

# The Smell of Air Pollution

## Olfactory Senses and the Odour of Canadian Oil, 1858-1885

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Article abstract

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# THE SMELL OF AIR POLLUTION

## Olfactory Senses and the Odour of Canadian Oil, 1858-1885

by Robert G. Armstrong

*“It smells something like a compound of onions and gas tar, and though the residents of the place profess not to dislike it, it well-nigh poisons a stranger”<sup>1</sup>*

**O**n 26 August 1858, the *Sarnia Observer* released an article praising the discovery of oil on the outskirts of Oil Springs, Ontario by Hamilton businessman, James Miller Williams. He had discovered North America’s first commercial oil well in Enniskillen Township, a small region in Southwestern Ontario between the cities of London and Sarnia. Under the title “The Enniskillen Mineral Oil,” the article celebrated the

newfound resource and its utility as a potential illuminating oil. Luckily for the *Observer*, a friend of the newspaper had taken the time to travel to Enniskillen for the sake of purchasing a sample of oil which the friend then shared. With the sample in hand, the reporters tested the quality of the oil by dousing a piece of paper in the liquid and setting it aflame. Although the reporters discovered that the burning of the oil produced a bright

<sup>1</sup> “The Oil Region,” *The Toronto Globe*, 2 September 1861.

## *Abstract*

*Beginning in 1858, Enniskillen Ontario was the site of Canada's first oil industry. Over the course of the next twenty-seven years, Canada's oil industry struggled to sell Enniskillen oil because it possessed a pungent odour. Although using one's olfactory senses is biological, how people choose to interpret odours is influenced by their cultural context. As a result, different populations reacted to the odour of Enniskillen oil based on their socioeconomic and geographic context. In Britain, people responded negatively to the smell of the oil, going so far as trying to ban the importation of oil from Canada. Across cities in Ontario, people raised complaints about the smell of the oil, but their concerns were largely ignored by municipal officials. In the oil region of Enniskillen, the locals were largely unbothered by the oil, despite living in a region that had been polluted to such an extent that the air was permeated with the smell of oil.*

**Résumé:** *C'est en 1858 que la première industrie pétrolière au Canada s'établit dans le canton d'Enniskillen en Ontario. Au cours des vingt-sept années suivantes, cette industrie éprouva des difficultés à vendre le pétrole d'Enniskillen à cause de son odeur piquante. Bien que le sens olfactif soit inné, l'interprétation des odeurs est influencée par le contexte culturel. En conséquence, les diverses réactions à l'odeur du pétrole d'Enniskillen furent le résultat de différentes dispositions socioéconomiques et géographiques. En Grande-Bretagne, on réagit de façon négative, en allant même jusqu'à tenter d'interdire son importation du Canada. Dans l'ensemble des villes de l'Ontario, les habitants se sont plaints des mauvaises odeurs du pétrole, mais leur mécontentement était fermement ignoré par les responsables municipaux. Quant à la région d'Enniskillen, ses résidents se souciaient fort peu du pétrole, malgré le fait qu'ils habitaient une région si polluée que l'air était constamment imprégné de son odeur.*

white light, one concern lay with the fact that “The substance is of a dark colour and has a strong pungent smell...”<sup>2</sup> The pungent odour described by the reporters was a permanent quality of Enniskillen oil, attributed to the high percentage of sulphur. However, the reporters apparently did not consider the smell to be a serious concern, because they failed to mention it again. But if the reporters were truly interested in determining an accurate prediction of the future of oil

development, they should have given less attention to their optical senses and more to their olfactory.

In her recent book, *Smell Detectives: An Olfactory History of Nineteenth-Century Urban America*, American historian Melanie Kiechle states that “the act of smelling is biological, but the interpretation of and reaction to odors is socially shaped and the product of one's cultural context.”<sup>3</sup> Given that the interpretation of odours is influenced by cultural

<sup>2</sup> “Mineral Oil,” *Sarnia Observer*, 26 August 1858.

<sup>3</sup> Melanie Kiechle, *Smell Detectives: An Olfactory History of Nineteenth-Century Urban America* (Seattle: University of Washington Press, 2017), 7. For Canadian studies that discuss olfactory sense and environmental change, see Nicolas Kenny, *The Feel of the City: Experiences of Urban Transformation* (UTP,

background, it is possible to examine the history of oil development with a completely new approach. As a result, this article seeks to examine how different populations reacted to the odour of Enniskillen's oil. This study will focus on the British public's initial reception to Enniskillen oil in 1861-1862, the response of Canadians outside of the oil region, and the reaction of the local population in Enniskillen.

In Britain, the populace, with the support of their municipal governments, organized to prevent the growing intrusion of pungent Canadian oil into the country. Canadians in cities like Toronto raised awareness about the odour of oil coming from refineries, but municipal officials largely ignored these concerns. Because the majority of oil development in Southwestern Ontario occurred in Enniskillen Township, that will be the primary focus of this examination. This article will also discuss public opinion in other oil producing centres in Enniskillen Township, such as Oil Springs and Petrolia.<sup>4</sup> The local population of Enniskillen, Canada's primary oil producing region in the nineteenth century, was largely unconcerned by the odour, even though Enniskillen's rivers and land were polluted so much that the air was de-

finied by the consistent smell of oil. Part of this indifference was influenced by the importance of the oil industry to the local economy. Locals were also unusual in that they were constantly exposed to the odour of oil—they were immersed in it. As a result, their reactions to the odour of oil were quite different from that of others. Many locals showed little concern toward it. To them, the smell of oil faded into the background. However, some were unwilling to accept the stench, and either moved away or attempted to eliminate the worst of it.

