

# Migraine and art

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## ABSTRACT

**Objective.** This study analyses the relationship between migraine and art, from the supposed role of migraine (and especially migraine with aura) as a muse or inspiration to its role as the object or subject of artistic representation. As a secondary objective, it analyses and critiques the retrospective diagnosis of migraine in numerous artists (especially painters) based on the study of their works.

**Material and methods.** In addition to reviewing the literature on the subject, we analyse from a neurological perspective the visual works of numerous artists, from the Middle Ages to today, comparing them against the work of artists confirmed to have migraine; wherever possible, biographies, autobiographies, and self-referential texts were also studied to identify data supporting the diagnosis.

**Results.** The study analyses the works of Hildegard von Bingen, William Blake, William Turner, Gustave Doré, Claude Monet, Vincent van Gogh, Seurat, Di Chirico, Dalí, Picasso, and of contemporary artists with known diagnoses of migraine, such as Georgia O’Keeffe, Sarah Raphael, and members of the Migraine Art Project.

**Conclusions.** The majority of artists considered and diagnosed with migraine do not meet criteria for this diagnosis, although through analysis from today’s perspective, with its potential biases, we may recognise or interpret semiological traits of migraine aura in their works. In artists with confirmed migraine, aura generally constitutes an object or subject of artistic representation, rather than a source of inspiration.

## KEYWORDS

Migraine art, migraine inspiration

## Introduction

Like any other disease, migraine may (and does) influence artistic creativity, generally negatively. However, it may also be a source of inspiration, a stimulus, or the object of creativity. This positive impact is particularly noteworthy in painting, literature, music, and sculpture, in that order.

A vast body of literature has been written on the relationship between migraine and art, and especially between migraine and painting (and also literature), particularly analysing the positive influence of migraine aura as a source of inspiration for painters.

A literature or Internet search yields numerous articles listing figures from the art world who have been “diagnosed” with migraine.<sup>1-4</sup> These claims have been

repeated *ad nauseam*, employing no critical analysis nor the slightest verification. In reality, very few of these personalities meet diagnostic criteria for migraine. The lack of information on medical details in their biographies, like the lack of medical history in clinical practice, represents a hindrance to diagnosis; this, alongside the limited repercussions in terms of liability when establishing a retrospective diagnosis, in which it is impossible for the patient to complain, favours “frivolity and diagnostic error.”

In this “game” of retrospectively diagnosing figures from the world of art and literature, migraine shares a central role with epilepsy; together, they form the most frequent differential diagnosis, with each “player” opting for one or the other according to their interests and affinities.

It cannot be denied that certain works by certain authors, when analysed, are reminiscent of the aura described by patients with migraine. Furthermore, the graphical depiction of aura by these patients, with varying levels of artistic quality, is frequently comparable to the depictions in some works by renowned artists. These similarities gave rise to the idea of migraine aura as artistic inspiration.

### Material and methods

The study analyses visual works from the Middle Ages to today from a neurological perspective, seeking to identify graphical elements resembling the semiological traits of migraine aura.

Images displaying evocative elements are analysed in detail and compared against works whose relationship with migraine is unequivocally confirmed based on direct information from the creators.

Furthermore, all available biographical (and especially autobiographical) information on the artists was reviewed, as well as their correspondence, with a view to identifying references to or confirmation of the diagnosis.

A review and update of the considerable literature on the subject (or at least the most representative) was also conducted.

### Results

From a present-day perspective (with its inherent biases), we may identify elements or traits of migraine in certain medieval illustrations, and particularly those seen in

preserved copies of the *Commentary on the Apocalypse* by Beatus of Liébana (10th-13th centuries) and in the works of Saint Hildegard von Bingen (1098-1179), the abbess of Bingen, named a Doctor of the Church by Pope Benedict XVI in 2012 (Figure 1 and 2).

