as a “representative colour” image, as Webb ‘sees almost entirely colours of light that are invisible to our eyes, with the colours assigned “chromatically” mapping shorter infrared wavelengths to blue and longer ones to red, which the European Space Agency noting that, “Beyond this restriction, though, colourising images is based on aesthetic preference, making this practice both a science and an art”⁴⁴⁴⁵. This shows that even these empirically-derived images are cultural constructs designed to be both, shaping perception rather than just reflecting an unmediated reality⁴⁶. The anthropomorphising of the representation through its naming of Cosmic ‘Cliffs’, is like the creation of a ‘skyscape’, as Fabio Silva would agree that the “sky is a natural phenomenon that is turned into a cultural skyscape through human agency.”, in this representation scientist have transformed the sky from an “object of impartial observation which anticipates modern science, into an integrated part of a total environment”⁴⁷, which has culminated in the *Cosmic Cliffs* image, with potential impacts on cultural meaning making, justice Campion notes that landscapes are “contested, social, active and created”, which this research argues is what occurs with cultural skyscapes, shaping a perception rather than just giving a viewpoint on reality⁴⁸.

2. Creators and intentions

The *Starry Night* was a very personal representation of Vincent van Gogh’s skyscape, his wanted to make “a more exalting and consoling nature”, as noted in a letter from April 1888, through his imagination and “stylistic exaggerations”, aiming to give comfort to the viewer in personal suffering⁴⁹⁵⁰. Van Gogh expressed these consolations through

⁴¹ Lauren Soth, 'Van Gogh's Agony', p. 305.

⁴² 'How Are Webb's Full-Color Images Made?'.
⁴³ 'How Are Webb's Full-Color Images Made?'.
⁴⁴ 'Image Processing', *ESA/Webb*.
⁴⁵ 'Image Processing', *ESA/Webb*.
⁴⁶ 'How Are Webb's Full-Color Images Made?'.
⁴⁷ Nicholas Campion, 'Skyscapes: Locating Archaeoastronomy within Academia', p. 9.
⁴⁸ Lauren Soth, 'Van Gogh's Agony', *The Art Bulletin*, 68.2 (1986), 301-13 (p. 308).
⁴⁹ Richard Thomson, *Vincent van Gogh: The Starry Night* (New York: The Museum of Modern Art, 2008), p. 33.
⁵⁰ Lauren Soth, 'Van Gogh's Agony', p. 306.

representing “The purer nature of the country...expressed in a style that transcended reality”⁵¹. This pursuit of consolation reflects Van Gogh’s spiritual/religious urge to provide comfort in life’s miseries, the painting’s style could also be seen as a reflection of his psychological state and culture of the time. He created this piece of consolation through a mix of this personal representation and with the help of sky observations and popular science of the time which provided a “scientific surrogate” for his dampening religious views⁵². The cultural authority of *The Starry Night* developed mostly after his death, gaining its widespread influence over time. On the other hand, the *Cosmic Cliffs* representation was created through massive international collaboration, characteristic of Big Science in the 21st century, and even though image was created by humans translating data, it was overseen by ‘complex technology and standardised protocols’, specialists would discuss with designers and scientists to refine the visual output rather than coming from pure stylistic choice or psychology⁵³. There were a few intentions behind the *Cosmic Cliffs image*, scientifically, its main goal was to collect data on previously unseen star birth processes, technologically it was as a powerful demonstration of JWST’s cutting-edge capabilities and its ‘truly paradigm shifting’ resolution, and culturally, it aimed at engaging a global public, fostering awe, and communicating the wonder of discovery⁵⁴. NASA Administrator Bill Nelson noted this by stating the images ‘inspire us to dream big’, ‘for the benefit of humanity’⁵⁵, this promise is like a utopian-millennarian thought. Moreover, this public and therefore cultural engagement role also implicitly carries the intention of justifying the massive public investment required for such large-scale projects, which not only aligns with John M. Steele’s view on the historical ‘symbolic’ uses of astronomy, but also its deeper cultural worth⁵⁶. While secular and technological, the project is framed as a collective endeavour to bring about a new era of understanding, much like New Age prophecies of a coming ‘Golden Age’; this modern ‘science as faith’ perfectly shows the natural human urge to ponder the sky⁵⁷. This also fits within what Campion noted happened with the social and political revolutions of the 1960s, including the “space race”, creating a new cultural interest in the cosmos as a source of meaning⁵⁸. Both representations have very different intentions and creators, which shows their massive cultural shifts, Van Gogh’s

⁵¹ Albert Boime, ‘Van Gogh’s Starry, Starry Night’ p. 6

⁵² Richard Thomson, *Vincent van Gogh: The Starry Night*, p. 3.