The unfavourable odour of Enniskillen oil proved to be an obstacle that jeopardized the early success of Canada's oil industry. High quantities of sulphuric compounds in the oil created a potent odour usually described as a mixture of onions and leeks.<sup>5</sup> Soon after his discovery of oil, Williams recognized the odour would pose a problem for consumers. In 1859, he tried to remove the odour with the assistance of Professor Henry Croft from the chemistry department at Toronto's University College.<sup>6</sup> According to the *Globe*, Professor Croft was successful in removing the odour of the oil on 31 May 1859. However, there are some inaccuracies in the *Globe's* reporting. For example, the first article covering the

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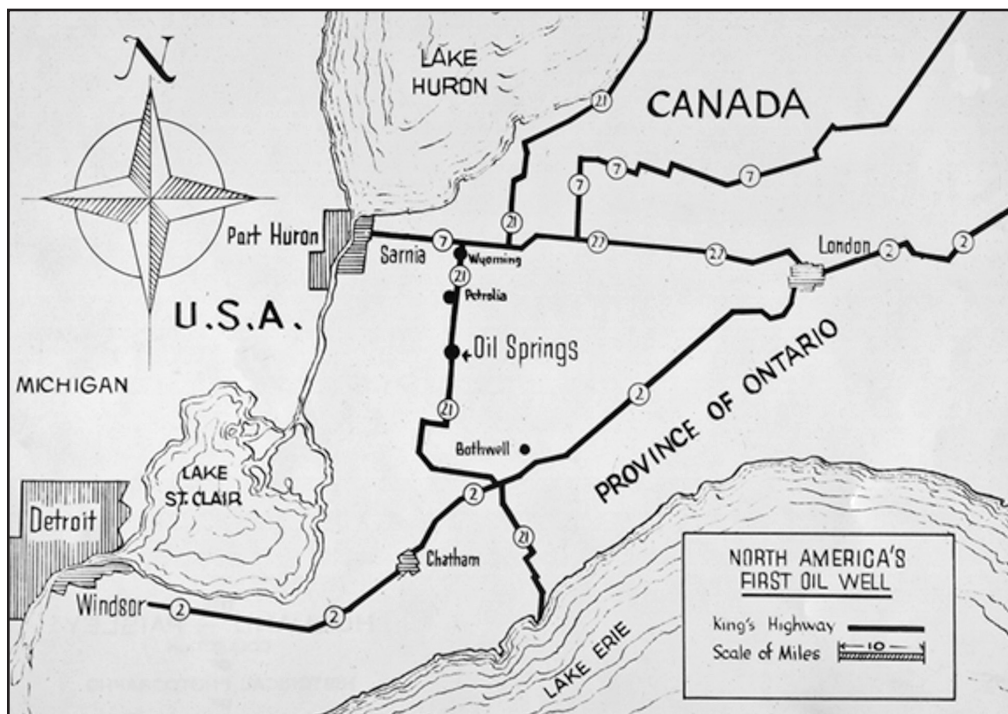
2014); Joy Parr, *Sensing Changes: Technologies, Environments, and the Everyday, 1953-2003* (UBC Press, 2010).

<sup>4</sup> Over the course of the nineteenth-century Petrolia was referred to as both "Petrolia" and "Petrolea." However, when the town was incorporated, it was under the name of "Petrolia" in 1866. For the purpose of this paper I will only be using the name Petrolia.

<sup>5</sup> Norman Ball, "Petroleum Technology in Ontario During the 1860s" (Master's Thesis: Toronto, Institute for The History and Philosophy of Science Technology, 1972), 192.

<sup>6</sup> "The Enniskillen Oil," Toronto *Globe*, 31 May 1859.





Map showing access to the first oil well in Oil Springs, Ontario, 1959. "Map of Southwestern Ontario," (Provided by Lambton County Archives).

successful development of the deodorizing method was in May of 1859, yet another article in October of the same year claimed that the method of deodorizing oil had just been produced.<sup>7</sup> Part of the reason could be the *Globe's* attempt to stimulate the growth of the infant oil industry. In both articles the *Globe* acknowledged the necessity of deodorizing to produce a marketable product, so it is possible that the earliest article on the deodorizing method was embellished. The earliest advertisement that Williams made in the *Globe*, for a deodorized oil, occurred on 25 July 1860, fourteen

months after the article in May, 1859. It is impossible to truly determine whether the odour was successfully removed, but given that a quick whiff would have provided a definitive answer, it is unlikely that Williams would continue advertising his product as odourless.

Although a deodorized product was produced early on, people who developed methods to successfully deodorize the oil kept the formula secret. Numerous producers and refiners over time tried to develop their own methods of deodorization, but many lacked the equipment and scientific background

<sup>7</sup> "Williams' Coal Oil," *Toronto Globe*, 17 October 1859.

to replicate the methods.<sup>8</sup> As consumption of oil continued to increase, knowledge about deodorization grew in value. Some refineries placed ads for a refiner “who understands the deodorizing and treating the Canadian oil thoroughly.”<sup>9</sup> On this topic, a correspondent from the *Globe* reported that

The art of treating petroleum so as to produce a good burning oil free from smell, is but very imperfectly understood by many of those who have engaged in it. The truth is, that to succeed in it requires a combination of scientific knowledge and practical skill which very few possess.<sup>10</sup>

With most oil labourers lacking a background in chemistry, their success of developing a form of deodorization was unlikely. As a result, producers had to decide whether they would spend the money to deodorize their oil at their competitor’s refinery, or simply sell the oil with its scent intact. Many chose the latter.<sup>11</sup> Ultimately, Canadian oil acquired a negative reputation as a product with a pungent smell throughout the nineteenth century.<sup>12</sup>

The discovery of new oil supplies

in 1862 on the outskirts of Oil Springs, spiked production of Enniskillen oil to such an extent that it started outpacing domestic consumption. Producers responded by shipping oil to Britain in the spring of the same year.<sup>13</sup> At first, the increasing amount of oil did not pose a



“Pyramid of Oil Barrels at Petrolea,” (Lambton County Archives).

problem, partly because British refineries were developing their own methods of deodorization. However, because some of these refineries were located within major British cities, nearby citizens complained about the increasingly prevalent smell of sulphur stemming from factories holding Enniskillen oil.<sup>14</sup> As a result, locals became increasingly hostile towards

<sup>8</sup> *Ibid.*

<sup>9</sup> Great Western Oil Refinery, “Classified Ad 1: Oil Refiner Want,” *The Toronto Globe*, 27 September 1865.

<sup>10</sup> “Oil Springs Items, (London News),” *Toronto Globe*, 17 July 1863.

