

*Wastelands
and Wilderness:*

*David Milne's
Mining
Landscapes*

/Siobhan Angus/

Siobhan Angus is Assistant Professor of Communication
and Media Studies at Carleton University.
–siobhan.angus@carleton.ca

Cet essai se penche sur les paysages miniers de David Milne à Temagami, situant son œuvre dans le contexte du système de réserves forestières de l'Ontario et explorant la manière dont ses « minescapes » révèlent les intersections complexes entre la nature et l'extraction industrielle qui se manifestent dans les parcs naturels. En analysant les stratégies formelles de l'artiste, l'essai explore la manière dont son travail détourne le regard du spectateur d'un idéal de nature sauvage vers un microcosme de boue, d'eau et de roches minéralisées. Son langage visuel sobre ouvre la voie à une compréhension nuancée des paysages marqués par l'intervention humaine, favorisant potentiellement une forme de vision écologique qui reconnaît les dégâts tout en résistant aux récits réducteurs de la ruine.

In his painting *Prospect Hole* (1929), David Milne places the viewer above a surface pool, looking down as smooth rock forms rise around the water's edge, punctuated by slashes of emerald, arsenic, orange, and red violet / fig. 1 /. The cadence of the lines shaping the undulating rhythm of the rock evokes the rolling waves of water. This dynamic movement guides the eye into the prospect shaft, where midnight black enfolds pearlescent white. Milne used white to create what he called a “dazzle spot” to draw the viewer's eye before it moves through the rest of the painting. The prominent use of black evokes the basalt and granite of the mineral-rich Precambrian Shield. Typical of Milne's inclination towards flatness, he resists representing conventional three-dimensional depth. The horizonless perspective compresses space, and the viewer's gaze moves erratically across the surface, shifting from rock to rock, a formal trick that undermines the idea of landscape as a distant vista to be surveyed and conquered. Instead, the viewer is immersed in an abandoned mineshaft in which a reflective surface pool has formed.

The painting's formal structure reflects and reinforces its unusual subject: an abandoned mine shaft is far from a typical landscape theme.¹ As Raymond Williams summarizes, “a working country is hardly ever a landscape. The very idea of landscape implies separation and observation.”² In *Prospect Hole*, Milne challenges a sense of separation by choosing a vantage point that draws the viewer into the scene, inviting an intimate, unstable engagement with the landscape.

Prospect Hole is part of a series of thirteen paintings Milne created while summering in Temagami, a Northern Ontario region famed for its pine forests, ancient rock cuts, and glacial lakes. Milne's decision to paint this seemingly marginal subject gains added significance when placed in the broader context of Temagami's layered history—at once a romanticized wilderness and a site of active resource extraction. Temagami was widely promoted as a wilderness destination, described in promotional materials as “primeval,” “wild and unconventional,” and “unspoiled.”³ Yet this romantic image contrasts with the region's designation as the Temagami Forest Reserve (TFR) in 1901, when it was incorporated into a system of scientific forestry management.⁴ Ontario's Forest Reserve system aimed to balance nature conservation with economic development by establishing a scientifically informed, bureaucratically managed approach to logging that preserved timber resources for the future.⁵ A multiple-use system developed where recreational canoeing, fishing, and hunting were permitted alongside logging and mining.⁶ Milne's depictions of mine shafts open a lens onto the often-overlooked histories of resource extraction embedded in many Canadian wilderness parks, revealing a terrain marked by ongoing negotiation between conservation and industrial use.

This tension between the fantasy of untouched nature and the desire for industrial progress was central to Canadian society—and landscape painting—in the early twentieth century. National identity was often expressed through geographic exceptionalism, rooted in Canada's abundant natural resources. A “wildercentric” style, exemplified by the Group of Seven and cultivated by Canadian cultural institutions, dominated landscape painting,



/fig. 1/ David Milne, *Prospect Hole*, 1929. Oil on canvas, 50.9 × 61cm.
Winnipeg Art Gallery.

while parallel imagery of industrial growth gained prominence in the 1920s and 1930s.⁷ These idyllic and industrial visions both linked national identity with natural resources. For example, in 1925, Group of Seven member Arthur Lismer emphasized that developing natural resources was essential to building the nation's material foundation, while artists could draw inspiration from “a powerful reserve of national beauty,” suggesting that both artists and laborers could tap into the landscape's wealth.⁸ This reflects a broader consensus of the period: a Romantic approach to nature—centered on aesthetic appreciation and spiritual communion—was not necessarily opposed to an instrumental view of nature as a resource. As environmental historian Donald Worster summarized, “Canadians have liked to describe themselves as gathering staples from a vast northern country while becoming spiritually part of what they exploit”⁹—a process reflected in many landscape paintings. Canada's timber, water, and minerals were seen as so abundant that they could never be depleted¹⁰—especially with safeguards like public ownership and the scientific management of Crown land.¹¹

Milne's modernist formal experimentation offers another view of the Canadian landscape. By focusing on the muddy forest floor, murky water, and the speculative mineral networks beneath the surface, his minescapes shift attention away from idealized wilderness vistas towards landscapes shaped and scarred by industry. This reorientation invites viewers to reckon with the material histories that transformed these regions. Milne did not frame his work as environmental critique: his interest in the subject was primarily formal, describing it as “a collision between Winsor & Newton's and a coal mine, good for painting.”¹² Yet, by focusing on the overlooked and the unspectacular—mud, murk, mineral traces—Milne reframes what is considered worthy of artistic attention. In doing so, his formal experimentation brings into view the layered and contested histories embedded in Ontario's wilderness parks.

Born into a Scottish immigrant family in a farming community in Southwestern Ontario, David Milne was familiar with rural life and spent periods in isolated settings throughout his career. In 1903, at the age of twenty-one, he moved to New York City, where he trained at the Art Students League, exhibited in the landmark 1913 Armory Show, and became active in Alfred Stieglitz's circle, alongside modernists such as Arthur Dove and Georgia O'Keeffe.¹³ When

1 Milne was primarily interested in formal exploration, dismissing subject matter as irrelevant. John O'Brian, *David Milne and the Modern Tradition of Painting* (Coach House Press, 1983), 14.

2 Raymond Williams, *The Country and the City* (Oxford University Press), 120.

3 “Timagami, Mississauga, French River and that Sort of Thing,” *Rod and Gun in Canada* 6, no. 11 (April 1905): 535; “Mississauga, French River and Timagami,” *Rod and Gun in Canada* 6, no. 12 (May 1905): 683; Catherine Hughes, “The Canadian Summer Girl,” *Rod and Gun in Canada* 6, no. 3 (August 1904): 121; L.O. Anderson, “Out of Doors,” *Rod and Gun in Canada*, 6, no. 1 (June 1904): 15.