Between 1914 and 1928, Charles Joseph Singer analysed Hildegard’s descriptions and depictions of her visions, establishing migraine as their aetiology.<sup>5,8</sup>

Half a century later, Oliver Sacks<sup>9,10</sup> supported the diagnosis of migraine in the chapter “The visions of Hildegard” in his book *Migraine* and in *The man who mistook his wife for a hat*; since then, numerous authors have accepted the diagnosis without the slightest critical reflection.<sup>11</sup>

Other authors have opted for a diagnosis of temporal lobe epilepsy.<sup>12-15</sup>

Another essential reference, with better scientific grounding, is the less categorical opinion of another author who proposes open diagnostic possibilities.<sup>16</sup>

The biographical and autobiographical texts consulted include references to pain, without specifying localisation.<sup>17-20</sup> We also observe no references to headache in Hildegard’s correspondence, of which approximately 400 letters are preserved,<sup>21-23</sup> some of which have been translated into Spanish.<sup>24</sup>

In her scientific works,<sup>25,26</sup> and especially *Causae et curae*,<sup>26</sup> she dedicates eight headings to headache: three describing the ailment, and five in the remedies section. None of these include any references to herself or to what would today correspond to aura. The most extensive is the following:

(De emigranea) Migraine. Migraine is also born of the black bile and all the bad humours in man. It occupies half, not all, of the head, and thus it sometimes affects the right part and sometimes the left part. Thus, when there is an excess of humours, migraine is located on the right side and, when there is an excess of black bile, it is located on the left side. The strength of migraine is such that, if it could occupy the whole head at once, man could not bear it. And it is difficult to get rid of it because sometimes, repressing black bile excites the bad humours, and sedating the bad humours increases the black bile; and the cure is bad because black bile and bad humours are hard to placate at once (*Causae et curae*, liber II, p. 90<sup>26</sup>).



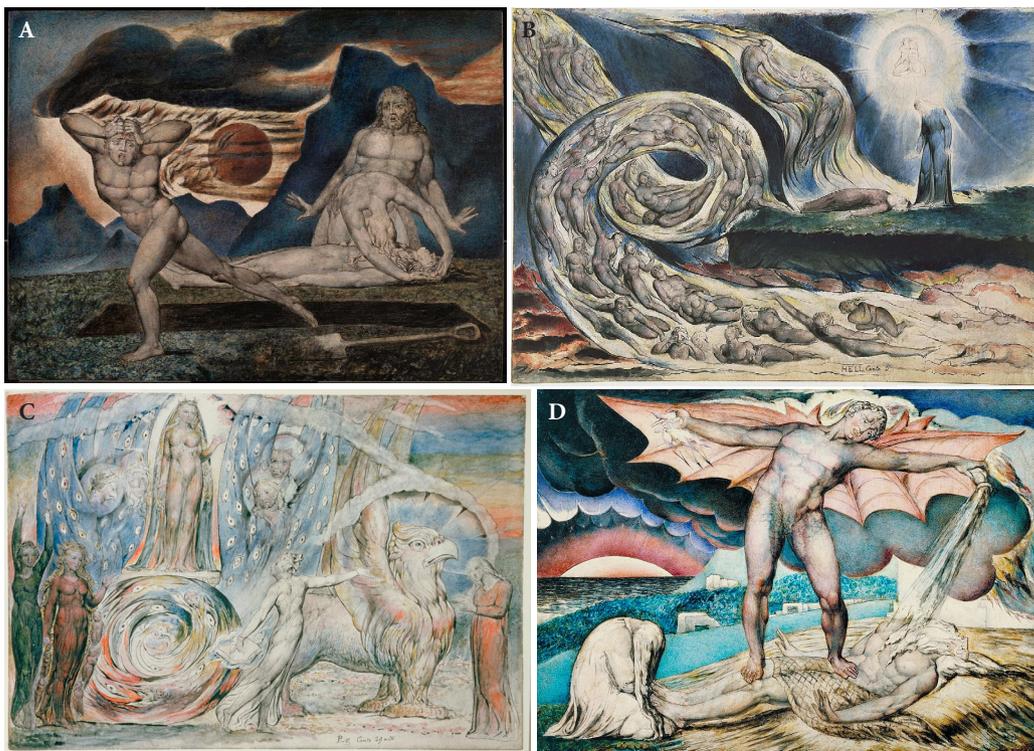
Figure 1. *Scivias*, by Hildegard von Bingen. Left: vision 2, part 3. Right: vision 2, part 1.