<sup>11</sup> Alex S. McCrae, “Liverpool Correspondence (To the Editor of the *Chronicle*, Oil Springs, Canada West.),” *Toronto Globe*, 22 October 1862.

<sup>12</sup> Cumbrian, “An Illuminant and a Fuel,” *Toronto Globe*, 23 December 1892

<sup>13</sup> “Enniskillen Oil in Britain,” *Sarnia Observer*, 4 April 1862.

<sup>14</sup> Alex S. McCrae, “Liverpool Correspondence (To the Editor of the *Chronicle*, Oil Springs, Canada

the presence of Canadian oil within the boundaries of their cities.

After the spring and summer of 1862, Enniskillen oil was struggling to break into the British market against the practically odourless Pennsylvanian oil. According to Alex S. McCrae, a British oil broker based in Liverpool, the reputation of Canadian oil had become increasingly negative. In a letter to the *Oil Springs Chronicle*, he remarked, "I sold today 1,000 casks of American crude oil at £16 5s, to £16 10s, per ton. I tried today to sell Canadian at £12 to £12 10s, and could not sell a barrel. Now, how is this?" McCrae carried on by asserting, "No equivocation will avail; we must all confess the very repulsive smell attaching to the Canadian and not to the American oil." Here lay the problem for Canadian oil: people capable of deodorizing were unwilling to share the information for free, while producers were not interested in paying the cost to refine the oil. The plan for British refineries to deodorize the oil could have worked, but the local population could no longer stand the presence of Canadian oil. According to McCrae, "All our refineries are in populous districts, which becomes [sic] completely nauseated by the execrable effluvia arising from the distillation of the former (oil), and the manufacturers is [sic] scarcely at work before he is indicted as a nuisance by his neighbour and obliged to succumb." McCrae

sketched a grim picture of the future of Canadian oil in Britain. He pointed out that "In Glasgow they have been entirely prevented from using the Canadian, and it has come here [Liverpool] for sale. In London large works were indicted and forced to change last week; and here two manufactures have only escaped legal proceeding by promise not to use the Canadian again."<sup>15</sup> At this point, the notable quantity of American and Canadian oil exported to Britain had started to create a strong aversion to the comparably more odourful Canadian oil. Offering advice to the Canadian producers, McCrae recommended that they deodorize the oil before shipping it to Britain if they expected their product to be sold.

Although McCrae accurately depicted the harsh reception of Canadian oil, he was unable to capture the depth of the criticisms. A unique characteristic of the British response to the oil is the consistent ways that people across that country reacted to it. For example, Liverpoolians and Glaswegians were equally successful in tracking the odour of oil back to the refineries and storehouses holding it. In Glasgow, the locals had tracked the odour of oil back to its source in the Springtank Chemical Company.<sup>16</sup> In Liverpool, citizens had determined that the odour was coming from the storage containers at the Birkenhead docks.<sup>17</sup> Britons in different cities considered the odour of Canadian oil to be hazardous to health, a threat to

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West.)," *Toronto Globe*, 22 October 1862.

<sup>15</sup> *Ibid.*

<sup>16</sup> "Alleged Nuisance," *Glasgow Herald*, 8 October 1862.

<sup>17</sup> "Cleanings," *Royal Cornwall Gazette*, 28 November 1862.

property, and a threat to nature—animals and vegetation.<sup>18</sup> The British population opposed to the odour reacted by pressuring government officials, using the law, creating petitions, threatening financial consequences, and trying to raise awareness through newspapers.

There is no reason to assume that the local population had any reason to specifically oppose Canadian oil, besides the smell. Oil Springs was a far-off corner of the British Empire that meant nothing to the average citizen. That the oil's odour alone was the cause of disgust is evident in the incident of the Liverpool ship, the *Hindoo*. In October 1862, the *Hindoo* was transporting 3,000 barrels of oil from Enniskillen across the Atlantic to Britain. A storm incapacitated the ship off the coast of Liverpool and, worse, a fire broke out on board. With a rudderless ship and cargo set to explode, some of the crew attempted the five-mile swim to the shore. Five men drowned trying to do so.<sup>19</sup> The ship ran aground, and some survivors, including Captain Murphy, were reportedly “nearly poisoned by [consumption of] the petroleum.”<sup>20</sup> In Liverpool, the first knowledge of the shipwreck came when the odour of 3,000 barrels of oil, much of it set aflame, floated into town. Even though the fire was “about five miles distant, the town was

filled with the disagreeable smell of petroleum.”<sup>21</sup> The case of the *Hindoo* wreck demonstrates that people were capable of noticing drastic changes in the odour of their environment. Although there were significant oil fires in Oil Springs and Petrolia during the late nineteenth century, there are no records of the locals there complaining about the aroma that these fires produced. This variance was likely due to the background of each respective populace; the citizens of Enniskillen were more acquainted with and tolerant of the odour of oil.

There is not enough evidence to suggest that 3,000 barrels of American oil provoked the same powerful reaction as the burning of the Canadian oil. Several British sources made the distinction between American and Canadian, by writing that the Canadian oil possessed the disagreeable odour.<sup>22</sup>

Although the refineries in Liverpool were the most receptive of the British cities to Enniskillen oil, complaints from the citizens bubbled over in October of 1862. An article by the *Liverpool Mercury* under the headline “Strange Incident,” tried to capture the essence of the revolting nature of Canadian oil. Multiple sources later identify the oil as originating from Canada.<sup>23</sup> The article is worth reproducing in its entirety:

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<sup>18</sup> “The Petroleum Nuisance: Meeting at Birkenhead,” *Liverpool Mercury*, Tuesday, 18 November 1862.

<sup>19</sup> “Burning of a Petroleum Ship, and Loss of Life,” *Glasgow Herald*, 27 October 1862.

<sup>20</sup> “Burning of Vessel,” *Lloyd's Weekly Newspaper*, Sunday, 26 October 1862.

<sup>21</sup> “Burning of a Petroleum Ship, and Loss of Life,” *Glasgow Herald*, 27 October 1862.

<sup>22</sup> “Petroleum,” *Liverpool Mercury*, 9 December 1862.