4 Bruce W. Hodgins, Peter Gillis, and Jamie Benidickson, “The Ontario Experiment in Forest Reserves,” in *Changing Parks: The History, Future and Cultural Context of Parks and Heritage Landscapes*, ed. John Marsh and Bruce W. Hodgins (Dundurn, 1998), 78.

5 For an analysis of the ideological underpinnings of the conservation movement, see Dorceta E. Taylor, *The Rise of the American Conservation Movement* (Duke University Press, 2016).

6 John Sandlos, “Nature's Nations: The Shared Conservation History of Canada and the United States,” *International Journal of Environmental Studies* 70, no. 3 (2013): 7–8. The creation of the parks system in Canada was also influenced by conservationists, who aimed to balance environmental protection with economic development. In the early national and provincial parks, industries such as mining and logging were seen as ways to enhance the

parks' utility. However, changing public attitudes in the early twentieth century gradually shifted the focus towards recreation. Laurel Sefton MacDowell, *An Environmental History of Canada* (UBC Press, 2012), 106–108.

7 John O'Brian, “Wild Art History,” in *Beyond Wilderness: The Group of Seven, Canadian Identity and Contemporary Art*, ed. John O'Brian and Peter White (McGill-Queen's University Press, 2007), 21; Rosemary Donegan, *Industrial Images* (Art Gallery of Hamilton, 1987); Carmella Gray Cosgrove and Arn Keeling, “Visualizing Extraction: Art, Colonialism, and Mining in Northern Canada, 1930–1962,” unpublished manuscript.

8 Quoted in Paul H. Walton, “The Group of Seven and Northern Development,” *RACAR: revue d'art canadienne / Canadian Art Review* 17, no. 2 (1990): 174.

9 Donald Worster, “Two Faces West: The Development Myth in Canada and the United States,” in *One West, Two Myths: A Comparative Reader*, ed. C.L. Higham and Robert Thacker (University of Calgary Press, 2004), 29.

10 David P. Silcox, *Tom Thomson: Life and Works* (Art Canada Institute, 2015), 57.

11 Walton, “The Group of Seven and Northern Development,” 176.

12 Edward Burtynsky and Sarah Milroy, “Milne's Mineshafts: A Conversation,” in *David Milne: Modern Painting*, ed. Sarah Milroy and Ian A.C. Dejaridin (Philip Wilson, 2018), 151.

13 Ian A.C. Dejaridin, “Dazzle and Kick,” in *David Milne: Modern Painting*, ed. Sarah Milroy and Ian A.C. Dejaridin (Philip Wilson, 2018), 18.

Milne returned to Canada in 1929, after more than two decades in the United States, he brought with him a distinct set of modernist commitments—economical in form, precise in line, and attuned to the spatial tensions between surface and depth.

That same year, like many Canadian artists of his time, he ventured north. In early May, he boarded the Temiskaming and Northern Ontario Railway, planning to travel to Cobalt—a town once famous for its silver mines, though by then the mines had closed, leaving behind pollution and unemployment. The ruins of industry attracted painters like Yvonne McKague Housser, Franklin Carmichael, and A.Y. Jackson, and may have drawn Milne as well. Yet, somewhere along the journey, his course changed. He disembarked one stop early in Temagami, intending only a night's stay. Instead, he remained for the entire summer.¹⁴ In letters to his wife Patsy, he reflected on the possibility of moving permanently, noting that the government was renting land in Temagami for \$10 an acre per year.¹⁵ Milne also mentioned Cobalt as an alternative, pointing out the availability of cheap housing as miners moved further north. Still, he stayed where he was. His range was limited—just five kilometres—but the constraints proved generative.

When Milne arrived in May, snow still blanketed the bush, though soon enough blackflies would become the primary issue.¹⁶ Milne set up a tent in a few different locations throughout the Temagami Forest, ultimately settling along the shore of Lake Temagami southwest of the municipality. In *Tent in Temagami* (1929), Milne documented his living conditions. Surface pools swirl in the foreground, muddy shades of black interrupted with discoidal flashes of rust orange and blue grey / fig. 2 / . The swirling momentum of the forest floor merges into the upright forms of trees, enclosing the scene as the dense foliage creates a sense of restriction. The forest is dynamic, alive. The gestural pops of colour inside the tent evoke the still-life arrangements of flowers in an abandoned prospectors' cabin that Milne painted that summer. Milne's time in Temagami marked a turning point. After years of personal and professional upheaval, he found rhythm in repetition and focus, completing thirty-five works over the course of four months.¹⁷

PLACE

Within the visual culture of Temagami, Milne's emphasis on mining is unusual. Despite active logging and mining industries, Temagami was framed as a wilderness paradise in tourist literature and popular culture.¹⁸ Its scenery was celebrated as "bolder and on a more striking scale" than the popular Muskoka region located just a few hours to the south, promising "real camping in real woods" rooted in a "rough" experience of nature.¹⁹ Images of glittering water, towering pines, and canoes accompanied these descriptions, promising tourists "illimitable riches of forests, lakes, streams"²⁰ / fig. 3 / . A recurring theme in this material was the difficulty of capturing the region's essence in words or images; as one account put it, its beauty was something "which photography can reproduce only very imperfectly"—the landscape had to be experienced.²¹ The framing of Temagami as an untamed wilderness was a colonial construct,

14 James King, *Inner Places: The Life of David Milne* (Dundurn Press, 2015), 181.

15 Letter from David Milne to Patsy Milne, May, July 1929. Library and Archives Canada, David B. Milne fonds, May Milne Correspondence, M630 D43 Vol. 6, envelope 3.

16 Letter from David Milne to Patsy Milne, May, July 1929. Library and Archives Canada, David B. Milne fonds, May Milne Correspondence, M630 D43 Vol. 6, envelope 3.

17 David Silcox, *Painting Place: The Life and Work of David B. Milne* (University of Toronto Press, 2017) 39.

18 Patricia Jasen, *Wild Things: Nature, Culture, and Tourism in Ontario, 1790-1914* (University of Toronto Press, 1995); Jocelyn

Thorpe, *Temagami's Tangled Wild: Race, Gender, and the Making of Canadian Nature* (UBC Press, 2012).

19 Bruce W. Hodgins and Jamie Benidickson, *The Temagami Experience: Recreation, Resources, and Aboriginal Rights in the Northern Ontario Wilderness* (University of Toronto Press, 1989), 112-13.

20 L.O. Anderson, "Timagami, Mississauga, French River and that Sort of Thing," *Rod and Gun in Canada* 6, no. 11 (1905): 585.

21 See, for instance, "Mississauga, French River and Timagami," *Rod and Gun in Canada* 6, no. 12 (May 1905), 681.



/fig. 2/ David Milne, *Tent in Temagami*, 1929. Oil on canvas, 40.2 × 50cm. Collection of the Tom Thomson Art Gallery.



