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Sensory History and Future Directions for Working-Class and Urban Environmental Scholarship

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REVIEW ESSAY / NOTE CRITIQUE

Sensing Disorder: Sensory History and Future Directions for Working-Class and Urban Environmental Scholarship

Julia C. Frankenbach

Adam Mack, *Sensing Chicago: Noisemakers, Strikebreakers, and Muckrakers* (Urbana: University of Illinois Press, 2015)

Colin Fisher, *Urban Green: Nature, Recreation, and the Working Class in Industrial Chicago* (Chapel Hill: University of North Carolina Press, 2015)

Nancy B. Bouchier and Ken Cruikshank, *The People and the Bay: A Social and Environmental History of Hamilton Harbour* (Vancouver: University of British Columbia Press, 2016)

Ellen Griffith Spears, *Baptized in PCBs: Race, Pollution, and Justice in an All-American Town* (Chapel Hill: University of North Carolina Press, 2014)

As they shone upon her, the track lights of the CBS recording studio would have taken Rachel Carson a moment to adjust to. The white linen armchair in which she had been asked to sit perhaps felt cool and plush, a reminder of the staged nature of the set, which may have smelled of fresh paint and books. As the camera rolled, Carson steadily defended her new book, *Silent Spring*, from the accusations of American Cyanamid Corporation representative Robert White-Stevens. If Carson felt flush from the pointed, gendered nature of the spokesman's charges against the work she had spent four years assembling, she did not reveal it. CBS's "The *Silent Spring* of Rachel Carson" aired on 3 April 1963 as an audiovisual account of Carson's written manifesto on the dangers of widespread synthetic chemical pesticide use. A plea for measured regulation, *Silent Spring* urged members of postwar society to assume responsibility for preventing destruction of the natural world by industrial and regulatory

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pest control interests.[1] Carson's title, *Silent Spring*, gave lyrical expression to a dire warning: unregulated use of synthetic chemicals threatened to impoverish the world in which people and other creatures live. Silence and other sensory absences, Carson warned, would usher in this sterile new world.[2] The loss of a familiar seasonal soundscape formed a powerful hypothetic, conjuring readers' associations of the spring season with the awakening sensory landscape and with related notions of health, renewal, and hope for the future. This threat formed a crucial tactic of persuasion for Carson, instilling cultural meaning into her formidable scientific critique of unregulated pesticide use. In other words, while empirical evidence supported Carson's claims, the emotional threat of silence delivered her charge. To Rachel Carson, often credited for heralding the North American environmental movement, thinking about the senses and *making sense* were closely related.

This opening sketch serves two purposes. It urges the significance of the senses to North American environmental thought and, therefore, to the scholarship that interrogates it. It also parodies deficiencies in the latter. "Setting the scene" is a common rhetorical strategy in academic writing. By invoking the immediacy of physical sense in their opening passages, many scholars attempt to lure readers into engaging with more abstract ideas.[3] The popularity of this technique makes sensory detail a subject most common in the introductory sections of environmental historical works. Sensory experiences and ideas themselves, until recently, have received little direct attention from environmental scholars, despite the power of human senses as instruments for advocacy; historical barometers of environmental, bodily, and moral wellness; and key historical components of ideologies about racial, ethnic, and class difference. Sensory historians, in company with diverse scholars who embrace sensory approaches, strive to bring these and other roles of the human sensory apparatus to the forefront of historical inquiry. Environmental scholars, in particular, have found sensory ideas and experiences useful for reassembling historical reactions to the modern city. They seek and examine the forms of sensory information that, encoded into discourses of identity, have given spatial logic to developing metropolises. One such scholar may ask, for example, how perceptions of the sound of ethnic dialects affected ideas about racial difference in increasingly diverse urban spaces. Or: what did body odour suggest about a person's class? Were there particular sensations – the feel of

1. Mary A. McCay, *Rachel Carson* (New York: Twayne Publishers, 1993), 75.

2. Rachel Carson, *Silent Spring* (Boston: Houghton Mifflin, 1962), 1–3, 103–127.

3. For skillfully executed examples, see William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton, 1991), and Mark Fiege, *Irrigated Eden: The Making of an Agricultural Landscape in the American West* (Seattle: University of Washington Press, 1999). While these and other works remain of prime importance to environmental scholarship, the rhetorical pattern they demonstrate suggests the broader hierarchy of value that continues to guide academic thought on the kinds of ideas and experiences that merit serious inquiry.

a train's nearby passage, the chill of poorly lit tenements – that could reveal something about a neighbourhood?