Figure 2. *Scivias*, by Hildegard von Bingen. Left: vision 1, part 3. Right: vision 2, part 1.



**Figure 3.** William Blake. Left: *The ancient of days* (1794). Right: *Jacob's ladder* (1805).



**Figure 4.** William Blake. A) *The body of Abel found by Adam and Eve* (c. 1826). B) *The lovers' whirlwind, Francesca da Rimini and Paolo Malatesta* (1824-1827). C) *Beatrice addressing Dante from the car* (1824). D) *Satan smiting Job with sore boils* (1825).

References to migraine are also observed in the works of the visionary poet, printmaker, and painter William Blake (1757-1827). Blake is one of the artists whose visual works include the most semiological elements related to migraine aura, but is one of the least studied and cited.<sup>27-29</sup> Such pieces as *The ancient of days* (1794), *Elohim creating Adam* (1795), *The number of the beast is 666* (1805), *Jacob's dream, object 1* (1805), *The body of Abel found by Adam and Eve* (1826), and *The lovers' whirlwind, Francesca da Rimini and Paolo Malatesta appraised by Dante and Virgil* (1824-1827), among many other works of this prolific artist,<sup>30</sup> contain traits and elements that evoke migraine aura (Figures 3 and 4).

However, neither biographies of Blake nor his self-referential texts or correspondence present data suggesting that he might have had migraine. However, these texts do include data supporting a diagnosis of melancholia and depression.<sup>31,32</sup>

The work of Joseph Mallord William Turner (1775-1851), a precursor to impressionism and admired by all members of that movement, shows elements clearly interpretable as semiological features of migraine.

His treatment of light, fog and clouds, storms, sunsets, and the sea in such works as *Hannibal and his army crossing the Alps* (1812), *The burning of the Houses of Lords and Commons* (1835), *Snow storm* (1842), and *Rain, steam and speed – the Great Western Railway* (1844) frequently mimic descriptions and graphical depictions of migraine episodes. This is particularly noteworthy in his work *The piazzetta, Venice* (1835), which evokes the visual alterations of migraine aura (Figure 5).

Despite this, a literature search only identified one reference relating Turner to migraine.<sup>33</sup> As was the case with other artists, a review of the available information on his life did not reveal data supporting a diagnosis of migraine.<sup>34-37</sup>

Gustave Doré (1832-1883) was a painter, a sculptor, and fundamentally an illustrator and printmaker within the Romantic movement. In the wake of the interpretation of the works of Blake, some of his engravings of the *Divine comedy* have been interpreted from the perspective of migraine. His engravings “have a striking similarity in form to the zigzags seen in sick headache.”<sup>38(p28)</sup> The biography of G. Doré does refer to the artist having headache, but does not include specific information.<sup>39</sup>

