The Polluted Textures of J.M.W. Turner's Late Works

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Abstract
This article considers the ways in which J.M.W. Turner's engagement with the material surfaces of his works testifies to the ever-changing experiences of early industrialisation and globalisation. Turner's obtrusive handling of paint was considered excessive by many of his contemporaries; his use of impasto was, especially in his late works, thought to thwart representation itself. The disruptive dimension of his technique has in turn become one of the main entry points for critical evaluations of his work and, for art historians, a crucial marker of his modernity. Shared by some art historical studies concentrating on this question is the idea that Turner's treatment of matter is regarded as avant-garde because it testifies to a consciousness of form. Contrary to this view, this paper aims to show that an alternative conceptualisation of texture as a semiotically unstable category might contribute to reprocessing Turner's attention to atmospheres. It will be my contention that through the expressivity of the painterly medium, Turner introduces a new relation to observed matter such as polluted air, both setting him apart from his contemporaries, and enabling him to illustrate subjects that were outside of traditional representations.

> The railways have furnished Turner with a new field for the exhibition of his eccentric style.[1]

In 2019, the contemporary artist and Royal Academician Emma Stibbon produced large monochrome drawings and cyanotype photographs of the same Alpine landscapes that Turner and Ruskin had represented in the first part of the nineteenth century. When juxtaposed to Ruskin's daguerreotypes and etchings made after Turner, Stibbon's pictures of the Montenvers esplanade, where the Mer de Glace bends towards Chamonix at the bottom of the Mont Blanc, show the retreat of the glacier and the ravage of climate change.[2] Now twelve kilometres long, the Mer de glace is three kilometres shorter than when Turner represented it in 1802. Such images reveal how paradigms of ecological thinking productively complicate our understanding of Turner's work. His pictures can be read as celebrations of natural environments, captured in paint as they were

[1] [Anon.], *Lloyd's Illustrated Newspaper*, 12 May 1844.
[2] See *Ruskin, Turner & the Storm Cloud*, ed. by Suzanne Fagence Cooper and Richard Jones (London: Paul Holberton Publishing, 2019).

beginning to be irrevocably altered by the effects of human activities at the dawn of the Industrial Revolution.

The first half of the nineteenth century generally corresponds to the common starting point of what is called the Anthropocene, our current geological age marked by the human impact on the biosphere and atmosphere. While the very term Anthropocene has been criticised, judged all-encompassing, and replaced by alternative concepts such as the Capitalocene,[3] or given revalued starting points,[4] it, however, describes a change of paradigm that was part of Turner's life. In fact, whether it constitutes the beginning or, perhaps rather, a further stage in the Anthropocene, the Victorian period marks the emergence of a carbonised economy where the burning of fossil fuels released bigger quantities of carbon dioxide in the atmosphere. This was especially the case in the British industrial cities where Turner lived and travelled. What is remarkable is that incidentally, it is also at that time, and in the same country, that landscape painting was given new importance as a genre.

In many of his works Turner represents vile air belching out of factories, forges, steam-ships, or trains. To represent the variety of nature and its substances the artist experimented with media facture and textures of paint. In this article I aim to look at how his engagement with matter, especially in his experimental handling, testifies to the ever-changing experiences of early industrialisation. I will try to demonstrate that through the expressivity of the painterly medium, Turner introduced a new relation to a form of matter that had not yet been represented, namely air pollution. By focusing on Turner's depiction of the effects of greenhouse-gas pollution on atmospheres, I therefore aim to complicate the reading of Turner's works, and especially of his late works, by going back to the historical circumstances in which they were shaped. His obtrusive handling was considered excessive by many of his contemporaries; his use of impasto, mark-making, and broad brushstrokes was sometimes thought to, especially in his works from 1835, thwart representation itself. From this point of view, it is often assumed that in the later part of his career, that is from his sixtieth birthday

[3] See Jason Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (London: Verso, 2015); or Andreas *Malm, Fossil Capital: The Rise of Steam-Power and the Roots of Global Warming* (London: Verso, 2015).

[4] Heather Davis and Zoë Todd, for example, root the beginning of the Anthropocene in modern times, that is in the early seventeenth century and the European Conquest which was accompanied by operations of deforestation and extraction. Heather Davis and Zoë Todd, 'On the Importance of a Date, or Decolonizing the Anthropocene', *ACME: An International Journal for Critical Geographies* 16.4 (2017), pp. 761–80.

to his last exhibited works, Turner withdrew from social life, creating works that were increasingly at odds with the culture in which they were produced.

The disruptive dimension of his technique and formal developments of his works have in turn become one of the main entry points for critical evaluations of his art and a crucial marker of his modernity. Shared by some art historical studies concentrating on this question is the idea that Turner's treatment of matter is regarded as avant-garde because it testifies to a consciousness of form. Lawrence Gowing's exhibition *Turner: Imagination and Reality* at MoMa in 1966 famously proposed a proto-abstract reading of Turner's late works.[5] While this analysis had an enduring impact on readings of Turner's works, most of the people who work on Turner today disagree with its teleology. John Barrell, in his *Dark Side of the Landscape* (1980) argued that landscape paintings such as Turner's emerged from social and economic power relations.[6] More recently, Sam Smiles, in his book *The Late Works of J.M.W. Turner* (2020) showed how, from 1835 until his death, Turner in fact consolidated many of his principles and mostly did not step back or retreat from the world and its concerns.[7] It could however be argued that the anachronic vision of the artist through modernist readings have had the result of, perhaps for a time, preventing scholars from associating contemporary ecological concerns with Turner's experiments.