/fig. 3/ "On Lake Timagami," *Rod and Gun in Canada* 6, no. 2 (April 1905): 584.

a point to which I will return, but it also masked the socioeconomic and environmental tensions surrounding its resource exploitation.

While the romanticized depiction of Temagami fueled tourism, behind this idealized imagery, the region was characterized by scientific management and resource extraction. Surveyors mapped Temagami's waterways as early as 1845. The Geological Survey of Canada visited between 1875 and 1878.²² The GSC's mandate was mapping and cataloguing resources, reflecting what historian Suzanne Zeller has described as "inventory science."²³ More systematic surveys began in the 1890s, as the red and white pine forests of Temagami were considered the premier pinery in central Canada and had barely been touched by the turn of the century. In 1901, Premier George Ross directed the Department of Lands to send Exploration Survey Party No. 3 to assess the area's resources.²⁴ These surveys confirmed reports of mineral wealth, which attracted prospectors to the region. Simultaneously, assessments of the commercial potential of the pine forests led to the establishment of the TFR—the first forest reserve in Ontario—later that year.²⁵ Both the Geological Survey and the Forest Reserve system were rooted in a logic of inventory science—systems designed to classify, quantify, and manage natural resources for state use.

Temagami never evolved into a major mining producer as the mines remained relatively small scale compared to nearby mining camps. In 1903, workers building the Temiskaming and Northern Ontario Railway discovered silver at Mileage 103 just north of Temagami—one of the richest silver finds in history. The high-grade veins sat near the surface, concentrated in a narrow thirteen-kilometre formation. The resulting boom created the town of Cobalt and drew international capital and labour to the region. Farther north, towns like Timmins and Kirkland Lake yielded some of the richest gold discoveries in history. Comparatively, Temagami's iron, silver, and gold deposits were modest. Instead, it was the pine forests that anchored the town's resource economy.

The Forest Reserves Act of 1898 emerged from a conservationist ethos responding to growing concerns over timber depletion.²⁶ Influenced by American forester Gifford Pinchot, conservationism emphasized the "wise use" of natural resources—balancing extraction with long-term sustainability through scientific management.²⁷ Forests were treated as economic assets to be used for public benefit. Companies were granted long term licenses and expected to follow the best practices of conservation. Operationally, however, policing land use within the Forest Reserve proved challenging. The Forest Reserve system was under-resourced and under pressure from competing industries and tourism, which slowly eroded the mandate of the program.²⁸

The T&NO railway, the first provincially owned railway, was built to facilitate tourism. It brought an influx of travellers who were part of the emerging summering movement which romanticized northern landscapes as sites of adventure, rejuvenation, and escape—a remedy to "growing degenerate" and "effeminate" from modern life.²⁹ To appeal to tourists, the region had to be positioned as more compelling than the closer, more accessible

22 J. Burr Tyrrell, "The Topographical Work of the Geological Survey of Canada," *The Geographical Journal* 10, no. 6 (1897): 626; Alfred Selwyn, *Geological Survey of Canada: Report of Progress for 1875–76* (Published by the Authority of Parliament, 1887); Robert Bell, "Summary Report of the Geological Survey Department of Canada for the Calendar Year 1903" (S.E. Dawson, 1904).

23 Suzanne Zeller, *Inventing Canada: Early Victorian Science and the Idea of a Transcontinental Nation* (McGill-Queen's University Press, 2009) 4.

24 E.J. Davis, *Report of the Survey and Exploration of Northern Ontario 1900* (L.K. Cameron, 1901).

25 Hodgins, Gillis, and Benidickson, "The Ontario Experiment in Forest Reserves," 78.

26 George Perkins Marsh's *Man and Nature: Or, Physical Geography as Modified by Human Action* (Charles Schreiner, 1864) first sounded the alarm on deforestation, challenging the belief that humans couldn't fundamentally transform ecosystems.

27 A distinction can be made between a utilitarian conservationist approach and a preservationist framework which views nature as having intrinsic value beyond its utilitarian use and is more wary of development, though they are often both grouped under the broader framework of conservation. Gifford Pinchot, *Gifford Pinchot: Selected Writings*, ed. Char Miller (Pennsylvania State University Press, 2017).

28 MacDowell, *An Environmental History of Canada*, 102.

29 Hodgins and Benidickson, *The Temagami Experience*, 68.

wilderness parks. A 1905 article in a sportsman's magazine promoting Camp Keewaydin painted a vivid picture:

in the centre of a great Government forest reserve of 5,900 square miles, lies beautiful Lake Timagami, like a huge chrysanthemum (as some have said); its petals stretching in all directions, its rugged shores fringed with great virgin pines, its broad bosom dotted with over thirteen hundred islands.

To the end of each petal one can paddle his canoe not only over charming local trips, but through forest waterways to far distant points – even to Hudson's Bay itself – and thence to the Arctic, Atlantic, or Pacific oceans. The explorer, the canoe-man, the camper, the fisherman, the hunter, each can follow his own bent to his heart's content.³⁰

The quote reflects early twentieth-century settler-colonial views of the Canadian wilderness by aestheticizing Lake Temagami as a “huge chrysanthemum” with “virgin pines,” while also referencing the government forest reserve—a managed yet open landscape that supports the colonial vision of nature as both protected and available for settler use. The passage's emphasis on recreational activities reinforces the idea of nature as a playground while the notion that “each can follow his own bent to his heart's content” encapsulates the colonial fantasy of nature as passive and unclaimed, available for both physical and symbolic occupation.

To facilitate Crown control over vast forested territories, however, Indigenous land claims had to be undermined. The Temagami Forest Reserve was built on N'Dakimenan, the traditional territory of the Teme-Augama Anishnabai (Deep Water by the Shore People), the Anishinaabe community of the Temagami First Nation, whose access to the territory was increasingly limited under the forest reserve system. The creation of the TFR served as a pretext for denying the community a reserve.³¹ Although their territory fell within the 1850 Robinson-Huron Treaty boundaries, they were excluded from negotiations for reasons that remain unclear and, in this period, they had no formal agreement with the government. Despite long-standing advocacy, the community was not granted a reserve until 1971, when just one square mile on Bear Island was designated—an immense disparity compared to the six thousand square miles claimed as Crown land in the forest reserve.³² This exclusion limited the Teme-Augama Anishnabai's access to their ancestral lands but also paved the way for a selective form of conservation that prioritized visual aesthetics over ecological integrity.

Indeed, the skyline of Lake Temagami, an aesthetic showpiece often highlighted in promotional literature, was one of the few sites in the TFR protected from development.³³ With roughly 1,200 islands and a shoreline stretching approximately 5,000 kilometers, the lake offered countless scenic vistas, captured here in a colorized postcard from 1903 of a lone canoeist drifting across its calm waters / fig. 4 /. In the early years of the reserve, logging companies were instructed to log inland stands. As private ownership of islands increased—despite private land patents being technically prohibited under the Forest Reserve system—this policy was formalized with a Skyline Reserve, ensuring there was no “visual evidence to the naked eye” that

30 “The Keewaydin Club's Canoe Tours,” *Rod and Gun in Canada* 6, no. 2 (April 1905): 621.