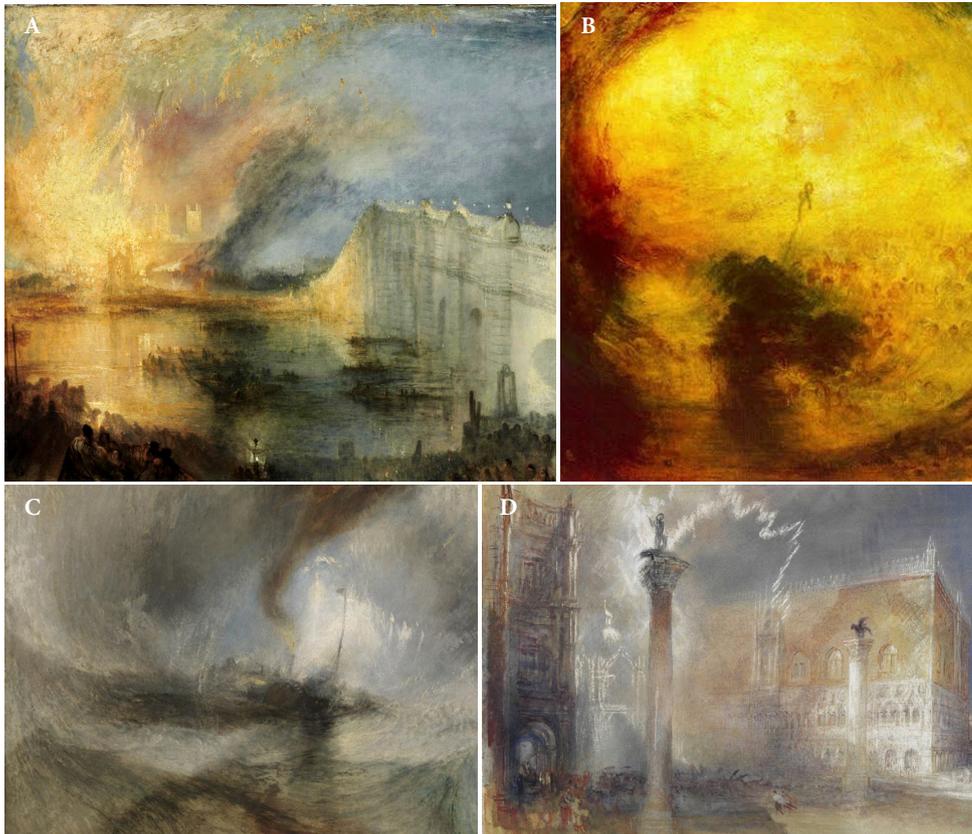
Claude Monet (1840-1926) founded the Impressionist movement. His painting *Impression, sunrise* (1872) officially marked the birth of this artistic movement. His name is systematically included in all list of artists with migraine, for no other reason than uncritical reiteration. In our search for arguments justifying Monet's inclusion in these lists, we might find them (among many other paintings, and depending on how strict we are) in that original painting of the Impressionist movement (the aforementioned *Impression, sunrise*), in the series dedicated to Venice and London (which are so reminiscent of Turner), and especially in his 12 paintings of Gare Saint Lazare. In these paintings, the clouds of steam from the locomotives and the environment faithfully reproduce the visual alterations of patients with migraine (blurred vision, scotoma, etc) (Figure 6), similarly to Turner's *The piazzetta, Venice*.

None of his writings include information suggestive of migraine. His abundant, disperse correspondence also appears not to include data on migraine.<sup>40,41</sup> It does include some apparently metaphorical references to headache: “It makes me feel I am going mad, how much I want to do everything, my head is bursting... it's scary what I see in my mind” (1864).<sup>41</sup>

A piece circulated online, entitled *Claude Monet having a migraine* and uploaded to the DeviantArt platform by the user aegiandyad, has repeatedly been attributed to Monet and has been used to justify the diagnosis of migraine.<sup>42</sup>

Another constant in any self-respecting list of artists with migraine is Vincent van Gogh (1853-1890). His work *Starry night*, painted in June 1889 at the sanatorium (asylum) of Saint-Paul-de-Mausole in Saint-Rémy-de-Provence, is systematically cited, with authors linking the appearance of the night sky to elements of migraine aura. Similar features are seen in other works, such as *Wheatfield with crows*, painted soon after the previous painting, shortly before the artist committed suicide. It has been suggested that Van Gogh was admitted to the sanatorium due to a diagnosis of “migraine personality,” among other reasons. What is certain is that he was admitted voluntarily, and that no available documentation supports the diagnosis of migraine (Figure 7).