<sup>23</sup> “Petroleum,” *Liverpool Mercury*, 28 November 1862.



The people of Liverpool appear to be pretty generally convinced that the storage of petroleum oil in the crowded districts of the town is one of the most intolerable of nuisances. At the south end, so obnoxious has the annoyance become that a memorial to the town council on the subject was prepared. From the fact that most of the members of the council live in the outskirts, some of our municipal representatives were very incredulous as to the extent of the nuisance, and did not appear at all convinced by the earnest representation of their constituents. The memorialists were determined, if possible, to prove beyond all doubt, and by an olfactory test, the truth of their statement. For this purpose, they procured a gallon of the pure and unadulterated article, and engaged a messenger to convey the same in a two-gallon jar to the Town Hall, where the offensive liquid was to be tested and inspected by the members of the council. As good luck would have it, the poster selected the door of the Town Hall, in Exchange Street West, by which the members of the council generally enter. As he ascended the broad flight of steps with his precious burden poised upon one shoulder, his foot accidentally slipped, the man and the jar both fell, and the oil, with its delicious and savoury odour, ran down the steps and across the pavement. Passers by, in crowding to learn the nature of the accident, were nearly suffocated by the obnoxious smell which greeted them, and the learned town councillors, who were in a few minutes to discuss the nature of the oil, had, with their hands upon their nostrils, to find access to the building by another route.<sup>24</sup>

This captures how the local population of Liverpool perceived the accom-

panying smell of oil as an unacceptable intrusion into their community. It demonstrates an attempt to permanently connect the relationship between the invisible odour harassing the locals and a physical product—oil. Kiechle demonstrates in her book that the invisibility of odour makes it difficult to address a particular smell, as people are then required to find the physical source.<sup>25</sup> The “accidental” breakage of a jar of oil on the steps of city hall was either ingenious or fortunate. No one in the large crowd, including several reputable men, could deny the connection between the oil and its odour. City councillors, and locals not yet exposed to the oil, formed an immediate opinion on the subject. An anonymous source would later acknowledge this event as a turning point that favoured the prohibition of oil: “The disagreeable effluvium arising therefrom [the broken jar of oil] so completely disgusted the olfactory nerves of the few gentlemen assembled that all at once denounced petroleum as a nuisance, and delirious to the public health.”<sup>26</sup> People reacted based on their olfactory senses. In the moment they were likely not thinking about the benefits of importing oil; they simply wanted to get away from the stench.

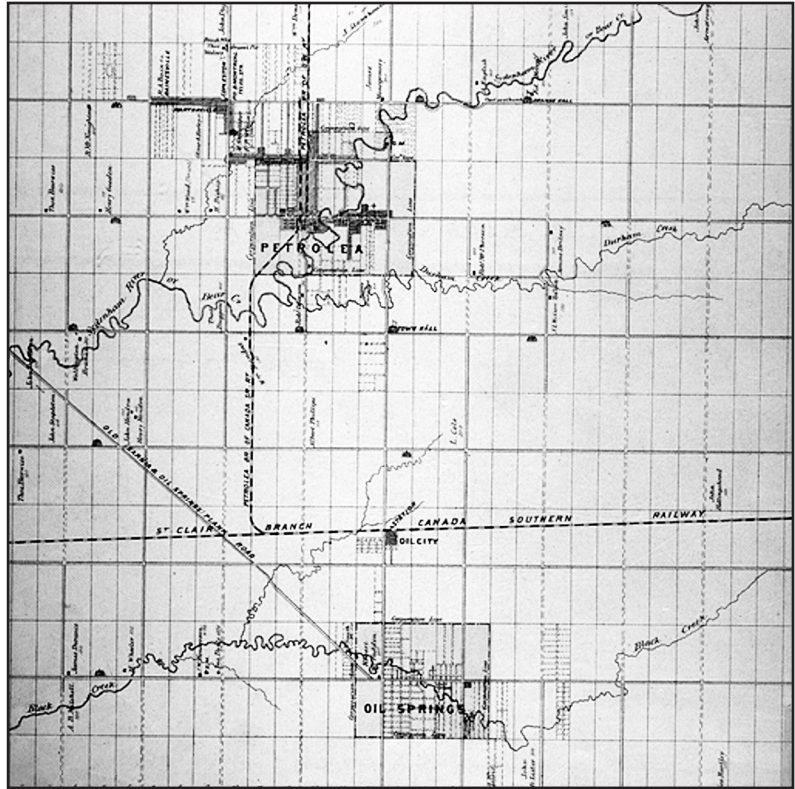
By the fall of 1862, an increasing stigma was already developing against Canadian oil. An article from the *Journal of Gas Lighting*—shared through the *Liverpool Mercury*—examined the

<sup>24</sup> “Strange Incident (The Town Council and Petroleum Oil),” *Toronto Globe*, 2 October 1862.

<sup>25</sup> Kiechle, *Smell Detectives*, 20.

<sup>26</sup> “Petroleum,” *Liverpool Mercury*, 9 December 1862.

*Map of Enniskillen, Petrolia, and Oil Springs 1880. McGill University Digital Library, In Search of Your Canadian Past: The Canadian County Atlas Digital Project, <<http://digital.library.mcgill.ca/CountyAtlas/default.htm>>.*



qualities of both American and Canadian oil. Through analysis, the authors determined that the “low-priced article imported from Canada emits an offensive vapour, of which the fact

the members of the Liverpool town council had recently personal experience, when discussing the question whether it was a nuisance or not, by breaking of a large jar containing oil in front of town hall.” The author of the article blamed “Canadian rock oil” for all the complaints about odour in Liverpool. According to the article, the odour had become so bad that potential refineries were not allowed to expand until they removed the nuisance.<sup>27</sup>

In Liverpool, men engaged in the oil trade were struggling to maintain

support for the refining business. To address the problem of the odour, one man claimed to have invented an airtight metal cask that would prevent the odour from leaking into the air.<sup>28</sup> However, it is not clear that this invention was a success given the continued complaints of oil’s odour. A further attempt was made inside of the refineries to divert the odorous air back into the furnace by using a giant fan. Ultimately, its not clear whether any of these methods worked given the continued concerns from locals.<sup>29</sup>

As the storage and refinery of oil

<sup>27</sup> “The Storage of American Petroleum,” *Liverpool Mercury*, 29 October 1862.