Thus, this paper aims to show that an alternative conceptualisation of texture as a semiotically unstable sign, in Saussure's sense, might contribute to reprocessing Turner's attention to materials and atmospheres. Indeed, it will be the contention of this article that through experiments with the painterly medium Turner displayed original matter, both setting him apart from his contemporaries and enabling him to illustrate excesses outside of traditional representations. Air pollution then presented an aperture for Turner to not only represent the natural but frame human induced environmental effects as a part of an aesthetic vista.

[5] Lawrence Gowing, *Turner: Imagination and Reality* (New York, NY: Doubleday Garden City, 1966).
[6] John Barrell, *The Dark Side of the Landscape: The Rural Poor in English Painting 1730-1840* (Cambridge: Cambridge University Press, 1980). See also: *Late Turner: Painting Set Free*, ed. by David Blayney Brown, Amy Concannon, and Sam Smiles (London: Tate Publishing, 2014).
[7] Sam Smiles, *The Late Works of J. M. W. Turner: The Artist and his Critics* (New Haven, CT: Yale University Press, 2020).

Atmospheres

In 2014, scientists at the National Observatory of Athens published a study of old masters' paintings in which they looked for evidence of natural pollution resulting from volcanic eruptions around the globe.[8] Based on the law of atmospheric physics that describes the effects of aerosols on the different wavelengths of solar light, they studied the ratios of red and green in the sunsets of landscape paintings at the Tate Gallery. Their study demonstrated that post-eruption years, when the sky was supposedly dirtier, for example after the 1815 Tambora eruption in Indonesia, the 1831 Babuyan one in the Philippines, or Cosiguina in Nicaragua in 1835, landscape paintings had redder sunsets. The study analysed a great number of paintings by Turner, 108 paintings out of 124, making him a cornerstone artist of the study. Here art informs science as Turner's paintings tell us about the quality of air in his time. His works testify to, at the same time, pollution resulting from depositions in the stratosphere, that is volcanic pollution, and anthropogenic pollution, resulting from the troposphere and coming from anthropogenic and other biogenic sources. Such a study was echoed in the 2020 Tate exhibition *Turner's Modern World* in which the curators stressed how Turner's atmospheres, and the full-spectrum of his sunsets and cloudscapes, also registered the meteorological effects of greenhouse-gas pollution.[9]

The ecological imagination of what we call 'smog' often starts with Turner. The *porte-manteau* word was coined by Dr. Henry Antoine Des Voeux in 1905 and designates the typical visible air pollution that emerged in the nineteenth century, especially in cities such as London.[10] Also characterised as pea souper, this smoky type of fog pervades many of Turner's artworks. In a watercolour such as *A Paddle-steamer in a Storm* (fig. 1), the smoke belching out of the boat curls in the same way as the brooding clouds as both are shaped by the same wind. The mixture of particles makes for iridescent, kaleidoscopic, or chalky surfaces. Throughout his career the artist expressed a fascination for natural forces such as snow, fire, and water and for how their destructive power competed with man's own industrial atmospheres, charged in ash, smoke, and wasted fuel.

[8] C. S. Zerefos and others, 'Further evidence of important environmental information content in red-to-green ratios as depicted in paintings by great masters', *Atmos. Chem. Phys*., 14, (2014) <https://doi.org/10.5194/acp-14-2987-2014 > [accessed 5 January 2021].

[9] *Turner's Modern World*, ed. by David Blayney Brown, et al. (London: Tate Publishing, 2020).

[10] 'smog, n.', *OED Online*, Oxford University Press, <www.oed.com/view/Entry/182692> [accessed 24 March 2021].

In *The Sky of our Manufacture* (2016), Jesse Oak Taylor writes that 'smog does not simply emerge at the intersection of nature and culture', but that 'it emerges as that intersection'.[11] In the iconic *Rain, Steam and Speed* of 1844 a black mass representing a steam engine rushes towards the beholder through showers, flickers, and carbon-filled clouds. On the sides, a rowing boat and distant field are reminiscent of the old world. With his pictures of the Great Western Railway, Turner was the first artist to raise such a modern subject to the rank of academic painting. Starting in the 1820s, steamships also appeared regularly in his works. In these pictures, industrial vaporous atmospherics fuse with natural air currents. What comes up from these works are not just encounters between two worlds but, to paraphrase Taylor, worlds in themselves.

Several studies have concentrated on Turner's representation of black air as the result of natural forces or industrial processes. William Rodner, in his research on Turner's steamboats, demonstrated that steam was adequate for an artist who increasingly turned to the dissolution of form.[12] He also argued that it was because it created an opportunity to work with the colour black that steamers appealed to Turner (p. 60). In many instances scholars have categorised Turner's masses of dark air, that sometimes, especially in his sketches, appear thick white, as atmospheric and *therefore* as formless, or verging towards abstraction. In *Staffa, Fingal's Cave* of 1832 (fig. 2), the churned basaltic ocean floor grounds infuse the colour of the muddy sea, which in turn echoes the black fumes coming from the ship. The American patron James Lenox, upon having bought the painting, expressed his disappointment in front of the work's 'indistinctness'. For a long time, it was said that Turner had defiantly answered his criticism by replying 'indistinctness is my forte'. This comment on his art was later amended as it was proven that Turner had actually pronounced the phrase 'indistinctness is my fault'.[13] The interchange of 'forte' for 'fault', as a slip, says much about the interpretation of Turner's painterly style, and especially of how his conception of atmospheric representation was perceived. The original sentence testifies to the fact that Turner desired to represent his landscape as precisely as possible. By