⁵³ ‘A message from the past: UK astronomers comment on the first JWST image’.

⁵⁴ ‘NASA Reveals Webb Telescope’s First Images of Unseen Universe’.

⁵⁵ John M. Steele, ‘Astronomy and Politics’, in *Handbook of Archaeoastronomy and Ethnoastronomy*, ed. by C. L. N. Ruggles (New York: Springer, 2015), pp. 93-101 (p. 94).

⁵⁶ Nicholas Campion, ‘Theosophical, New Age, and Pagan Cosmologies: Nature and Transformations’, in *Astrology and Cosmology in the World’s Religions* (New York: NYU Press, 2012), pp. 188-99 (p. 198).

⁵⁷ Nicholas Campion, ‘Skyscapes: Locating Archaeoastronomy within Academia’, in *Skyscapes: The Role and Importance of the Sky in Archaeology*, ed. by Fabio Silva and Nicholas Campion (Oxford: Oxbow Books, 2015), pp. 8-19 (p. 13).

⁵⁸ Nicholas Campion, *The New Age in the Modern West: Counterculture, Utopia and Prophecy from the Late Eighteenth Century to the Present Day* (London: Bloomsbury Academic, 2015), p. 71, cited in Margaret M. Scull, review of *The New Age in the Modern West*, by Nicholas Campion, *The English Historical Review*, 134.567 (2019), 511-13 (p. 512).

work reflects his late 19th-century belief in individualistic art, made with traditional media that gained influence over time, and the JWST image presents a 21st-century collective scientific effort and advanced technology to make and give knowledge with rapid worldwide viewership. This shows the transition from a culture holding personal and expressive psychology in high regard to one that values technological precision as a primary ideal for representing the sky, and the deliberate, managed output of the JWST representation, to specialists and public alike, further shows this shift from influence over time to rapid and widespread cultural impact.

3. Historical and cultural impact

The quite different historical and cultural backgrounds that *The Starry Night* and the *Cosmic Cliffs* were made make a big impact on their expressions of the sky, essentially making them cultural skylines. The late 19th century when *The Starry Night* was made, was a time of intense European social, technological, and scientific change, where rapid industrialisation massively changed everyday life, all the while new scientific advancements challenged traditional beliefs about the universe, a period of time of “self-conscious awareness” with numerous predictions for a utopian future⁵⁹. Post-Impressionism came about artistically as a reaction against Impressionism, going for emotional depth and symbolic meaning through a more subjective interpretation, which clearly impacted Van Gogh’s style and representation of the sky, with his swirling sky representation therefore could be interpreted as a reflection of this cultural impact, while keeping elements of the Romantic sublime as traditional cosmological frameworks went⁶⁰. Moreover, just as Albert Boime notes, the widespread popularisation of astronomy in the 19th century through new telescopes, photography, and illustrated magazines like *L’Astronomie*, Van Gogh, who was an avid reader, would have likely been aware of these⁶¹. His empirical attitude towards sky observation and his integration of concepts like spiral nebulae show this cultural permeation of scientific ideas, especially after his loss of religion, potentially leading him to a new cultural and scientific ‘surrogate’ and people like Camille Flammarion, this could show a transition of faith as science, to science as faith⁶². The *Cosmic Cliffs* is also a product of its culture, from our current time in the 21st century, a time characterised by globalisation, advanced technology, and of ‘Big Science’. In this context, technology is not just a useful tool but also a key part of the representation itself, the image itself almost represents or encapsulates contemporary Western cultural values, which prioritises a

⁵⁹ Richard Thomson, *Vincent van Gogh: The Starry Night*, p. 38.

⁶⁰ Albert Boime, ‘Van Gogh’s Starry, Starry Night’

⁶¹ Albert Boime, ‘Van Gogh’s Starry, Starry Night’

⁶² Albert Boime, ‘Van Gogh’s Starry, Starry Night’

more empirical scientific knowledge standpoint, technological achievement, and global collaboration. Just its existence is intertwined with the political dimension of massive state and international funding, for which public justification is necessary. Statements from NASA officials, such as “We take dreams and turn them into reality for the benefit of humanity”, really show this cultural and political imperative of showing tangible returns on public investment⁶³. In comparison, these two representations show how historical and cultural contexts shape how we represent the sky, with both images becoming cultural icons, potentially partly due to their potent astronomical/sky connotations gaining public interest, showing humanity's continuous need to create meaning from the sky within its cultural and technological paradigms.