<sup>28</sup> “The Petroleum Controversy,” *The Leeds Mercury*, 29 September 1862.

<sup>29</sup> “The Safe Keeping of Petroleum,” *Gazette, and General Advertiser for Lancashire, Westmorland,*

continued to grow, inhabitants of Liverpool sustained their disapproval. In October 1862, the opposition won a major victory against the industry by forcing a town hall meeting to address the issue of odour. The townspeople convinced the Assistant Overseer and Inspector of Nuisance to back their objections.<sup>30</sup> With support from reputable people as well as the public, a further meeting was scheduled for Birkenhead's town hall on 18 November 1862 to try to limit the expansion of proposed refineries and storage locations in Birkenhead and surrounding neighbourhoods. A petition, signed by 150 property owners and ratepayers in Birkenhead, was submitted at the meeting and, curiously, a bottle of Canadian oil was presented to the chairman. It is not clear who did this, but it is noted that the odour of the oil was "intolerable." Whoever brought the oil likely recognized that words alone would not do the odour justice. Businessmen, land owners, and inhabitants of Birkenhead were concerned about the damage that such oil would have on their property. Merchants were afraid that the aroma would negatively impact their products, while also lowering the value of surrounding neighbourhoods. One merchant complained that the odour had attached itself to 100 barrels of his flour, which lowered their value. Businesses were already threatening to pull out of the neighbourhood if the stench was allowed to expand. Land-

owners were fearful of losing reputable tenants who would join those inhabitants trying to get away from the odour.<sup>31</sup>

Citizens opposed to the oil also argued that the odour was injurious to health. Mr. D.C Buchanan of Wallsey argued that "guano and salted hides were a nuisance, but they were rose-water and lavender compared to this [oil] horrible stuff." His comment demonstrates that people were conscious of other odours in the city, but none were nearly as repulsive as oil. Buchanan reaffirmed his point, arguing, "Of all the concentration of stinks that ever smelled the olfactory nerves, this petroleum was the very worse he had heard of." Many present agreed. Other issues were also raised. One man was concerned about the combination of wind and the odour, which culminated in what he called a "petroleum wind," a gust of revolting odour that made it difficult for him to eat throughout the day. Another said that local physicians had reported to him that many of his patients had been complaining about being affected by the odour. Some men were so concerned that they were sending their wives and children away to the country to safeguard their health. With such strong support against oil, a motion was raised: "That in the opinion of this meeting the establishment of petroleum stores on the margin of the Great Float will be a serious nuisance and will endanger the health of the inhabitants." The motion

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*Yorkshire, &c.*, 11 October 1862.

<sup>30</sup> "Weekly Summary," *Cheshire Observer*, 11 October 1862.

<sup>31</sup> "The Petroleum Nuisance: Meeting at Birkenhead," *Liverpool Mercury*, 18 November 1862.

passed unanimously, showing that both councillors and citizens considered oil as a threat to their health. The meeting then continued with further arguments, but ended with an agreement that there would not be any further expansion of the refining works in Birkenhead.<sup>32</sup>

After the meeting, an anonymous citizen under the name of "One who is anxious for the Welfare of the Port of Liverpool," attempted to offer an alternative solution to banning all oil. He suggested that only Canadian oil should be prohibited, especially since the Pennsylvania oil was not known to have the same pungent smell.<sup>33</sup>

Producers in Enniskillen struggled to rectify their oil's reputation, but it was to some degree too late. By 1864, the Canadian oil industry had lost a large part of its market in England. According to a *Globe* correspondent, the loss of the English market was a result of the poor quality of undeodorized oil sent there. The *Globe* added, "This, in conjunction with attempts made to refine crude oil in England, and the outcry caused by the odour arising therefrom, begot for the Canadian product a reputation which in its present state is most unjust."<sup>34</sup> The reasoning provided by the correspondent aligns with concerns earlier raised by Liverpool oil broker Alex McCrae.

Although efforts were underway

to increase the quantity of deodorized oil, some Canadians believed that not enough was being done to improve its reputation. A *Globe* reporter argued that the standard for deodorizing the Canadian oil was not high enough. Although he did concede that the refineries capable of deodorizing oil had met the necessary standards in odour for the British, he believed that it could be improved upon. In particular, the reporter suggested that "The smell can be temporarily removed without much difficulty, but on the voyage new sulphated hydrogen seems to be created for it resumes all the original odour."<sup>35</sup> The accuracy of the claim is not apparent, especially given his earlier concession that the British were content with the deodorizing efforts of some refineries. By 1870, Liverpool oil broker Alex S. McCrae wrote to Enniskillen that the Canadian deodorized oil had as promising a future as the American oil. McCrae also noted that undeodorized Canadian oil was still being sold inside the city.<sup>36</sup>

Despite continuous efforts throughout the nineteenth century to improve the reputation of Canadian oil, it still retained its negative reputation. According to a *Globe* article in 1892:

Now, this many-headed tax on imported petroleum would not be so unbearable did it keep the American oil out of our market. But I need not say such is not the case, for users

<sup>32</sup> *Ibid.*

<sup>33</sup> "Petroleum," *Liverpool Mercury*, 28 November 1862.

<sup>34</sup> "Petroleum Trade," *Toronto Globe*, 28 January 1864.

<sup>35</sup> "The Oil Interest," *Toronto Globe*, 28 May 1868.

<sup>36</sup> Alex. S. McCrae, *Toronto Globe*, 19 July 1870.

of illuminating oil prefer the American article from the Bradford [Pennsylvania] region, notwithstanding the heavy duty and higher price, owing to its freedom from sulphur, while the Lima and Canadian oils are only purchased by those who either must, from their poverty, buy the low-priced illuminants or are indifferent to the smoke and smell from the heavy charge of sulphur with which our native oil is laden.<sup>37</sup>

As the correspondent argued, the tax on imported oil was pointless, as consumers preferred a product that was not marked by the pungent odour of sulphur.