31 Jocelyn Thorpe, “To Visit and to Cut Down: Tourism, Forestry, and the Social Construction of Nature in Twentieth-Century Northeastern Ontario,” *Journal of the Canadian Historical Association* 19, no. 1 (2008): 334.

32 In 1943, the Department of Indian Affairs acquired Bear Island, a small island in the center of Lake Temagami, from the Province

of Ontario, with the intent of establishing it as a permanent reserve. This reserve was officially granted in 1971. Temagami First Nation has always asserted it never signed or consented to the Robinson Huron Treaty, despite a 1991 Supreme Court of Canada decision to the contrary.

33 D.E. Buck, “Aesthetics and Cutting in The Shoreline Reserve of Lake Temagami,” *The Forestry Chronicle* (October 1971): 270–72.



/fig. 4/ "Lake Matawabika, Temagami District, Grand Trunk Railway System," ca. 1903. Postcard.



/fig. 5/ David Milne, *Dark Pool Ti Magami*, 1929. Oil on canvas, 50.8 × 63.8 cm. The Montreal Museum of Fine Arts.

activities such as timber cutting or mining had taken place.³⁴ By prioritizing the preservation of scenic views over broader ecological protection, these measures reveal how conservation was often more about maintaining appearances than addressing the underlying environmental degradation. Mining and logging were deemed acceptable—so long as they remained out of sight.

Ultimately, development and tourism strained the Forest Reserve's commitment to scientific management, especially after the 1905 election of Conservative Premier James Whitney, who prioritized industrial growth.³⁵ Over the following decades, the provincial government gradually dismantled the Forest Reserve system, formally ending it in 1964. Despite the initial intentions of conservation policies, their impact was limited. A 1958 study found no significant difference between land-use policies inside the reserve and beyond its boundaries.³⁶ Development prevailed.

ROCK

In *Dark Pool, Ti Magami* (1929), the viewer is oriented towards the detritus of the forest floor. In many ways, muck is the subject of the painting / fig. 5 /. The tones are muddy, conjuring the effect of looking down at the earth. The accent colours are vivid: purple and orange dominate, with slashes of green and ochre. The empty canvas—the ground of the painting—functions as a colour, representing not only the earth but also the open spaces around trees and water. While the colouration seems unnatural, the shades reflect the minerals in the rock as well as the processes of mineralization in the water. The scene centers on a prospecting shaft blasted from the earth by local prospector and businessman Dan O'Connor. Milne recalled, "For six weeks or so I painted some pools in Dan O'Connor's iron mine—he says it's an iron mine, iron, copper, silver, gold, arsenic, sulphur, molasses." These prospect holes—small shafts dug during the initial search for minerals—often represent failed claims. Milne wrote "To the miner it may be a disappointment but to the painter in search of colour it is a find. Everything in the way of colour that there is and in all possible intensities and combinations."³⁷ Milne's keen eye for these rich, unexpected colors invites a deeper look into the geological history beneath Temagami's surface.

Temagami lies atop four iron ranges formed over 2.7 billion years ago. While the GSC first observed iron in 1877, it was O'Connor who played a central role in tracing the iron formation. While O'Connor provided "earnest and persistent advocacy of [the iron formations] economic importance," the iron wasn't especially pure.³⁸ However, it could be refined to Bessemer grade, a process that removed impurities from pig iron to produce steel. Despite this potential, a steady influx of cheap, high-quality iron from the United States dampened interest in developing Ontario's iron mines during this period. Instead, silver and gold were the prized minerals in the region. It is possible that O'Connor abandoned the claim because of the economic unviability of developing iron mines, or because the iron was low grade. O'Connor was instrumental in founding the Big Dan Mine near Net Lake (gold alongside silver, arsenic, and copper) and the Leckie Mine, also known as Little Dan by Arsenic Lake (gold as well as copper, silver, zinc, arsenic). He also founded the Temagami Hotel and Steamboat Company in 1903, which operated several inns including the Lady Evelyn Hotel, the Temagami Inn, and the Ronnoco Hotel as well as steamboats like the Belle of Temagami, reflecting the close ties between

34 The Municipality of Temagami, "Appendix 1 to Official Plan, Tenets for Temagami, March 8, 1994," www.temagami.ca/public/download/files/261804.

35 Hodgins and Benidickson, *The Temagami Experience*, 85.

36 Larry E. Hodgins, "Economic Geography of the Lake Temagami District" (BA diss., University of Toronto, 1958).

37 Letter from David Milne to James Clarke, May 25, 1929. Library and Archives Canada, David B. Milne fonds.

38 "Summary Report of the Geological Survey Department of Canada for the Calendar Year 1903" (S.E. Dawson, 1904), 124, 125.

extraction and tourism. While visitors enjoyed the region's scenic allure, the underlying geology was a vital part of its economic and environmental fabric.

In Temagami, iron was bonded with silica and magnetite, a lustrous black iron oxide, interspersed with "variously coloured" jasper and chert which are typically red, yellow, brown or green.³⁹ The KoKoKo iron range, in particular, was characterized by a "brilliancy of colour."⁴⁰ When rock is disturbed—such as in prospecting—the elements are exposed to oxygen and water, causing oxidation. For instance, copper turns vivid shades of green, while iron oxides can be saturated yellow, rich purple, or rusty red. Milne wrote that the "sulphur in the water coats everything with a film of yellow."⁴¹ As the photographer Edward Burtynsky reflects, "what happens when you have that high level of mineralisation and you start removing rock...all these other chemicals are being released into the environment. That's how you get the weird-coloured pools, like the ones that Milne painted. You don't normally find these colours in nature."⁴² The chemicals released by mining processes shaped the formal structure of the image both visually and materially—indeed, many of the materials extracted through mining became the very pigments Milne used in his paintings.⁴³

WATER

Mining's visible manifestations—slag heaps, headframes—are often what artists depict. But the essence of mining—removal—is more challenging to *show* visually. Art historian Rachael Z. DeLue reflects that mining functioned as "a problem for the environment and as a problem for representation, for it presented the artist with a loss of form, with absence and deprivation, a deficit of material rather than a bounty of things to depict."⁴⁴ The void left behind defies easy representation. Milne's flooded mine shaft paintings embrace this representational challenge by using a visual language centered on deficit. Indeed, Milne was described as "the master of absence" by the artist Harold Town.⁴⁵ Milne stripped down subjects to their most fundamental elements using a limited color palette, simple shapes, intuitive space, and the unpainted canvas itself. He wrote of the surface pool: "The shapes in the piles of rock and the blasted rock nearby all angular...The shapes in the pool of water are angular as in the rocks, but there is a softness about them."⁴⁶ This process of simplification sharpened the focus of the composition while allowing for a deeper exploration of line and shape.