[11] Jesse Oak Taylor, *The Sky of our Manufacture*: *The London Fog in British Fiction from Dickens to Woolf* (Charlottesville, VA: University of Virginia Press, 2016), p. 3. Further references are given after quotations in the text.
[12] William S. Rodner, *J.M.W. Turner: Romantic Painter of the Industrial Revolution* (Berkeley, CA: University of California Press, 1997). Further references are given after quotations in the text.
[13] See Adele M. Holcomb, '"Indistinctness Is My Fault": A Letter about Turner from C. R. Leslie to James Lenox Author(s): Adele M. Holcomb and C. R. Leslie', *The Burlington Magazine*, 114.833 (1972).

offering direct observations of nature, he was introducing a new serious and tangible relation to observed matter.

Thus, one could wonder how to tackle the question of atmospheres without univocally essentialising Turner's experimentations with the medium. To do so we can go back to one of his earlier oils on canvas, *London from Greenwich Park* (fig. 3), exhibited in 1809, in which the smoky city centre contrasts with the green and lush foreground in which undisturbed deer graze peacefully. In this view, the resulting atmospheric pollution is exaggerated so that from the beholder's perspective it almost looks like smoke emanating from a burning fire. The fumes also chime with the above clouds and the beam of light descending on the city seems to carry this charged atmosphere. To accompany the watercolour, Turner wrote:

> Where burthen'd Thames reflect the crowded sail
> Commercial care and busy toil prevail
> Whoese murky veil, aspiring to the skies
> Obscures thy beauty, and thy form denies
> Save where thy spires pierce the doubtful air
> As gleams of hope amidst a world of care.[14]

While it is often difficult to situate Turner's positions and sympathies regarding contemporary concerns, this poem testifies to an awareness of the 'obscuring' effects of industrial fumes and especially of how they modified the very texture of the sky. The atmosphere that is created conveys a shared experience as there is a direct form of mediation between the depicted object and its representation through the organic substances of the pigments.

Turner travelled at length in Great Britain and Europe and always carried a sketchbook along his peregrinations. While most of his works were done or finished indoors, his impressions and annotations of meteorological matter were gathered outside, very much like Constable who wrote down meteorological notes at the back of his oil sketches.[15] Ruskin too collected weather observations, as discussed in his lecture 'The Storm-Cloud of the Nineteenth Century' (1884), where the polluted atmospheres of the industrial era are mentioned more

[14] *The Paintings of J.M.W. Turner*, ed. By Martin Butlin and Evelyn Joll (New Haven, CT: Yale University Press, 1984), p. 69.
[15] On the role of Constable's works in the history of climate, see Nicholas Robbins, 'John Constable, Luke Howard, and the Aesthetics of Climate,' *The Art Bulletin*, 103.2 (2021), 50-76.

specifically. Joyce Townsend reminds us about Turner that '[...] some early works on paper show rain spatters that attest to his ability to get the most from an interesting view, whatever the weather'.[16] Turner not only *depicts* the environment in the paintings but *materialises* environments in their substances. Atmospheres are not only represented but conveyed in and through his works. In his literary analysis, Taylor explains that the atmosphere is 'bound up both in the texture of language and in the material presence of books themselves; it is also a material property, inhering in the air shared by the world, the text, and the critic' (p. 7). This analysis appears productive in the context of pictorial representations, for Turner's works carry immersive experiences that materialise these poisonous atmospheres. Literary analysis, in its thrust to think form and content as inseparable, appears particularly apt here. Quoting Eva Horn's argument that we can think of the air (and of atmosphere) as a medium, Mark A. Cheetham asks how 'atmospheres' can at the same time be tangible and metaphorical, 'both figurative and material, abstract and down-to-earth'.[17] This is also what Bruce Bégout calls 'ambience', that is the interlacing of the subject and the object in what constitutes an experience.[18] In the phenomenological entanglement that they generate, one way of thinking about Turner's atmospheres is to consider what they leave behind, in the form of traces.

What is Left

Writing in December 1872 to George Richmond's daughter Julia, Samuel Palmer remembered his fourteen-year-old self's enthralled and lasting reaction to a painting by Turner: 'The first exhibition I saw, in 1819 is fixed in my memory by the first Turner *The Orange Merchant on the bar* [fig. 4] – and being by nature a lover of smudginess, I have revelled in him from that day to this'.[19] Coming from Palmer, an artist close to William Blake and sharing with him a taste for neat lines and definite forms, the choice of the word 'smudginess' is unexpected. Perhaps ironic, the term recalls Turner's contemporaries' regular comments on his obtrusive and blatant factures.

[16] Joyce Townsend, *How Turner Painted: Materials and Techniques* (London: Thames and Hudson, 2019), p. 17.
[17] Eva Horn, 'Air as Medium,' *Grey Room* 73 (Fall 2018), 6-25, p. 9, quoted by Mark A. Cheetham, '"Atmospheres" of Art and Art History', *Venti Journal* (2020), 51-61, p. 52.
[18] Bruce Bégout, *Le Concept d'ambiance* (Paris: Seuil, 2020).
[19] Quoted in *The Paintings of J. M. W. Turner*, ed. by Butlin and Joll, p. 106.