4. Human-cosmos relationship

Finally, *The Starry Night* and the *Cosmic Cliffs* have very different but each have great ways of connecting with the human-cosmos relationship, changing the viewer's seen position within the world or universe, and contributing to meaning-making and worldview construction with being part of the cultural sphere. Van Gogh's painting seems to be purposely made to stir-up reactions, with its swirling and thick brushwork and intense, popping colours, and the quiet village and looming cypress tree giving a sense of emotional intensity and maybe even spiritual longing or for some perhaps unease, like how Campion notes that, “While the belief that the cosmos is benign (*cosmophilia*, or love of the cosmos) appears to be dominant, its opposite, *cosmophobia* (fear of a malign cosmos), is found within some religious traditions...”, and depending on who is viewing these representations of the sky depends on what feelings they will evoke⁶⁴. The human-cosmos relationship in *The Starry Night* comes across as incredibly personal and quite intense, placing the viewer in an immersive and alive /animated swirling sky, creating an almost whimsical sense of connection to the universe, even today one can visit Vincent Van Gogh immersive experiences, projecting the image across halls to fully immerse the viewer. This reflects the nature of human experience, where perception is within in the body itself, involving “feelings and memories giving rise to a sense of awe, emotion, wonder or anguish in spatial encounters”, or in this case a sky representation⁶⁵. Although Georg Zotti highlights the difficulty of incorporating the “spiritual” component in archaeological reconstructions, a painting like Van Gogh's, through its conveyance of subjective and spiritual dimensions, potentially overcomes

⁶³ 'NASA Reveals Webb Telescope's First Images of Unseen Universe'.

⁶⁴ Nicholas Campion, 'Cosmos / Cosmologies', in *Vocabulary for the Study of Religion*, Volume 1, A-E, ed. by Robert A. Segal and Kocku von Stuckrad (Leiden: Brill, 2015), pp. 359-64 (p. 360).

⁶⁵ Chris Tilley, *A Phenomenology of Landscape* (Oxford: Berg, 1994), p. 16.

this limitation in representing a cultural relationship with the sky⁶⁶. The *Cosmic Cliffs* image can also stir up a lot of emotions, just in a quite a different way, its ability to do so lies in its mind boggling scale, detail, and the sheer beauty represented in its carefully chosen colours and orientation. Moreover, quite different to *The Starry Night*, *Cosmic Cliffs* presents a sky that is inaccessible to the everyday viewer, which can add to its awe and cosmophilia, or evoking cosmophobia in some, while also offering an opportunity for deeper thought on the cosmos. The human-cosmos relationship developed and changed a lot between 1889 and 2022, with science and cosmology becoming a huge part of popular culture, particularly after the Space Age and the boom in sci-fi after the 1960s, just as Edwin C. Krupp argues, popular culture “reflects the interests, values, notions, themes, and sensibilities of mainstream culture”, which both of these representations have embodied.⁶⁷ Fundamentally, these two two-dimensional representations of the sky have very different underlying ontologies or views on reality, with Van Gogh coming from a more phenomenological stand point, and the collaborative effort of the JWST projects was one of scientific endeavour, but still both made big impacts on culture even today, like how Alejandro Martín López notes that ethnoastronomy reveals how cultures have perceived and interacted with the sky in ways distinct from both Western examples, integrating celestial observation deeply into their social practice, both of these cultural expressions represent specific cultural ways of engaging with the sky⁶⁸.

Discussion

The analysis has shown that the cultural expressions of the sky from *The Starry Night* to *Cosmic Cliffs* run much deeper than just art versus science, but also shows the evolution of the western cultural relationship with the cosmos and how we represent and present it. The massive technological and scientific advances that occurred between 1889 and 2022 have clearly massively impacted the way we represent the sky, showing the transformative role of technology in constructing our 'skyscape' in modern western culture. The analysis also attempted to crumble the art/science or faith/science binary, showing how faith can become science, and how science can become faith, and the way we view

⁶⁶ Georg Zotti, 'Visualization Tools and Techniques', in *Handbook of Archaeoastronomy and Ethnoastronomy*, ed. by C. L. N. Ruggles (New York: Springer, 2015), pp. 445-57 (p. 456).