In *Flooded Prospect Shaft II* (1929), the vantage point is closer to the pool / fig. 6 /. We are on the edge looking in. An abstractly rendered tree line orients the viewer in space. The perspective alludes to the networks of mine shafts that exist below the surface, introducing a tension between darkness, water, and a reflective space that amplifies light. Reflective pools were a common motif in Milne's work, manifesting his privileging of the immaterial, fleeting reflection over the stable, material markers of landscape.⁴⁷ As John O'Brian summarizes, the "colours seem propelled from the centre out to the edges of the canvas" and "containment is pitted against enlargement and flatness against depth," a dynamic tension that plays out on the canvas.⁴⁸ This interplay between containment and expansion mirrors the painting's deeper

39 "Summary Report of the Geological Survey Department of Canada for the Calendar Year 1903," 125.

40 "Summary Report of the Geological Survey Department of Canada for the Calendar Year 1903," 126

41 Letter from David Milne to James Clarke, May 25, 1929. Library and Archives Canada, David B. Milne fonds.

42 Burtynsky and Milroy, "Milne's Mineshafts," 151.

43 P. Jane Sirois, Catherine Stewart, Kate Helwig, Elizabeth Moffatt, and Kris M. Legate, "A Technical Study of the Materials and Methods Used by David B. Milne in his Oil Paintings," *Journal of the Canadian Association for Conservation* 32 (2007): 17–33.

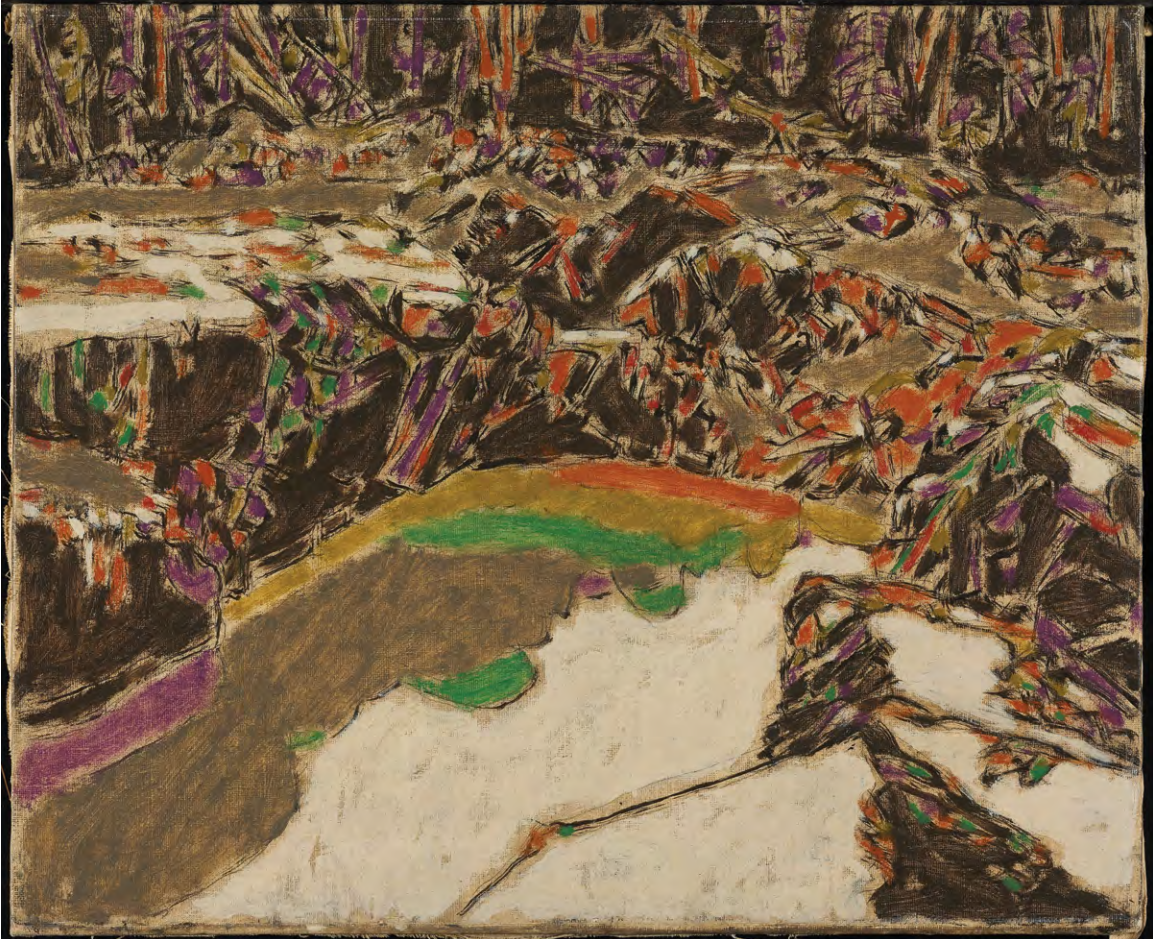
44 Rachael Z. DeLue, "Homer Dodge Martin's Landscapes in Reverse," in *Nature's Nation: American Art and Environment*, ed. Karl Kusserow and Alan Braddock (Princeton University Art Museum, 2018), 291.

45 Silcox, *Painting Place*, 10.

46 Letter from David Milne to James Clarke, May 25, 1929. Library and Archives Canada, David B. Milne fonds.

47 Katharine Lochnan, "The Mystery Thing: David Milne and Spirituality," in *David Milne: Modern Painting*, ed. Sarah Milroy and Ian A.C. DeJardin (Philip Wilson, 2018), 77.

48 O'Brian, *David Milne and the Modern Tradition of Painting*, 114.



/fig. 6/ David Milne, *Flooded Prospect Shaft II*, 1929. Oil on canvas, 46.2 × 55.6 cm. National Gallery of Canada.



/fig. 7/

Georgius Agricola, *De Re Metallica* (London: The Mining Magazine, 1912), 105.



/fig. 8/

Arthur Dove, *River Bottom, Silver, Ochre, Carmine, Green*, ca. 1923. Oil and metallic paint on canvas, 24 × 18 inches. Public domain.

conceptual stakes: the visual surface becomes a site of geological and perceptual instability, where extraction, reflection, and abstraction converge.