By the end of 1885, Enniskillen was a far different place from the land that the first oil prospectors had observed in 1858. Forests had been replaced by oil derricks, rivers were flooded with oil and refinery chemicals, thousands of abandoned wells remained, and hundreds of large holes were dug into the earth to be used as a method of storing oil.<sup>38</sup> All of these different forms of environmental change produced throughout the nineteenth century culminated in in the air of Enniskillen being permeated with the odour of oil. Given that most outsiders did not have to deal with the odour on a consistent basis, their reactions to the oil were more critical.

When visiting Enniskillen, visitors often described their first interaction with the odour as an unyielding attack on their senses. One frustrated *London Free Press* reporter wrote, “You smell it

and taste it in the air and hold your nose to lessen its ungracious influence upon the olfactories.”<sup>39</sup> The reporter’s emphasis on the consistency of the odour stems from his concern that such a horrendous smell was found everywhere. Many other reporters would follow with similar complaints, all containing the underlying concern that they could never find any relief from the odour so long as they were in Enniskillen.

When a group of Toronto’s leading businessmen and scientists, including Mayor John George Bowes, arrived in Wyoming—a town north of Enniskillen—in 1862 to witness a flowing well, they quickly became distracted by the odour. Although Wyoming was not technically an oil-producing region, it was the principal corridor for transporting oil from Oil Springs and Petrolia to the refineries in Hamilton, Sarnia, London, and Toronto, because it possessed the only railway that was connected to large cities. As a result, the Wyoming train station was surrounded by barrels and vats full of oil waiting to be loaded. The Toronto visitors reported that the smell of the region was so powerful, “Travellers sometimes pass the stations at which they wish to stay; but no such mistake ever occurs at Wyoming. The odour arising from the oil prevents it.” The air was so foul that, “On the evening in question, the heavily laden air rushed into

<sup>37</sup> Cumbrian, “An Illuminant and a Fuel,” *Toronto Globe*, 23 December 1892

<sup>38</sup> For more on the Canadian Environmental History on Oil Development, see Robert Armstrong, *An Environmental History of Oil Development, 1858-1885*, (UWO, 2019).

<sup>39</sup> “Another Great Flowing Well,” *London Free Press*, 19 February 1862.



the heated cars, awoke the sleepers, and provoked expressions of disgust from all and sundry." They knew had arrived in the oil region by way of its smell, a common characteristic of Enniskillen. In the days that followed, the travellers tried to find ways to escape the smell, but "it was impossible to get rid of the odour. Closed doors were useless. If the pockets of every man had been full of leeks, the scent could not have been worse. Small was the amount of sleep the strangers got Thursday night."<sup>40</sup>

The growth of the oil industry resulted in an expansion of refineries in Sarnia, Toronto, and Hamilton throughout the remainder of the nineteenth century.<sup>41</sup> Concerns about the odour of oil were raised in all of these centres. However, it seems that many newspapers did not follow up or go into a lot of detail about the odour, adopting vague language when reporting concerns. For example, sometimes reporters would hint at the odour problem from refineries—without actually referring to it—by relying on euphemisms like "nuisance."<sup>42</sup> In an 1863 town council meeting in Toronto, one Alderman raised the issue that the "the oil refiners in the Eastern end of the city were a great nuisance and he hoped action would be taken on the subject." He did not explicitly describe the nuisance

as odour, but given the consistency in other sources of using the euphemism, it is likely that this was the problem. Similar to people in Britain, some Canadians in Sarnia attempted to address the odour in 1869 by taking legal action against the expansion of refineries.<sup>43</sup> In 1866, the local population living near a Toronto refinery by the Don River also tried to raise awareness of the odour. However, in both cases it is not clear how successful they were in overcoming the problem.<sup>44</sup>

During the summer of 1862, a Toronto refinery was successfully charged as being a nuisance. James Esmonde's oil refinery was accused of making the western section of the city unwelcoming to its inhabitants. Several witnesses at the trial professed that the refinery was producing a disagreeable smell. However, the defense argued that "no disagreeable effluvium could arise from the refinery, on account of the nature of the patent process used by Mr. Esmonde in deodorising the oil." The jury offered a verdict of "not guilty." The city council and the legal system seemed unwilling to take sufficient action to address the citizens' concerns. Unlike the newspapers in Britain, the *Globe* chose not to pursue interviews or inquiries about the specific complaints likely in an attempt to protect the reputation of the refineries.<sup>45</sup> Only five months

<sup>40</sup> Unknown Author, *Canadian Native Oil: Its Story, Its use, and its profits, with some account of a Visit to the Oil Wells* (London: Ashby & Co, 1862), 21-22.

<sup>41</sup> "Canada," *Toronto Globe*, March 26, 1869. "A Nuisance," *Toronto Globe*, 18 June 1866.

<sup>42</sup> "A Nuisance," *Toronto Globe*, 18 June 1866.

<sup>43</sup> "Canada," *Toronto Globe*, 26 March 1869.

<sup>44</sup> "City News," *Toronto Globe*, 18 June 1866.

<sup>45</sup> "Recorder's Court," *Toronto Globe*, 14 July 1862.

later, when the oil firm of Messrs. Duncan & Clark chose to build a new refinery on the Don, the *Globe* defended the business by arguing that the company “mix with it [the oil] a chemical, which prevents it throwing off an offensive odour, so that their refinery is free from any other noisome smell than that which is given from the crude oil lying in various tanks.” The article also claimed that the refinery used the “the ordinary process of refining oil,” but, with these new chemicals, the odour would not longer be a problem. However, given later criticisms of the odour by refineries on the Don, coupled with the fact that no refinery had yet been successful in preventing the offensive smell, it is likely the *Globe* was boosting the reputation of the oil refiners.<sup>46</sup>

Whereas visitors struggled to accept the odours, Enniskillen’s citizens claimed to have adapted to it. Most of them arrived when the oil industry was just starting, so they grew to tolerate the odour, even as it grew over time. One correspondent who spent time with an oil worker became frustrated when the worker argued that “everything oily about the territory is beautiful.”<sup>47</sup> The reporter responded that “unless you have some near prospect of getting a share of the profits, it is not beautiful, neither in smell nor in looks, but exactly the contrary.” He continued, “Black Creek... as it winds its way slowly

along its narrow channel, between banks covered with derricks, and vats, and well-charred stumps, piles of barrels filled with the unctuous liquid,... is beautiful in his [the worker’s] eyes; because it smells of petroleum, to his nose.” Consequently, the correspondent wrote, “Is it [oil] not worth 6 cents a gallon with every prospect of being worth twice as much this time next year? What should make it beautiful if that will not?”<sup>48</sup> The oil’s worth justified the odour and presumably the environmental devastation that it caused.