Among the suggested diagnoses with a scientific basis, epilepsy, absinthe poisoning, bipolar disorder, schizophrenia, Ménière disease, lead poisoning, and



**Figure 5.** J.M. Turner. A) *The burning of the Houses of Lords and Commons* (1830). B) *Shade and darkness - the evening of the Deluge* (1843). C) *Snow storm - steam-boat off a harbour's mouth* (1842). D) *The piazzetta, Venice* (1835).



**Figure 6.** Claude Monet. *The Pont de l'Europe, gare Saint-Lazare* (1877).



**Figure 7.** Van Gogh. A) *The starry night* (1889). B) *Road with cypress and star* (1889). C) *Starry night over the Rhône* (1888). D) *Wheatfield with crows* (1890).



**Figure 8.** Georges-Pierre Seurat. A) Preparatory sketch of *Hospital and lighthouse in Honfleur* (1886). B) *The circus* (1891). C) *Eiffel Tower* (1889). D) *Seascape at Port-en-Bessin, Normandy* (1888). E) *At the divan japonais* (1887-1888). F) *At the Concert Parisien* (1887-1888).

porphyria have been proposed. From a neurological perspective, the most robust diagnosis is epilepsy attacks provoked or triggered by absinthe.<sup>43-46</sup>

In his vast correspondence,<sup>47</sup> particularly with his brother Theo,<sup>48-50</sup> he never mentions the words migraine or hemicrania, and there are only a few, completely vague, references to headache in five of the 820 preserved letters written by Van Gogh to his brother: “I had a headache and was feverish from nervous exhaustion” (letter 202, 22 January 1882); spent three days or so lying in bed with fever [...] headache and toothache” (letter 203, 26 January 1882); “I hope that all is as well with you as possible, and that your headache isn’t something that lasts or keeps coming back. I have it too sometimes, more as a sense of unpleasant dullness than severe pain” (letter 269, 25 September 1882); “A sort of dizziness sometimes, and headache too now and again, in short it’s a degree of weakening” (letter 370, 3 August 1883).

According to these criteria, the list of relevant painters would be endless. The work of practically all Impressionist painters shows traits reminiscent of elements of migraine aura.

The founder of Neoimpressionism, Georges-Pierre Seurat (1859-1891), who created the painting technique pointillism or divisionism, is another painter overdiagnosed with migraine; the same diagnosis is also applied, with the same justification and basis, to his “disciple” Paul Signac (1863-1935). The term “Seurat effect”<sup>51,52</sup> has even been proposed to describe the visual auras experienced by some patients with migraine who describe objects as being made up of coloured points on a white background (Figure 8).

In reality, pointillism, or chromoluminarism, as Seurat called it, is derived from the painter’s development of the theories of colour and light of the chemist Michel Eugene Chevreul (Figure 9).<sup>53</sup> As is the case for many of the artists reviewed here, biographical data on Seurat do not include information supporting a diagnosis of migraine.<sup>54</sup>

Another two currents or movements in art (and not exclusively painting) that have also been related to migraine are Surrealism and Cubism.

Before turning our attention to Surrealism, Giorgio de Chirico (1888-1978) is an essential reference. The founder of the Metaphysical Painting movement, De Chirico’s influence was acknowledged by the

main Surrealist artists (Dalí, Magritte, Ernst, etc). An essential figure in any discussion of neurology and art, De Chirico has been diagnosed with migraine,<sup>54-60</sup> as well as temporal lobe epilepsy.<sup>61-63</sup> His works reflect some semiological elements of migraine aura (scotoma, scintillating glimmers, etc), which appear in works he painted in old age, when aura does not typically appear. Detailed reading of his memoirs, published in 1945 (a Spanish translation was published by Síntesis in 2004<sup>64</sup>), reveals only two references to headache; epilepsy seems a more likely diagnosis than migraine, although the latter is more widely accepted (Figure 10).