The mine shaft disrupts the typical horizontality of landscape by directing attention downward, alluding to the vertical geographies that extend beneath the earth's surface. By turning the viewer's gaze downward rather than outward, Milne disrupts conventional viewing positions and alters our relationship to the landscape. As the literary critic Northrop Frye observed of Milne's style, "the flatness of his painting [is] an absorption of the painters' (and beholders') eye in the subject. The beholder is at once well inside the picture, where he finds that everything is on much the same pictorial level."⁴⁹ In Milne's work, flatness doesn't oppose depth so much as absorb it—pulling the viewer into a destabilized visual field rather than offering a clear entry point. While such compositional strategies are characteristic of modernist painting, they carry additional implications in the context of wilderness representation. As art historian Robin Kelsey reflects, we often "speak as if nature were a theater set, a motionless array of visual features awaiting human action and intended for a human audience."⁵⁰ Many promotional photographs and illustrations of Temagami operate in precisely this mode. Emphasizing natural beauty and seclusion, they center the embodied experience of entering and occupying the land. Here, it is illustrative to return to figure 3. Rock, brush, and a lone pine yield to rippling water; a canoe waits, poised for launch. The image invites the viewer to imagine themselves within the scene, ready to use the canoe to move deeper into the landscape. In contrast, Milne's compositional economy and resistance to perspectival depth complicate the notion of nature as a stage for human presence. His landscapes offer no clear path of entry and do not invite imaginative occupation—they demand observation, not participation.

Milne's work troubles the horizontal orientation typical of landscape painting, yet it does not conform to the vertical conventions of mining imagery either. Traditional depictions of mining landscapes often follow a vertical logic, shaped by the representational needs of industry.⁵¹ This visual tradition dates back to Georgius Agricola's *De Re Metallica* (1556), which includes detailed woodcuts of underground operations⁵² / fig. 7 /. These illustrations frequently pair vertical cross-sections—revealing workers in shafts below—with aerial ground plans above, creating a visual continuum between surface and subsurface. Such diagrams impose rationality and order on the mine, transforming the mysterious depths of the earth into something mappable, measurable, and controlled.⁵³ They reflect a broader cultural impulse to render the unseen knowable. Milne, however, resists this logic, crafting an ambiguous spatial field that disrupts both the vertical gaze of mining and the horizontal sweep of landscape, withholding the illusion of control or full comprehension.

Instead, Milne directs attention to the surface. The reflective quality of the water hints at the underground while simultaneously refracting our gaze, keeping the depths elusive. This dance between water and ground echoes a broader motif in art history that has drawn increasing attention in eco-critical analysis. Scholars such as Isabelle Gapp and Maura Coughlin have identified ecological sensibilities in depictions of coastlines—whether in the Group of Seven's Lake Superior or Élodie La Villette's French shores—where water becomes a medium of instability, transience, and

49 Northrop Frye, "David Milne: An Appreciation," in *The Bush Garden* (Toronto: House of Anansi, 1971), 247.

50 Robin Kelsey, "Sierra Club Photography and the Exclusive Property of Vision," *RCC Perspectives*, no. 1 (2013), 12.

51 Stephanie O'Rourke, *Picturing Landscape in an Age of Extraction* (University of Chicago Press, 2025), 70; Patrick Anthony, "Mines, Mountains, and the Making of a Vertical Consciousness in Germany ca. 1800," *Centaurus* 62, no. 4 (2020): 612–30.

52 Allan Sekula, "Photography Between Labor and Capital: The Emerging Picture Language of Industrial Capitalism," in *Mining Photographs and Other Pictures, 1948–1968*, ed. Benjamin H.D. Buchloh and Robert Wilkie (Press of the Nova Scotia College of Art and Design, 1983), 203.

53 Patrick Anthony, "Mining as the Working World of Alexander von Humboldt's Plant Geography and Vertical Cartography," *Isis* 109, no. 1 (2018): 34.

interconnection.⁵⁴ Yet if the shoreline is an interstitial space of mixing, the mine shaft is a rupture that makes visible the way industry reshapes ecosystems. Thus, while I do not aim to frame Milne as an eco-critical painter, his formal treatment of surface and material aligns with a mode of thinking attuned to instability and layered meaning. In this context, Rachael Z. DeLue's interpretation of Arthur Dove's *River Bottom, Silver, Ochre, Carmine, Green* (1923) is instructive: it "establish[es] the coexistence of surface and depth," refusing a fixed hierarchy between what is seen and what lies beneath⁵⁵ / fig. 8 /. This interplay between perception, sensation, and underlying presence also shaped Milne's own approach to painting. He identified three coexisting experiences in the act of creation: the enjoyment of nature's beauty, the pursuit of aesthetic impact, and the persistent influence of memory quietly shaping perception beneath the surface.⁵⁶ These layered modes of awareness manifest formally in his work: Milne collapses spatial layers so that ground, water, color, and form blur into one another—surface and depth rendered fluid, unstable, and inseparable.

WASTE

Milne's landscapes often depict what might be categorized as wastelands—former industrial zones that are now derelict, abandoned, and seemingly insignificant. Vittoria Di Palma describes such sites as anti-picturesque, defiled landscapes that "resists notions of proper or appropriate use."⁵⁷ These wastelands, frequently former industrial sites, are marked by the lingering effects of toxicity which poses representational challenges even as they offer opportunities for formal invention. Here, we might think of J.M.W. Turner or Edgar Degas's representations of coal smoke.⁵⁸ Visual explorations of pollution and waste have often focused on air pollution and atmospheric haze, which, as scholars have shown, were central in the development of impressionist aesthetics.⁵⁹ A Canadian example is Charles Comfort's *Smelting Stacks, Copper Cliff* (1936), which shows the billowing smoke of Inco's smelting stacks, a defining feature of Copper Cliff's industrial landscape. Comfort was hired by Inco, the world's largest nickel producer at the time, to produce drawings for their magazines, and later, a mural called the "Romance of Nickel" for the Canadian Pavillion in the 1937 World's Fair in Paris. Inspired by the industrial landscape, Comfort produced a number of sketches and paintings that explored the aesthetic qualities of the mining landscape.⁶⁰ The bright white of the swirling smoke illuminates the landscape, pouring out of the linear smokestacks. Comfort captures the dual nature of the industrial landscape—both awe-inspiring in its scale and unsettling in its environmental impact. Indeed, Sudbury would go on to become one of Canada's most polluted landscapes, as nickel ore smelting acidified the soils, rain, and lakes, stripping the land of vegetation and leaving the rocks blackened.

Another counterpoint is found in *A Northern Silver Mine* (1930) by Franklin Carmichael, depicting a mine in Cobalt / fig. 9 /. Smooth brushstrokes

54 Isabelle Gapp, "Water in the Wilderness: The Group of Seven and the Coastal Identity of Lake Superior," *Journal of Canadian Studies* 55, no. 3 (2021): 590–620; Maura Coughlin, "Gleaning the Tideline: Elodie La Villette's Ecocritical Painting," *Dix-Neuf* 23, no. 3–4 (2019): 239–53.