In an article published in 1990 and entitled '"Splashers", "Scrawlers" and "Plasterers": British Landscape and the Language of Criticism, 1800-40', Smiles looked at how broadly-handled landscapes were attacked by critics, artists, and connoisseurs in the early nineteenth century. In his analysis of the language in which these criticisms were couched, Smiles shows how loose and vigorous brushstrokes were considered 'all too close to the stuff of nature itself'. In his words: 'Pictures that offered the spectacle of disordered nature, or at any rate the refusal to order nature, may have prompted disapproval precisely because their 'provincial' style may have been felt to question the stability of an ordered world'.[20] Different types of extended metaphors appear in criticisms of the time. Comments on Turner's paintings often took the form of grotesque speculations, in which observers wondered what substances he was combining: 'eggs', 'mustard', 'curry', or 'spinach' were some of the terms used to describe his paintings.[21] If the nomenclature underlines the deprecatory dimension of these comments, what these food metaphors also reveal is the axiology of texture. The ideological entailments hinted at reveal the tensions around the material treatment of surface taking place at the time, recalling that this was a matter of good and bad *taste*. Smiles looks at the vocabulary of construction materials: 'mortar', 'plaster', 'whitewash', or 'chopped hay' to show that many contemporaries of Turner were not at ease with the menial quality of such surfaces. We can mention one of the most famous uses of such a reference when Ruskin recorded Turner's hurt reaction to the criticism that his painting was nothing but a mass of 'soapsuds and whitewash': '[...] I heard him muttering to himself at intervals, "soapsuds and whitewash!" What would they have? I wonder what they think the sea's like? I wish they'd been in it'.[22] The term 'whitewash' is interesting here because it also has to do with visible traces of cleaning, with conspicuous concealment. In the same vein, in Palmer's comment, the word 'smudginess' encapsulates the idea of

[20] Sam Smiles, '"Splashers", "Scrawlers" and "Plasterers": British Landscape and the Language of Criticism, 1800-1840', *Turner Studies*, 10.1 (1990), 5-11 (p. 11).
[21] Typical of this type of gibes, we can quote the *Athenaeum's* review of *Snow, Storm – Steam-Boat off a Harbour's Mouth* of 1842: 'This gentleman has, on former occasions, chosen to paint with cream, or chocolate, yolk of egg, or currant jelly—here he uses his whole array of kitchen stuff'. Unnamed author, *Athenaeum*, 14 May 1842. Or again, in *John Bull*: 'MR TURNER, indeed, goes further, for he curries the rivers, and the bridges, and the boats upon the rivers, and the ladies and gentlemen in the boats'. Unnamed author, *John Bull* VII, 27 May 1827, p. 165.
[22] John Ruskin, 'Notes on the Turner Gallery at Marlborough House, 1856', in *Turner and the Harbours of England, vol. XIII*, published in *The Complete Works of John Ruskin*, ed. by E. T. Cook and Alexander Wedderburn (London: George Allen, 1904), p. 161.

trace. *The Oxford English Dictionary* gives a definition of 'smudge' for this period as 'the scum of paint'. 'Scum', then has to do with surface: 'It is more generally, any undesirable surface layer or deposit [...]'.[23] The word is also associated with dirt and residue. What is remarkable is that this painting also has to do with residues in its subject: oranges lost at sea, and fishermen rummaging for them. To declare oneself as a 'lover of smudginess' is a strong statement as it underlines a taste for this type of buttery texture that is so symptomatic of Turner's use of oil, but it also emphasises the idea of something left. Throughout his career Turner continually represents what the sea sweeps along. The French art historian Pierre Wat talks about the fact that there is frequently a sense of irreversible loss in his paintings, which incidentally often bear the preposition 'after' in their titles.[24]

In his book *Cooking with Mud: The Idea of Mess in Nineteenth-Century Art and Fiction* (2000), David Trotter dedicates a chapter to *Turner's Litter* in what he identifies as the 'middle ground between mess and waste'.[25] In many of Turner's works we are faced with natural debris such as rotten vegetables, sprawled fish, flotsam and jetsam, and remnants of human presence. While these elements generally appear in genre paintings, Trotter demonstrates that the difference in Turner's paintings is that 'rummages' are not just sporadic apparitions but that they are constitutive of his aesthetics. While Trotter's study powerfully demonstrates the link between Turner's 'dusty textures' and his 'Covent Garden cabbage-stalks', he does not mention the more elusive and ethereal form of dirt that is atmospheric pollution, in itself another type of waste, for pollution has to do with residues of households and production industries. I therefore want to push forward what is hinted at in Trodder's study and argue that in Turner's works these traces are at the same time material evidence of their making but also of what they stand for. The very qualities of air pollution make it less tangible than other forms of detritus. In his works they occupy this in-between semiotic space, between signified and signifier. When commenting upon *Rain Steam and Speed*, a critic of Turner's time mentioned the two different responses that this work triggered: '[...] It is Turner all over, which to one reader means 'wild rubbish, looking as if he had flung his brush at the canvass [sic] instead of painting it;' and to another, 'imaginative composition of the highest

[23] 'smudge, n.1,' *OED Online*, <http://www.oed.com> [accessed 16 December 2013].
[24] Pierre Wat, *Pérégrinations: paysages entre nature et histoire* (Paris: Hazan, 2017), p. 203.
[25] David Trotter, *Cooking with Mud: The Idea of Mess in Nineteenth-Century Art and Fiction* (Oxford: Oxford University Press), p. 35.

order, and so true that uneducated eyes cannot comprehend its beauties'.[26] The materiality of the medium, made visible, is here couched in terms that compare it to waste. By exploring the medium and its different potentialities, Turner's textures appear as both technique and iconography; they are at the same time the object and subject of an embodied relation with the viewer. In this light, his late works shine through for their subjects. Their form and composition can then be perceived as engaging with the transformations of Victorian England.