The greatest representative of Surrealism (despite being expelled from the movement by its founder André Breton in 1936) was Salvador Dalí, who, of course, has also been labelled with migraine, which some consider to have been one of his muses. Some of his paintings explicitly refer to pain (for instance, various drawings and oil paintings of the series of exploding heads). However, another of his most famous works, *The persistence of memory* (1931), has also been related to migraine, and some authors have sought to document it as such using Dalí’s own words (Figure 11):

It was on an evening when I felt tired, and had a slight headache, which is extremely rare with me. We were to go to a moving picture with some friends, and at the last moment I decided not to go. Gala would go with them, and I would stay home and go to bed early. We had topped off our meal with a strong Camembert, and after everybody had gone I remained a long time at the table meditating on the philosophic problems of the “super-soft” which the cheese presented to my mind. I got up and went into my studio, where I lit the light in order to cast a final glance, as is my habit, at the picture I was in the midst of painting. This picture represented a landscape near Port Lligat, whose rocks were lighted by a transparent and melancholy twilight; in the foreground an olive tree with its branches cut, and without leaves. I knew that the atmosphere which I had succeeded in creating with this landscape was to serve as a setting for some idea, for some surprising image, but I did not in the least know what it was going to be. I was about to turn out the light, when instantaneously I “saw” the solution. I saw two soft watches, one of them hanging lamentably on the branches of the olive tree. In spite of the fact that my headache had increased to the point of becoming very painful, I avidly prepared my palette and set to work. When Gala returned from the theater two

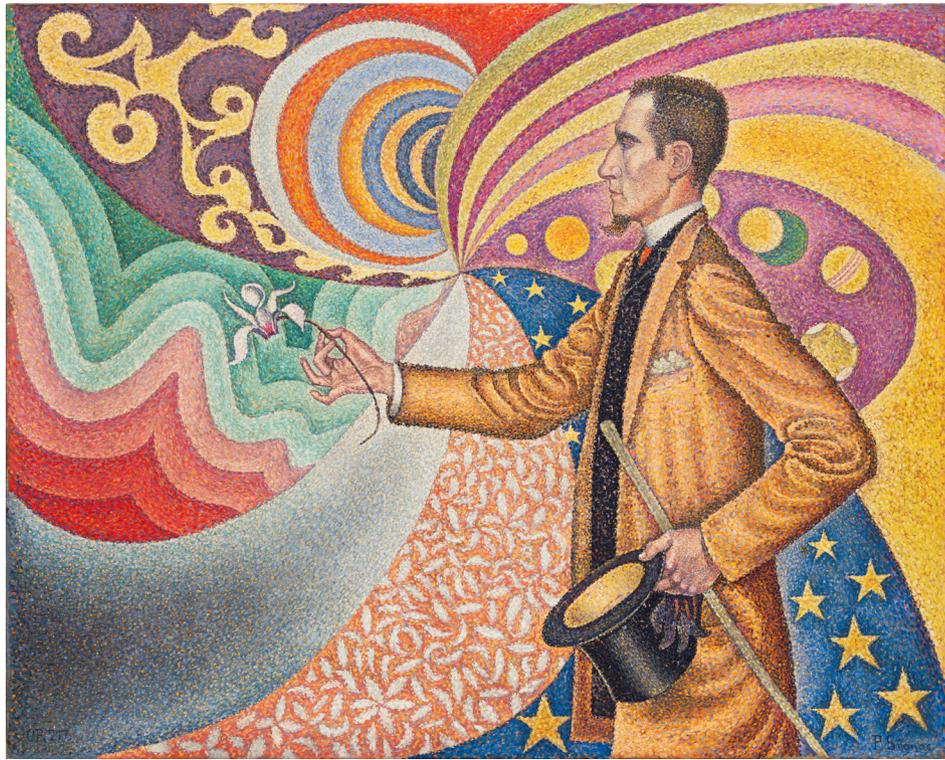


Figure 9. Paul Signac. *Portrait of M. Félix Fénélon* (1890).



Figure 10. Giorgio di Chirico. Works of Metaphysical Painting.