55 Rachael Z. DeLue, *Arthur Dove: Always Connect* (The University of Chicago Press, 2016), 71.

56 Draft letter to Maulsby Kimball, March 9, 1931. Quoted in Sarah Milroy, "A Mind of His Own," in *David Milne: Modern Painting*, ed. Sarah Milroy and Ian A.C. DeJardin (Philip Wilson, 2018), 196.

57 Vittoria Di Palma, *Wasteland: A History* (Yale University Press 2014), 4.

58 Sarah Gould, "The Polluted Textures of J.M.W. Turner," *Victorian Network* 10 (2021): 77–105; Caterina Franciosi, "J.M.W. Turner's

Topographies of Heat," lecture, Association for Art History Annual Conference, University of Bristol, May 2024; Marni Kessler, "Aerial Intimacies: Edgar Degas's Ironers, Coal Smoke, and Chemicals," lecture, College Art Association, New York, February 2025.

59 See, for instance, *Impressionism in the Age of Industry* ed. Caroline Shields, ed. (Art Gallery of Ontario, 2019); Nicholas Mirzoeff, "Visualizing the Anthropocene," *Public Culture* 26, no. 2 (2014): 213–32.

60 Rosemary Donegan, "Modernism and The Industrial Imagination: Copper Cliff and the Sudbury Basin," in *Beyond Wilderness: The Group of Seven, Canadian Identity and Contemporary art*, ed. John O'Brian and Peter White (McGill-Queen's University Press, 2007), 151.

in rich greens guide the eye through rolling hills toward a lake at the center, dotted with small houses. Above, white clouds tinged with blue fade into the background. A glacial lake winds through the landscape in jagged lines, while the sharp angles of a mine shaft add precision to the composition. The clouds converge above the dark shaft which towers over the town, resembling a church. The foreground hills are an icy blue-white—an incongruous detail, as the surrounding greenery suggests summer. These pale hills are slag, toxic waste from mining operations. Blues predominate, evoking the cobalt mined as a by-product of silver. The vivid greens and blues suggest the colours of healthy, thriving nature. The smooth forms of Carmichael's slag heaps, glowing with the radiant purity of fresh snow, are visually echoed by the surrounding hills, which serve to naturalize the industrial waste. In *A Northern Silver Mine*, Carmichael visually remediates the damage of extraction. By contrast, Milne uses waste to denaturalize the landscape.

The formal and conceptual tension between waste and remediation finds resonance in abstraction, which offers a way to explore the material and visual presence of mining waste. Tobah Aukland Peck highlights the use of obscurity as a defining formal strategy in modernist representations of waste through her analysis of Prunella Clough's *Midland Landscape* (1958). Clough uses black to surface the coal gathered from the mine, evoking the physical and symbolic weight of extraction.⁶¹ Abstraction offers a particularly effective means of representing waste, as its formal strategies—obscurity, fragmentation, and ambiguity—parallel the diffuse, often invisible nature of environmental degradation, allowing artists to evoke its presence without resorting to didactic imagery. Indeed, as Di Palma reflects, there is an “inherent abstraction” to the wasteland.⁶²

Milne turns to subtle, often overlooked elements rather than spectacular or monumental industrial features. In contrast to the more common focus on smokestacks or slag heaps, Milne directs our gaze downward to the forest floor. To take stock of this strategy, we might turn to Rebecca Solnit's analysis of Eliot Porter's closely framed photographs of forests produced for the Sierra Club: “this close-up scale emphasizes the ordinary over the extraordinary [and suggests] that we can love a place for its blackberries or its stream ripples, not just for its peaks, waterfalls, or charismatic macrofauna. All parts have equal value.”⁶³ For Solnit, this reorientation to the ground pulls us closer to the earth and introduces an ecological way of seeing that values the ordinary and makes visible the interconnectedness of all parts of an ecosystem. Milne makes a more complex claim by finding formal beauty in the remnants of industry. While Porter's photographs are explicitly environmentalist, Milne's paintings are driven more by formal interest than ethical concerns. Yet his focus on muck is formally revealing. Instead of separating the different parts of ecosystems—such as land, water, and human influence—his attention to muck (which can represent the messy, mixed-up, and interconnected aspects of nature) resists the tendency to separate these elements, positioning ecosystems as complex, interconnected systems.⁶⁴

Mining reshapes landscapes in dramatic, often highly visible ways—the tangible markers of the mining landscape include slag heaps, mine shafts, and

61 Tobah Aukland Peck, “Mineral Landscapes: British Art and Extraction, 1937–1975” (PhD diss., City University of New York, 2025).

62 Di Palma, *Wasteland*, 4.

63 Rebecca Solnit, “Every Corner Is Alive: Eliot Porter as an Environmentalist and an Artist,” in *Storming the Gates of Paradise:*

Landscapes for Politics (Berkeley: University of California Press, 2007), 225–26.

64 Macarena Gómez-Barris attends to the possibilities of muck in *The Extractive Zone: Social Ecologies and Decolonial Perspectives* (Duke University Press, 2017), xiii.



/fig. 9/ Franklin Carmichael, *A Northern Silver Mine*, 1930. Oil on canvas.
McMichael Canadian Art Collection.

transportation infrastructure. Yet extraction also leaves behind subtler marks: small wounds on the land that are easy to miss. In *Red Pool* (1929), the hemic, earthy reds and ochres evoke a sense of wounding, with the mine shaft appearing as a cut into the land that seems to bleed / fig. 10 /. This imagery parallels his wartime work, which depicted the wreckage of battlefields—craters, muck, and detritus / fig. 11 /. Milne enlisted in 1917 but arrived in Europe after the armistice, recording the pulverized landscapes left in war's wake, which were marked by “the lack of trees, the upheaval of the ground, and evidence of endless and monotonous labor,” alongside “the great mass of junk.”⁶⁵ While the scale of destruction between the battlefields of World War I and a small-scale prospecting site is not comparable, in both landscapes, dynamite was a tool to transform the land, unearthing muck and minerals.

In *Red Pool*, Milne immerses the viewer in a scene that, by the period's conventional standards of landscape art, might appear visually insignificant. Milne invites us to notice the unspectacular wasteland which is also, quietly, the damaged wasteland. The toxic sublime is a well-established genre in visual art, perhaps most famously represented by Edward Burtynsky's large-scale aerial photographs that capture the striking scale and formal beauty of industrial wastelands. Like Milne, Burtynsky explores the formal possibilities of flatness and patterned color, often employing a horizonless perspective to create immersive, enveloping scenes.

Yet their scales differ fundamentally. Burtynsky situates the viewer in a bird's eye view, omnipresent and removed, surveying vast landscapes. Milne shows us the visual understory of the aerial view, and in the process, does away with any sense of being outside, situating the viewer within the scene. The scalar difference results in a radically different visual outcome—and affect. Milne's work elevates the microscale perspective, while Burtynsky searches for the spectacular outlier. Burtynsky visited Temagami and Cobalt in 1991, about sixty years after Milne, where he expressed “disappointment with the small scale of operations”⁶⁶ while dismissing the landscape as a “repetitious environment” where “one place looks very much like the next.”⁶⁷ Milne, by looking closely at this “unspectacular” terrain decades earlier, excavated form and color from the remnants of extraction. While Milne's work could be read as aestheticizing decay or ruin, its attentiveness is visually understated—small fragments that emphasize subtlety over spectacle.