Here we can put Jacques Derrida's key concept of 'supplement' to use. As the combination of two gestures, one of accumulation and one of substitution, the 'supplement' describes neither a representer nor a presence, a writing nor a speech, and stands for what comes in addition to something 'original' or 'natural'.[27] In Turner's paintings the 'supplement' is materialised in the froth of the waves, the smoky atmospheres, the dust-filled air: here one cannot differentiate between signified and signifier because what we see and experience is both. The uncouth or coarse factures not only replicate but also interact with the polluted atmospheres of the environment in an intricate way. This reminds us of John Constable, who, as the conservator Sarah Cove has shown, would brighten the white spots of his paintings (what the critics called 'Constable snow') to prevent them from darkening due to the 'sulpherretted' atmospheres of London.[28] In Turner's works the spots and streaks act as a 'supplement' which exceeds the economy of the artwork. They are present as an excess, which is offered, to take up the philosopher's phrase, 'into the bargain' (*par dessus le marché*).[29]

Beautiful Excesses

In the absence of tall mountains or erupting volcanoes in Great Britain, Turner would find sublime beauty in what Simon Schama described as the 'industrial sublime', smog and sprays and soot-spewing machines.[30] In most of his paintings with steam-powered engines, Turner represents the beauty of air pollution. His

[26] Unknown, *The Royal Academy, Age and Argus*, 11 May 1844, p. 11.

[27] Jacques Derrida, *De la grammatologie* (Paris: Éditions de Minuit, 1967).

[28] Sarah Cove, 'The Painting Techniques of Constable's "Six-Footers"', in *Constable: The Great Landscapes*, ed. by Anne Lyles (London: Tate Publishing, 2006), p. 65.

[29] Jacques Derrida, '+ R (par-dessus le marché)', in *La vérité en peinture* (Paris: Flammarion, 1978), p. 202.

[30] Simon Schama quoted in Clare Beavan dir., *The Genius of Turner: Painting the Industrial Revolution (TV Movie 2013) - IMDb*, <http://www.imdb.com/title/tt2748048/>, [accessed 24 mars 2021].

works are at the same time a glorification of what was perceived at the time as the march of progress and a representation of the dirt and residues resulting from it, shown in art for the first time in his works. John Gage has interpreted Turner's representations of trains as testifying to his 'sympathy' for the Industrial Revolution.[31] Later, Rodner countered this view by writing that Turner was rather 'cautionary' towards the latest technological developments of steam engines.[32] In the same vein, one could also quote scholars such as Judy Egerton, with *Turner: The Fighting Temeraire* (1995), or James Hamilton, with *Turner and the Scientists* (1998).[33]

Whether or not Turner saw the ravages of human influence on the world is a difficult question, but looking at the history of this consciousness can prove fruitful. Concerns with air quality had been long standing in Turner's time. In 1829, a parliamentary commission was appointed in London to reflect on urban smoke pollution. This may have inspired Turner's *The Thames above Waterloo Bridge*, c.1830–5 (fig. 5). In this work, billowing smoke contaminates the water by a mirror effect as it is reflected on the surface of the Thames. Turner's late works coincide with a moment when the consciousness of the injustices of air pollution was being voiced. Yet cultural histories of air pollution remind us that before the 1840s carbon filled air was generally perceived as beneficial. As Peter Brimblecombe has shown there was a prevalent ambivalence towards atmospheric pollution, which was perceived as a sign of affluence and warmth until the end of the nineteenth century.[34] Apprehensiveness towards tainted atmospheres mostly stemmed from the fact that they were seen as carrying the streets' foul smells, the emanations of cramped households, refuse, or drains to cite a few Dickensian examples. On that topic Stephen Mosley writes that '[t]o rid towns and cities of malodorous filth and ordure before it could breed disease and to secure adequate supplies of clean water for drinking and flushing sanitation systems were the sanitary reformers' main priorities, not the abatement of the "smoke nuisance".'[35] Sulphur dioxide was praised for its deodorising properties,

[31] John Gage, *Rain, Steam and Speed* (New York, NY: Viking Press, 1972), p. 35.
[32] Rodner, 'Humanity and Nature in the Steamboat Paintings of J.M.W. Turner', *Albion: A Quarterly Journal Concerned with British Studies*, 18.3 (Autumn 1986), 455-74 (p. 474).
[33] Judy Egerton, *Turner: The Fighting Temeraire* (London: National Gallery Publications, 1995); James Hamilton, *Turner and Scientists* (London: Tate Gallery, 1998).
[34] Peter Brimblecombe, *A History of Air Pollution in London since the Medieval Times* ([1987] London: Routledge, 2011), p. 92. Further references are given after quotations in the text.
[35] Stephen Mosley, *The Chimney of the World: A History of Smoke Pollution in Victorian and Edwardian Manchester* (London: Routledge, 2013), p. 79. Further references are given after quotations in the text.