Figure 11. Salvador Dalí. Surrealist works. © Fundación Gala-Salvador Dalí.

hours later the picture, which was to become one of my most famous, was completed.<sup>65,p.317)</sup>

We may highlight two key points from this text, published when the artist was 38 years old: first, the fact that he does not speak of migraine, but rather of headache, although the term has been changed in some translations; and second, Dalí tells us that headache is “extremely rare with me.” Even if the text explicitly spoke of migraine, this would not have been significant, given the tendency to use the term to refer to headache in general, making migraine a synonym of headache (using the part to refer to the whole). The creator of the paranoiac-critical method cites the softness of cheese as inspiration. The remaining autobiographical or biographical texts on Dalí include no references suggesting he may have had migraine.<sup>66</sup>

Regarding Cubism, its fundamental protagonist (without overlooking Braque or Gris, among others) is Pablo Picasso (1881-1973). His “relationship with migraine” was discovered late. At the 2000 Headache World Congress, held in London, Ferrari and Haan<sup>67</sup> presented a communication, published the same year in *Cephalalgia*, entitled “Migraine aura, illusory vertical splitting, and Picasso”; the article focuses on the similarity between Picasso’s paintings and verbal and even graphical characterisations of aura by professional and amateur artists with migraine, and particularly faceted images and “illusory vertical splitting” (Figure 12 and 13). As with Dalí, no reference supporting the hypothesis that Picasso had migraine is observed in any of his biographies nor in his large body of correspondence.<sup>68-70</sup> After ten years of controversy in which much was written on the subject, the authors retracted the hypothesis,<sup>71</sup> concluding that “although the idea is still fascinating, there is no proof of Picasso suffering from migraine with aura.” Nonetheless, the term “Picasso syndrome” has recently been proposed to describe these alterations.<sup>72</sup>

The works of many other artists, especially from the latter two currents (Impressionism and its derivatives and Surrealism; and Cubism and its derivatives), display semiological elements of migraine aura, either in the use of light and colour (Impressionism) or in the portrayal of atmosphere/environment (Surrealism); examples include Franz Marc (1880-1916), Robert Delaunay (1885-1941), Raoul Dufy (1887-1953), Max Ernst (1891-1976), René Magritte (1898-1967), and Francis Bacon (1909-1992), among others.

Obviously, we do have documentation on current artists, of varying levels of acclaim, with confirmed diagnoses of migraine and in whose work the presence of elements related to migraine can be analysed. The Migraine Art Competition Collection,<sup>73-76</sup> a large body of work collected within the Migraine Action project, includes over 500 works, accessible online, from various competitions involving artists known to have migraine; the majority of works are from 1980 to 1987. The works, some of which are of questionable aesthetic value, range from explicit depictions of migraine attacks to works that support to some extent the above-mentioned arguments about Impressionism, Surrealism, and Cubism, particularly in the light of the fact that the majority of works in the collection are not in any way induced by the “creative aura” theory, as they were produced long before it was developed and disseminated.

Among the more modern painters, Georgia O’Keeffe (1887-1986) merits consideration given her relevance to the subject at hand, in the humble opinion of this author.<sup>77,78</sup> With a confirmed diagnosis of migraine, O’Keeffe herself acknowledged the role of her auras in some of her paintings, in which this influence would be recognisable even without these references. Such works as *Special No. 9* or *Red and black headache*, created in 1916, are clear examples (Figure 14).

In her book *Some memories of drawings*,<sup>79</sup> O’Keeffe says of her drawing *Special no. 9* that:

Drawing No. 9 is the drawing of a headache. It was a very bad headache at the time that I was busy drawing every night, sitting on the floor in front of the closet door. Well, I had the headache, why not do something with it?

Finally, we should mention the figure and the work of Sarah Raphael (1960-2001), who had a documented and recognised diagnosis of migraine; her works display elements derived from migraine aura as a central feature, which have been addressed by researchers.<sup>80,81</sup> Her series *Strip!* and *Time travel for beginners* are noteworthy examples (Figure 15).

## Conclusions

None of the names included in lists of painters diagnosed with migraine, with the exception of contemporary artists with known diagnoses (O’Keeffe, Raphael, the artists contributing to the Migraine Art Competition Collection, and others not cited in this study), meets



Figure 12. Pablo Picasso. Cubist works.