This sensitivity to detail and immersion in the natural world is foundational to Milne's artistic philosophy. As Sarah Milroy reflects, Milne's “openness to the minutiae of sensory experience” is central to his work.⁶⁸ Influenced by the American Transcendentalists Ralph Waldo Emerson, Henry David Thoreau, and Walt Whitman, Milne saw isolation in nature as a source of artistic inspiration. Milne wrote that reading Thoreau's *Walden* sparked “an explosion in my mind,”⁶⁹ and the simplicity of focus Milne found in nature is revealed in his notebooks and letters, which are filled with observations of the world around him.

These principles also informed Milne's choice of subject matter, including his focus on the industrially altered landscapes of Temagami. While his motivations were formal, they nuance idealized notions of wilderness by foregrounding environments already marked by human intervention. Perhaps as a result, he struggled to find buyers for his paintings. After twenty-six years in the United States, he wasn't well known in Canada.⁷⁰ In 1934, he sold

65 Letter from David Milne to James Clarke, June–July 1919, LAC Milne Collection; Milne letter to James Clarke, June 26–28, 1919, Library and Archives Canada, David B. Milne Collection.

66 Edward Burtynsky, “Quarries: Artist Statement,” EdwardBurtynsky.com, <https://www.edwardburtynsky.com/projects/photographs/quarries>.

67 Burtynsky and Milroy, “Milne's Mineshafts,” 150.

68 Milroy, “A Mind of His Own,” 35.

69 Milne letter to H.O. McCurry, March 1930, quoted in Anne-Marie Ninacs, “Five Stumps,” in *David Milne: Modern Painting*, ed. Sarah Milroy and Ian A.C. Dejardin (Philip Wilson, 2018), 122.

70 Silcox, *Painting Place*, 9.



/fig. 10/ David Milne, *Red Pool, Temagami*, 1929. Oil on canvas, 50.8 × 61 cm.



/fig. 11/ David Milne, *The Twins Crater, Viny Ridge*, 1919. Watercolor pencil and graphite pencil on woven paper. Collection of the National Gallery of Canada.

three hundred paintings to Vincent and Alice Massey for a mere five dollars each. The Masseys resold many through a gallery but continued collecting his work at the same low price. Most of the Temagami mining series ended up in the Massey collection, though Milne noted in the sale list that the series had not been a successful artistic experiment.⁷¹ Yet, as David Silcox notes, Milne considered the mine series significant: he included three of these paintings in a shipment to the artist and collector Mulsby Kimball, intended to represent his strongest work from 1926 to 1930. Their inclusion suggests Milne regarded them highly enough to feature in this selection.⁷² In 1937, Douglas Duncan became Milne's agent and began to organize regular exhibitions of his work and by the 1940s, Milne began to experience critical and commercial success.

ENGAGED SPECTATORSHIP

As articulated in his essay "Pictures Have Beginnings and Endings" (1942), Milne believed engaged spectatorship was necessary to move through the perceptual challenges of a painting.⁷³ Active, attentive viewing is equally necessary when confronting the perceptual and narrative complexities of post-extractive landscapes. But what can close, careful attention to these seemingly damaged lands reveal? Anthropologist Anna Tsing, in her study of industrial forests in Oregon transformed by industrial logging, argues that dominant stories of progress and ruin are inadequate for understanding damaged landscapes. As she observes, "such documents are not enough. If we end the story with decay, we abandon all hope—or turn our attention to other sites of promise and ruin, promise and ruin."⁷⁴ Instead, Tsing asks, "What emerges in damaged landscapes beyond the call of industrial promise and ruin?" She calls for "the arts of noticing"—a mindful, attentive approach that may not save the world but can expand our ethical imagination and open new ways of relating to place.⁷⁵

Viewed through this lens, Milne's mineshafts offer nuanced understandings of landscapes altered by industry that challenge the standard denigration of the wasteland as a "fallen, ugly, or 'bad' landscape."⁷⁶ The iterative nature of his series reveals the richness of the scene, as Milne revisits subtle variations in light, color, and structure. By repeating patterns across multiple paintings, new forms emerge with each iteration. This approach both celebrates their diversity and acknowledges the pervasive presence of ecological damage. For Tsing, such attentive noticing is vital—not only to comprehend damaged landscapes but also to imagine more ethical relationships with land amid widespread toxicity and in the face of ecological collapse.

Milne's paintings demand sustained, active viewing. Milne's choice of subject matter and formal language expands standard notions of what constitutes a (valuable) landscape and how it might be viewed. In this, his work holds critical potential by inviting us to understand and reflect on the long-term impacts of human intervention on landscapes. The restraint of his visual language fosters a mode of seeing that recognizes damage without dismissing it or spectacularizing it. Milne's art bears witness—inviting us not just to look, but to look again, more closely.⁷⁷ Milne's restrained visual language invites a quiet attentiveness to place, creating space for reflection and responsibility, and opening up an invitation, in the present, to something akin to ecological seeing.

71 David P. Silcox, *David B. Milne: Catalogue Raisonné of the Paintings, volume 1 1882–1928* (University of Toronto Press, 1998), xxiii; David P. Silcox, *David B. Milne: Catalogue Raisonné of the Paintings, volume 2 1929–1953* (University of Toronto Press, 1998) 453.

72 Silcox, *David B. Milne: Catalogue Raisonné of the Paintings, volume 2 1929–1953*, 454.

73 Milroy, "A Mind of His Own," 33.

74 Anna Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (Princeton University Press, 2015), 18.

75 Tsing, *The Mushroom at the End of the World*, 17.

76 Di Palma, *Wasteland*, 12.

ACKNOWLEDGEMENTS

An earlier version of this article was presented at the 2021 Universities Art Association of Canada Conference: my thanks to Jessica Mace and the other panelists. I am especially grateful to Marni Kessler and Caterina Franciosi for their ongoing engagement, Faith Mellen for her research assistance, as well as to Sarah Parsons, Anna Hudson, Stephanie O'Rourke, Tobah Auckland Peck, Georgia Phillips-Amos, Stephanie Hornstein, and the peer reviewers.

77 This is not to suggest that developing a more expansive perspective on the postindustrial landscape is an easy task. After writing this article, I visited a flooded mine shaft in an attempt to perceive the intricate interplay of light, color, and form that Milne saw. However, my own perceptual engagement with mining waste was somewhat inadequate. Noticing is, like all skills we develop, challenging work. At the moment, my understanding is more theoretical, but I will, however, continue to look.