seen as cleaning the air and killing its germs, '[t]hus, sulphurous and sulphuric acids, although considered harmful to people's health when present in the urban atmosphere in high concentrations, could also be depicted as powerful agents of purification' (p. 79). There was a clear ambivalence as to the risk-benefits of urban smoke when the first anti-smoke groups appeared in the 1840s. While moves for smoke abatement legislation were made, they were marginal and resulted from the pressure of these small groups (Brimblecombe, p. 100). Efforts were then made to measure pollutants in the air of British cities, so Turner might have been aware of some of these concerns. In 1842 the Committee for the Consumption of Smoke at Leeds and the Manchester Association for the Prevention of Smoke were created. But it was only later, in 1872, that scientist Robert Angus Smith identified coal combustion as the principal cause of the great acidity of Manchester's rainfall, a discovery that echoed throughout Great Britain.[36] Thus, air pollution represented an aesthetic opportunity for artists like Turner. There are multiple examples of his contemporaries commenting on the beauty of London's polluted air: Charles Lamb referred to London's 'beloved smoke' and Dickens called it 'London's ivy' (p. 85).

While Turner's politics often appear enigmatic, his most political work can be analysed through the eco-critical lens. Debates about Turner's aestheticisation of the abject have been strongest around his most famous *Slave Ship,* subtitled *Slavers Throwing Overboard the Dead and Dying – Typhoon coming on*. It was displayed at the Royal Academy in 1840, seven years after the parliamentary abolition of slavery in the majority of the British Colonies, but the same year as the World Anti-Slavery Convention held in June, in London. It was also a time when in the United States abolitionists were fighting a similar battle, eventually leading to the Civil War. In this painting Turner tells the story of the captain of the Zong, who, during a journey from Africa to Jamaica in 1781, had ordered 133 slaves to be thrown overboard so that insurance payments could be claimed. A capsizing sail ship in the background gives way to a morbid, visceral foreground: engulfed in the rough sea are chains, cut off limbs, and amorphous globular-eyed fish seemingly nibbling at body parts. The unfolding scene creates a strong sense of destabilisation: not only do we fail at first sight to distinguish what is taking place in those intricate shapes battling in the waves, but also the horizon line merges with the sea. Here, elemental violence is compared to human violence. There is no fixation on nature as an overwhelming force that modernity tames.

[36] See Stephen Mosley, '"A Network of Trust": Measuring and Monitoring Air Pollution in British Cities, 1912-1960', *Environment and History*, 15.3 (August 2009), 273-302.

Nature, in its blood-tainted substance, bears the guilt of society's slave trade. The painting is about the rationalising politics of industrialisation, the regime of calculation, quantification of life, and insurance schemes that have pushed the owner to throw slaves over the edge. Turner is doing something specific here: what this painting says is not that nature's violence justifies modernity, but that instead, violence is the result of an industrialisation process. While this painting does not show any air-pollution, its apocalyptic sun and vast array of hues, ranging from golden yellow to blue and rich red, figure the same type of aestheticisation of the abject that we find in Turner's representations of atmospheric pollution. In 2019, incidentally, this painting was chosen as the cover of a book that proposes a counter-narrative to dominant ecological thinking by Malcolm Ferdinand, a French researcher working on political ecology in the Caribbean.[37] Indeed, the painting may actually be read as a political critique where Turner shows the violence of industrialisation, yet he does that by painting a beautiful artwork. The bodies of the people who are thrown over are made invisible by the owners, but Turner decides to show what is left of them and this horror.

In a short essay entitled *The Invisible and Inalienable Wind*, and part of a conversation piece on arts and environmental justice, Julia Lum and Gabrielle Moser write that by looking at how wind was quantified, measured, and represented in the nineteenth century, we become aware of the origins of climate change and their colonial entanglement. Lum and Moser refer to Francis Beaufort who, in 1806, created a thirteen-level scale to visualise the effects of wind, which would have an effect on the speed of maritime colonisation, and therefore on global capitalism.[38] In Turner's time, coal was associated with wealth and trading interests. The development of steam engines was also what enabled him to extensively travel in Britain and on the continent.

Turner carefully selected what he would depict, yet his choice of representing the different substances of nature was unorthodox. In eighteenth-century aesthetics, and more specifically in Joshua Reynolds' third discourse, the concrete and material in painting was to be subjected to a more general idea, a

[37] Malcolm Ferdinand, *Une écologie décoloniale, Penser l'écologie depuis le monde caribéen* (Paris: Le Seuil, 2019).

[38] See Julia Lum and Gabriel Moser, 'The Invisible and Inalienable Wind' in Sria Chatterjee dir., 'The Arts, Environmental Justice, and the Ecological Crisis', *British Art Studies*, 18 (2020) <https://doi.org/10.17658/issn.2058-5462/issue-18/conversation/016> [accessed 5 January 2021].

higher subject. Turner still agreed with this dictum. David Solkin writes that Turner

> (…) followed Reynolds and other academic theorists in believing that the dignity of a fully realized art required a judicious selection from nature's raw materials, and their distillation into a painterly language whose breadth spoke for its author's capacity to abstract more general truths from the superficial appearances of nature'.[39]

In the latter part of his career, contemporary criticism of Turner's works constantly referred to his excesses of matter, his overuse of pigments and the material accretion of substances in his works. Huysmans would say about Turner's works that they were 'celestial and fluvial celebrations' (*fêtes célestes et fluviales*).[40] His works empathise texturally with their subjects. They amount to quests for a better understanding of the primary substances of existence. While Turner carefully selected what he depicted, he was nonetheless faced with bafflement. Thus, one could argue that not only was Turner observing the changes happening in his time, but that he was showcasing the stuff that, in its march for progress, the industrial revolution was creating and pushing outside of the realm of the visible.