Figure 13. Pablo Picasso. Cubist works.



Figure 14. Georgia O'Keeffe. A) *Nude* (1916). B) *Red and black headache* (1916). C) *Special No. 9* (1915). C) *Special No. 15* (1916). © Georgia O'Keeffe Museum.

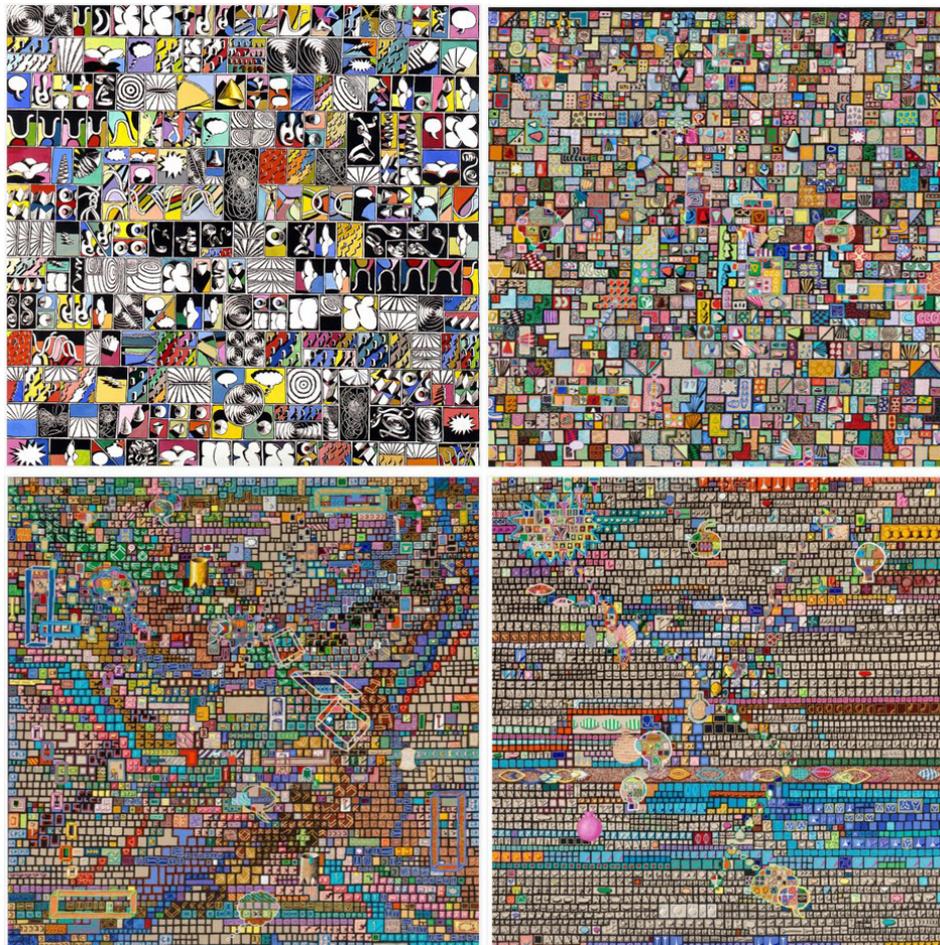


Figure 15. Sarah Raphael. *Strip!*, pages 1, 4, 6, and 7 (1998).

diagnostic criteria for migraine, fundamentally due to the lack of specific information.

The works of many painters display elements described in migraine aura,<sup>82</sup> which artists with migraine have depicted in their work. This is particularly true in modern art movements: Impressionism, Post- and Neoimpressionism, Surrealism, and Cubism.

In my own opinion, with a small number of exceptions (eg, O’Keeffe and Raphael), aura and its elements constitute more so the object and subject of artistic representation than a source of inspiration for the artist.

### Conflicts of interest

The author has no conflicts of interest to declare. This study received no public or private financial support.

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