Although the odour of Enniskillen was powerful, a writer for the *Globe* argued that it was possible to normalize the smell. All that was required was “a forty-eight- or ninety-six-hour acquaintance with its odours, and the olfactory nerves become insensible to them.”<sup>49</sup> This was not an active choice, but rather a passive consequence of living in the oil region. Another writer from the *Globe* questioned whether the locals of Enniskillen were actually able to ignore the smell. This reporter criticized the reservoirs of oil that stored a thousand barrels worth of oil at one time. He vividly described the putrid smell as reeking “like a compound of onions and gas tar, and though the residents of the place profess not to dislike it, it well-nigh poisons a stranger.”<sup>50</sup>

<sup>46</sup> “New Oil Refinery,” *Toronto Globe*, 2 December 1862.

<sup>47</sup> Similar attitudes—associating the smell of air pollution with money—were held by paper mill workers in northern Ontario mill towns.

<sup>48</sup> *Canadian Native Oil*, 14-15.

<sup>49</sup> *Ibid.*, 15.

<sup>50</sup> “The Oil Region,” *The Toronto Globe*, 2 September 1861.

In response to complaints, a correspondent for the *Hamilton Evening Times* argued that people were overreacting. Ladies, he stated, were the only people who could be excused for raising criticisms of the smell of oil. He questioned the masculinity of critics by claiming that there was

no sound natural reason why full grown male specimen of the genus homo, with a beard and moustache, or at least the 'indications' of such upon his manly face, should either faint upon the spot, or stuff his nose with handkerchiefs upon coming within range of the native article of petroleum.

All the other reporters, by his estimation, "have been all their lives accustomed to such recherche perfumes as the inimitable patchouli or that other fragrant essence patronized by the exclusives of the Paris Jockey Club." He suggested that the other correspondents were pampered and feminine men, for reacting so negatively. He ended his criticisms by conceding that although oil "has no very inviting odour at first, but soon [one] gets used to it and after a few days nobody minds it."<sup>51</sup> But the reporter's defense of the smell was part and parcel of his broader defense of Canadian oil, which was the main focus of his article.

The odour of the oil region and its towns was so apparent that reporters noted when the quality of the air improved. The decline of development at the wells in Oil Springs in 1862 and the falling investment in extracting oil weakened the

odour. According to a writer from the *Globe*, by 1865 the odour of Oil Springs was improving because of the loss of surface oil wells—a type of well drilled near the surface of the soil but above the limestone bedrock. The writer alleged that such wells had been responsible for the strength of the odour in the past. However, this era was slowly fading into history, and with it the smell. "The air of the village is much purer; the effluvia no longer penetrate into the interior of the hotels, and only at intervals as the laden teams pass along, or as a well close by the roadside is approached, is it to be smelled in the streets." The significant improvement in air quality in Oil Springs prompted the reporter to correct past perceptions: "none need now fear, in making a visit to the springs, that they will suffer from the perfumed state of the atmosphere."<sup>52</sup> The loss of the oil industry in Oil Springs had resulted in the loss of some of its negative side effects.

*Belden's Illustrated Atlas of Lambton County 1880* offers a review of the environmental changes that occurred within two decades of oil development. The *Atlas* was written by partners Howard Raymond and Ruben Booth of the Belden Publishing Company, and it offered a detailed description of the oil towns of Petrolia, Marthaville, and Oil Springs. Depicting Enniskillen, the authors argued that even then, in 1880, "Everything smells and even tastes of oil; everybody is covered in oil, thinks nothing

<sup>51</sup> "O.S.C., "The Oil Regions," *Hamilton Evening Times*, 16 July 1862.

<sup>52</sup> "Enniskillen Oil Territory: its Past and Present Locations," *Toronto Globe*, 14 April 1865.

but oil, and talks of nothing but oil.”<sup>53</sup> The description extended to the other oil centres, too.

The Atlas’s claim about the odour was confirmed by Ken MacGregor’s diary. MacGregor, whose family immigrated to Petrolia in 1890 from Scotland, noted the odour of oil in Enniskillen. When he arrived, “With family baggage unloaded on the train platform of Petrolia and speaking for the MacGregor family, the combined odor of petroleum and salt-water aromas were not too impressive.”<sup>54</sup> For MacGregor as for other newcomers, the smell of the region was his first impression, and one of the first signs that this was an oil region. MacGregor made a number of negative comments in his journal about the region’s odour, criticizing the neighbourhood’s ditches because they were filled with oil and refining chemicals. He found it frustrating that kids would commonly fall into the oily ditch water as it meant that “their clothes were so cruddy that they had to be burned.”<sup>55</sup> But over time, he grew to accept the odour. When staying in Pithole, for example, the “King Wells became a favourite water-hole where we learned to swim in spite of the constant oil floating on top of the water, but oily water was the least of our worries.” MacGregor made no further negative comments about the smell. Although he mentions the odour

of oil later in his diary, it is not with the same type of disdain that appears earlier, but rather a simple acknowledgement of the smell. For example, he passively noted, “With the smell of crude oil in me nostrils and after taking over the job of running the oil property, my boss turned out to be none other than Loren (Doc) Crasie of Petrolia.”<sup>56</sup> There is no condemnation of the odour here, just acknowledgement. In general, the local population tended to have the same relationship with oil: they did not ignore the smell, but rather passively accepted it.

One of the few cases of locals reacting negatively came from a group of wealthy oil producers. A reporter from the *Globe* noted that because of the odour “some of the oil-men who can afford it, have therefore purchased land to the west of the Wyoming road, where as yet the odorous liquid has not been found.”<sup>57</sup> Because of their wealth, they could afford to move away—a common response to environmental risks.