In his book *L'Exforme*, published in 2017 and translated in English in 2020, the French art historian Nicolas Bourriaud contends that both art and politics were indelibly shaped by the centrifugal force of the Industrial Revolution: social exclusion, on the one hand, and the rejection of certain objects, signs or images, on the other.[41] According to Bourriaud this logic of exclusion which follows the movement of thermodynamics became then the dominant one as social energy produced waste. Here I want to address the flipside of this dynamic, the ways in which materiality, and its politics, came to the fore and informed Turner's works. As in *Slavers*, art that attempted to disrupt more traditional modes of representation from then on generally adopted the reverse movement, that is a centripedal motion bringing to the forefront everything that was excluded.

In a work such as *Snow Storm Steam Boat off a Harbour's Mouth* (fig. 6), Turner's vortex brings pure matter to the centre. By changing the rules of

[39] David Solkin, *Art in Britain 1660-1815* (New Haven, CT: Yale University Press, 2015), p. 269.
[40] Joris-Karl Huysmans, *Écrits sur l'art*, ed. by J. Picon (Paris: Flammarion, 2008), p. 367.
[41] Nicolas Bourriaud, *L'Exforme* (Paris: Presses Universitaires de France, 2017).

conventional representation, the artist favours an awareness of surface – a sculptural depth rather than a planar one. In this work the representation of three-dimensional space no longer takes place on a two-dimensional surface but on a three-dimensional medium representing the landscape. Not only is there no line of horizon for the viewer to read the picture, but also Turner's sculptural technique of scraping off and paring down, of spots and streaks of impasto, emphasises disruption and favours a swirling of the medium. The chaos of the scene depicted is echoed by the turmoil of matter that draws the viewer into the picture in a hypnotic way. Foam and spume mix with the steam and fumes of the ship. By doing so, Turner figures humans and nature as co-terminous to precisely the extent that the figure as such is absent from the scene. The thickness of the paint leaves only one possibility for the viewer to engage with the work: he has to indulge in its depths. According to Sarah Monks, Turner suggests here what it might be to be beneath: beneath the horizon, water, and paint.[42] In this sense, the work goes back to the very etymology of the sublime, i.e. '*sub limen*, up to a high threshold'.

Immateriality

About the painting *Regulus* (fig. 7), a commentator once wrote: 'Standing sideway of the canvas, I saw that the sun was a lump of white standing out like the boss on a shield'.[43] In this work Turner added white impasto in 1837 on Varnishing Day. Here, light that is at the same time visible and blinding, is made three-dimensional. Turner's modern attention to matter has to do with his constant endeavour to represent not only the material, but also the immaterial, i.e. the insubstantial, what is composed of unbounded, intangible matter. It is what Jennifer Roberts calls 'tenuous subjects', that is 'flows and stuffs and unbounded matter of all kinds'.[44] In such works the very quality of the subject as subject could therefore appear questionable.

Academics have focused on Turner's dialectics of light and darkness, his aesthetics of the visible and un-visible (John Gage, Jonathan Crary, or more

[42] Sarah Monks, '"Suffer a Sea-Change": Turner, Painting, Drowning', *Tate Research Papers*, 14 (Autumn 2010), p. 10.
[43] See Lionel Cust, 'The Portraits of J.M.W. Turner, R.A.', *Magazine of Art*, 18 (1895), 245-51 (p. 248).
[44] Jennifer Roberts, 'Things: Material Turn, Transnational Turn', *American Art*, 31.2 (2017), 64-9 (p. 67).

recently Matthew Beaumont in *British Papers*),[45] but there are fewer studies on his representation of the material and immaterial. Eco-critical thinking invites us to conceptualise and make present what has for a long time been a source of embarrassment for Turner's critics. In his works Turner makes tangible not only the infra visible, but also the immaterial, the retreating light scattered by reflective particles in the atmosphere. While Reynolds and Gainsborough painted a form of mediated materiality, the materiality of objects, such as fabric and leaves, the generation that followed, and which included Turner (but also Constable), decided to depict the materiality of elements, that is, the materiality of less obviously tangible matter such water, light, or polluted air.

In his February 4, 1884 lecture at the London Institution, John Ruskin put words on the uncanny meteorological phenomenon he called 'the storm-cloud', or 'plague cloud'.[46] In his attempt to name something that had not yet been conceptualized – 'There is no description of it, so far as I have read, or by any ancient observer' – Ruskin manifested his anxiety with the atmospheric pollution produced by the age of industry that was becoming more and more of a concern. By doing so not only was Ruskin making his audience aware of the negative impact of the industrial revolution, but he was also coining a term which enabled him to point to a broad, European phenomenon and put words on something intangible. The moving, vaporous, and shifting essence of the 'storm-cloud' aptly echoes contemporary paradigms of ecological thinking such as Timothy Morton's concept of 'hyperobject', which describes out-scaling entities in time and space that defeat classical categories of thought.[47] How we handle the representation of air today, and the struggles to represent and materialize this 'global common',[48] generates critical reflections that invite us to look back at art's capacity to inform us on the air we breathe, as Turner's art did.