⁶⁷ Edwin C. Krupp, 'Archaeoastronomical Concepts in Popular Culture', in *Handbook of Archaeoastronomy and Ethnoastronomy*, ed. by C. L. N. Ruggles (New York: Springer, 2015), pp. 263-85 (p. 264).

⁶⁸ Alejandro Martín López, 'Cultural Interpretation of Ethnographic Evidence Relating to Astronomy', in *Handbook of Archaeoastronomy and Ethnoastronomy*, ed. by C. L. N. Ruggles (New York: Springer, 2015), pp. 341-52 (p. 342).

these changes in cultures through time. In these representations we can see that Van Gogh's *Starry Night*, although was greatly personal, was not purely fantasy but a paysage composé informed by his study of astronomy and knowledge of spiral nebulae, and the JWST's empirical data is not objective truth but a 'human-centered process' of aesthetic choices, of both a 'science and an art'. It is also interesting how even within contemporary scientific culture we are anthropomorphising the stars, creating 'landscapes' out of distant nebulae, seeing 'cosmic cliffs' out of swirling stellar gas and dust. It is also interesting how although created in different cultures, geography, time, technology, and ontological frameworks, both representations of the sky showcases swirling turbulent cosmic flow and popping colour, and both awe-inspiring in their own ways. For the creators of *Cosmic Cliffs*, technology is the vision, with the skyscape being a translation of invisible infrared data, a reality fundamentally inaccessible without these technological advancements. Whereas, for Van Gogh's creation, although informed by his sky observations, was also heavily influenced by his personal psychology, and 'essentially religious' urge for consolation, a 'scientific surrogate' for his lost faith in a time of rapid changes. These two representations show two very different experiences, Van Gogh's representation is immersive and emotional, connecting us to an animated cosmos, while the JWST's inspires awe at a beautiful but distanced spectacle of data. The creation of a cultural skyscape has gone from a human perception informed by science to a human perception created by science, massively altering our perceived place in the universe.

Conclusion

This comparative analysis of Vincent van Gogh's painting *The Starry Night* (1889) and NASA's JWST image *Cosmic Cliffs* (2022) has shown a massive transformation in the cultural expression of the sky. The essay's aim was to explore the similarities and differences in how these two distinct works represent the sky, considering their creators, historical contexts, and methodologies. The analysis confirms a clear shift from a predominantly individual, subjective interpretation, as seen in Van Gogh's work, to a collective, technologically mediated scientific construction, seen in the JWST image. *The Starry Night* shows a subjective reality, filtering sky observations through Van Gogh's emotional experience to create a consoling vision, whereas the *Cosmic Cliffs* image is an empirical reality derived from data, however as creation involves a 'human-centered process' of aesthetic making, this shows that even scientific visuals are deliberately made cultural artifacts. The *Starry Night* was created by a single individual - Van Gogh, from a very personal psychological and spiritual point of view,

whereas *Cosmic Cliffs* is the creation of a vast collaborative effort, with its main intention, besides public and cultural engagement, being Big Science. This is also a reflection of their historical and cultural contexts, where for Van Gogh in the 19th-century, this was a time where society grappling with modernity, and popular science influenced artistic interpretations, all the while movements like Post-Impressionism also made an impact, while the JWST image embodies a 21st-century world where technology is integral to the image's meaning and creation.

In conclusion, this comparative analysis shows that the cultural expression of the sky has changed a lot since the 19th century, reshaping not only the boundaries between art and science, but also between science and faith, and where the sky, even far beyond our everyday viewership, can become cultural landscapes. The shift from Van Gogh's *Starry Night* in 1889 to the JWST's *Cosmic Cliffs* in 2022 shows a massive change in the Western cultural experience of truth and the sublime, with Van Gogh's work exemplifying 'faith as science'. In contrast, the JWST image is a representation of 'science as faith', being product of a 21st-century culture that favours objective scientific truth - whilst also still keeping that human touch! The very process of representation, whether through an expressive brushstroke or the deliberate, anthropomorphic naming of the *Cosmic Cliffs*, is an act of creating a cultural 'skyscape', transforming the inhuman scale of the cosmos into a humanised realm of meaning. Ultimately, this comparison shows that while our methods of seeing the sky have changed radically, the underlying human urge to project our values, anxieties, and hopes onto the sky has remained a constant feature of our relationship with the cosmos.

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