Only when Petrolia grew into a much more established town did locals begin to raise concerns about its smell. They were particularly concerned by the ineffective drainage system because it resulted in salt water, oil, and chemicals from the refineries draining through the town and into the river, which contributed to the worsening smell. In 1879, after locals

<sup>53</sup> Edward Phelps and H. Belden & Co, *Belden’s Illustrated Historical Atlas of the County of Lambton, Ontario 1880* (Sarnia, ON: E. Phelps, 1973), 15.

<sup>54</sup> Journal of Ken MacGregor, 21. Oil Museum of Canada.

<sup>55</sup> *Ibid.*, 23.

<sup>56</sup> *Ibid.*, 43.

<sup>57</sup> *Canadian Native Oil*, 24.

complained, the town's council started the search for a permanent solution to the problem. According to the *Petrolia Topic*, "This accumulation of liquid filth has hitherto been carried in open drains through the town and abundant into the adjoining farms or run into the beautiful river which runs through the County with the effect of making every source through which it passes unfit for the use of man or beast." Attitudes were changing in Petrolia: other uses were being envisioned for the river and its environs, uses that were being prevented by the pollution.<sup>58</sup> However, it is curious that the *Topic* chose this moment to acknowledge the problem, given that the rivers had been unacceptable since the 1860s.

The catalyst likely had to do with Petrolia's transition from a shanty oil town to an established urban centre. According to Christina Burr in *Canada's Victorian Oil Town*, Petrolia in the 1870s began to transform into an established economic and cultural centre. Burr defined this transformation as an increase in economic growth, stability in the oil trade, and an increase in cultural organizations for men and women.<sup>59</sup> The omnipresent odour would make it impossible to view the town as space separate from oil development. The *Petrolia Topic* acknowledged that "Ever since oil and salt water were first produced in this neigh-

borhood one of the greatest drawbacks to comfort and pleasure has been and is now the large quantity of mineral water pumping from the wells." The author apparently believed that the oil or saltwater should not remain within the borders of Petrolia, as it had made life problematic. Although the author suggested that the odour did not cause any harm to the health of the locals, he acknowledged that the smell made the air difficult to breathe.<sup>60</sup>

Petrolia's first response was to construct a new town drainage system, though this did not involve mitigating the problems so much as funnelling them out of sight (and smell). Some locals recommended that the oil should be directed towards gravel fissures in the ground. It was said that underneath these fissures there was a "Great Salt Water Vein... at a depth of 500 feet from the surface, [and] there is no way to raise or lower the depth of water than 50 feet no matter if one tries pumping or trying to raise the water."<sup>61</sup> Because of this, the locals believed that this would be the ideal location to bury all the odorous liquid that plagued their town. The land was purchased for this vital project, and a contractor was hired to drill a hole down to the salt water vein. The goal was to direct all the waste from the drainage system there. The newspaper supported

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<sup>58</sup> "Drainage," *Petrolia Topic*, 6 November 1879.

<sup>59</sup> Christina Burr, *Canada's Victorian Oil Town, Transformation of Petrolia from Resource Town into a Victorian Community* (Montreal & Kingston: McGill-Queen's University Press, 2006), 126.

<sup>60</sup> "Drainage," *Petrolia Topic*, 6 November 1879.

<sup>61</sup> *Ibid.*



this plan, stating that it would “effectually remove all causes for continual complaints that reach us.”<sup>62</sup> However, having completed the drilling, Petrolia’s town council simply abandoned the project. We don’t know why but it could have had something to do with the salt water aromas coming from the new well or, perhaps, an inability to strike the vein.<sup>63</sup> Regardless, locals had now recognized that the smells were trespassing on their living space. It is worth noting that they had planned to create a bubble of fresh air around their town and near the river, but were not looking to address the pollution in other parts of the county, or to stop the cause of the odours. They wished only to alleviate the problem without compromising industry. When the project was first announced, the story occupied the front page of the *Topic*, but the project’s elimination received just three lines. Petrolia continued to avoid a complete condemnation of its oil, only raising environmental problems when locals were actively dealing with them.

### Conclusion

The environmental change created by the oil industry was so extensive that the air of Enniskillen was marked for most of the latter half of the nineteenth century with the smell of oil. Documenting odours is not simple: people primarily leave historical documents based on what they see and hear. However, the

odours of Enniskillen prompted them to write about their olfactory experiences. While some local people could passively accept the smell, outsiders could not, and they expressed their discontent through news articles and personal journals. Eventually, even the Petrolia population became so irritated by the smell that they hoped to literally bury the problem.

In Enniskillen, the odour was scarcely mentioned, perhaps because so many locals were either directly or indirectly involved in the oil industry or the aroma was passively accepted as part of their environment. Only when Petrolia began to transition into a more substantial town was a remedy sought. If it were not for outside correspondents, there would be little remaining evidence of the problem; the odour was foreign and novel to them—they were shocked that their olfactory senses were under constant attack and wrote in great detail about the revolting nature of the smell. However, some of them still concluded that it was possible to get used to it. The environmental change brought on by oil development came in many forms, and odours were some of the most pervasive. It is not clear when exactly Enniskillen stopped smelling so strongly of oil, but to the uninitiated, it probably could not have come soon enough.

Examining how three different groups reacted to the odour of Enniskillen oil helps explain how space, time, and identity can influence how people inter-

<sup>62</sup> *Ibid.*

<sup>63</sup> “The Well,” *Petrolia Topic*, 11 December, 1879.

pret their senses. In Canada, outsiders to the oil region raised complaints about the refinery odour within their own cities or the smell that permeated Enniskillen. However, Canadian newspapers lacked the type of condemnation that was pervasive in Britain. There, people were distant from and lacked a connection to the oil industry leaving them free to express

their disgust. Their bodily reactions to the odour motivated them to oppose the importation of unrefined Canadian oil. Here, the far-reaching importance of sensory history becomes clear as people's interpretation of their olfactory senses resulted in changes in public policy, trade relations, and the developing international oil economy.

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