Conclusion

[45] John Gage, *Turner: Rain, Steam and Speed* (London: Penguin Press, 1974); Mark Francis and Jonathan Crary ed., *J.M.W. Turner: The Sun Is God* (Liverpool, UK: Tate Liverpool, 2000); Matthew Beaumont, 'Reason Dazzled: The All-Seeing and the Unseeing in Turner's *Regulus*', *British Art Studies*, 15 (2020), < https://doi.org/10.17658/issn.2058-5462/issue-15/mbeaumont>, [accessed 5 February 2021].

[46] John Ruskin, 'The Storm-cloud of the Nineteenth Century', in *The Complete Works of John Ruskin*, vol. XXIV.

[47] Timothy Morton, *Philosophy and Ecology after the End of the World* (Minneapolis, MN: University of Minnesota Press, 2013).

[48] To use Garrett Hardin's metaphor of 1968. Garrett Hardin, 'The Tragedy of the Commons', *Science,* 13, (December 1968), 1243-48.

In September 2020, a front page from the *New York Times* representing the San Francisco fires' cataclysmic climate infuriated people on social media. The minimalist photo, a gradation of red, orange and black illustrating what this asphyxial air full of carbon looked and felt like, prompted reposts about the aestheticisation of this tragedy it promoted. The picture was in fact a painting by the artist Sho Shibuya who in his work reimagines *New York Times* covers using colour gradients. The work however echoes actual editorial choices, such as the French newspaper *Libération*'s front page for the 1st of July 2021, which, after the suffocating temperatures in Canada, showed a blazing white sun over a yellow to red background. What then differentiates such images from Turner's sublime representations of smog? Is this cover a form of contemporary sublime? Incidentally one of the comments that reappeared a couple of times was: "Not a Rothko", but how can we draw a lineage with Turner? There is Rothko's famous quip 'This guy, Turner, he learnt a lot from me'. In *A Paddle-steamer in a Storm* (fig. 1), the washes of blue, grey, and yellow recall the colourfield look of a Rothko, but while Rothko's works are abstract, Turner's come as close as possible to the reality of the elements they represent. Perhaps the *New York Times* photogenic picture of a combustion, which shows no horizon, no limit, in its beauty, has us, like a Turner, question our relation to atmospheric pollution. In an interview, Young Suh, a contemporary photographer and Professor at the University of California, Davis, talks about smoke as almost imitating painting and atmospheric perspective.[49] In its beauty it interpellates us at the same time it indicts.

In this article I have tried to look at how Turner's paintings were attempts to depict nature's residues, then being pushed aside from society by the centrifugal force of industrialisation. Present-day paradigms of ecological thinking can invite us to re-examine excessive facture not only metaphorically, that is, in light of modernist discourses which hypostatised materiality – but concretely and post-anthropocentrically. Perhaps ironically, it is only by doing so on the painters' own terms and resisting the anachronistic attribution of contemporary concerns with materiality to historical actors that we can excavate the genuine politics that shaped the art objects under study.

[49] 'Tornadoes of Fire in Northern California', *Umbigo Magazine* 75, (December 2020), 70-9.

Figures

Fig 1: Joseph Mallord William Turner, *A Paddle-steamer in a Storm*, ca. 1841, Watercolor, graphite and scratching out on medium, slightly textured, cream wove paper, Yale Center for British Art, New Haven.

Fig. 2: Joseph Mallord William Turner, *Staffa, Fingal's Cave*, ca. 1831–32, oil on canvas, Yale Center for British Art, New Haven.

< https://collections.britishart.yale.edu/catalog/tms:5018 >

Fig. 3: Joseph Mallord William Turner, *London from Greenwich Park*, oil paint on canvas, support: 902 × 1200 mm, frame: 1285 × 1584 × 155 mm, © Tate Britain, London, Photo © Tate, CC-BY-NC-ND 3.0

< https://www.tate.org.uk/art/artworks/turner-london-from-greenwich-park-n00483 >

Fig. 4: Joseph Mallord William Turner, *Entrance of the Meuse: Orange-Merchant on the Bar, Going to Pieces; Brill Church bearing S. E. by S., Masensluys E. by S.*, exhibited 1819, oil paint on canvas, support: 1753 × 2464 mm, frame: 2110 × 2820 × 140 mm, © Tate Britain, London, Photo © Tate, CC-BY-NC-ND 3.0

< https://www.tate.org.uk/art/artworks/turner-entrance-of-the-meuse-orange-merchant-on-the-bar-going-to-pieces-brill-church-n00501>

Fig. 5: Joseph Mallord William Turner, *The Thames above Waterloo Bridge*, c.1830 –5, oil paint on canvas, support: 905 × 1210 mm, frame: 1138 × 1457 × 82 mm, © Tate Britain, London, Photo © Tate, CC-BY-NC-ND 3.0

<https://www.tate.org.uk/art/artworks/turner-the-thames-above-waterloo-bridge-n01992>

Fig. 6: Joseph Mallord William Turner, *Snow Storm – Steam-Boat off a Harbour's Mouth*, exhibited 1842, oil paint on canvas, support: 914 × 1219 mm, frame: 1233 × 1535 × 145 mm, © Tate Britain, London, Photo © Tate, CC-BY-NC-ND 3.0

<https://www.tate.org.uk/art/artworks/turner-snow-storm-steam-boat-off-a-harbours-mouth-n00530>

Fig. 7: Joseph Mallord William Turner, *Regulus*, 1828 reworked 1837, oil paint on canvas, support: 895 × 1238 mm, frame: 1135 × 1460 × 93 mm, © Tate Britain, London, Photo © Tate, CC-BY-NC-ND 3.0

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