These kinds of questions have developed partly as a challenge to what many scholars consider an overemphasis on vision in contemporary cultural studies. However, as cultural historian James W. Cook argues, the "ocularcentrism" of current reproach describes both a historiographical tendency *and* a deeply embedded historical one.[4] Equating vision with perception has a long, significant history in Western culture. Indeed, the hegemony of sight within it helped to inspire the robust critical literature on visual culture that formed an essential part of the "cultural turn" of the 1980s and 1990s.[5] I share with Cook an understanding of sensory history not as a rebuke to visual studies, but as a vital outgrowth of it. Vision, as the best visual studies scholars have shown, constitutes merely one sense mediated by others. Sensory history acknowledges its biases and opens areas of inquiry inaccessible or not readily apparent in visual terms.

This essay proposes and explores one of these developing areas of inquiry. In the past two years, new publications by a diverse group of environmental historians have demonstrated the potential of sensory history to bring urban environmental work into increasingly productive dialogue with working-class history, particularly with regard to the theme of disorder. The phrase *urban disorder* brings to mind cultural historian Carl Smith's 1995 book *Urban Disorder and the Shape of Belief*, which remains the most dedicated theoretical exploration of disorder and its cultural significance as an idea to 19th-century urbanites.[6] Smith argues that three disruptive events – the Great Fire of 1871, the Haymarket bombing of 1886, and the construction and eventual dissolution of the model company town of Pullman, Illinois between 1880 and 1894 – served key roles in a public project to rationalize increasing rates of change and conflict in modernizing Chicago. According to Smith, while few argued with the idea that the city was disorderly, definitions of disorder varied, and the concept became important as the ailment against which many groups advanced competing visions for improvement in the growing urban world. Conflicts in these visions raised the ultimate concern, which Smith perceptively locates in the struggle to define a common cultural consciousness by which to navigate the modern world. The ultimate threat of the 19th-century city, in other words, was not disorder itself but the prospect of failure to locate common understanding of disorder and its meaning to the city and the nation.

4. James W. Cook, "Seeing the Visual in U.S. History," *Journal of American History* 95 (2008): 432–441.

5. Lawrence B. Glickman, "The 'Cultural Turn,'" in Eric Foner and Lisa McGirr, eds., *American History Now* (Philadelphia: Temple University Press, 2011), 221–241.

6. Carl Smith, *Urban Disorder and the Shape of Belief: The Great Chicago Fire, the Haymarket Bomb, and the Model Town of Pullman* (Chicago: University of Chicago Press, 1995).

Smith's work capped a generation of historical inquiry into ideas about urban disorder. Composed mainly of cultural and intellectual historians, this group had begun in the 1960s to explore the cultural anxieties that disorder provoked in middle- and upper-class society.[7] Smith advanced this literature by acknowledging that disorder manifested in growing North American cities as both a subject of urban discourse *and* as a dire physical condition. Indeed, 19th- and early 20th-century urban landscapes often harboured real forms of deterioration, including crumbling ecologies and failing human health. Smith drew clear connections between these physical developments and the broader intellectual conditions that his predecessors emphasized. In particular, Smith's argument for the commonalities between a ruinous fire, a public attack, and a labour conflict was notable because it suggested the historical links between environmental disorder and the misery and unrest of urban working-class communities.

This topical synthesis signaled a disciplinary shift in the study of urban disorder. For a growing contingent of urban environmental scholars, "disorder" brought to mind the breakdown of natural systems that many first-generation environmental scholars had lamented as the perverse legacy of industrial capitalism's rise. The theme also naturally absorbed into contemporary scholarship, which had begun in the early 1990s to turn critical attention to protectionist ideas about how best to "order" people, lands, and the living and non-living materials drawn from them. Environmental scholars of Smith's generation collectively stressed that scholarly and public preoccupation with "nature" and "wilderness" stymied much-needed conversation about how to promote healthful environments and an equitable social world in places of human habitation. Urban environmental historians, in particular, emphasized the physical and sensory chaos of Gilded-Age and Progressive-Era North American cities and the hardship these conditions spelled for working people, many of whom lived and worked in the most poorly organized and underserviced districts.[8] The theme of disorder continues to preoccupy present-day

7. See particularly: Robert H. Wiebe, *The Search for Order, 1877–1920* (New York: Hill & Wang, 1967); Paul Boyer, *Urban Masses and Moral Order in America, 1820–1920* (Cambridge: Harvard University Press, 1978); Karen Halttunen, *Confidence Men and Painted Women: A Study of Middle-Class Culture in America, 1830–1870* (New Haven: Yale University Press, 1982); and John F. Kasson, *Rudeness and Civility: Manners in Nineteenth-Century Urban America* (New York: Hill & Wang, 1990).

8. In his work on Progressive-Era urban smoke abatement crusades, David Stradling describes the filthiness, unhealthfulness, and chaos of modernizing American cities. See David Stradling, *Smokestacks and Progressives: Environmentalists, Engineers, and Air Quality in America, 1881–1951* (Baltimore: Johns Hopkins University Press, 1999). For a detailed examination of how Progressive-Era public health policies relegated poor, immigrant, and racial groups to the most polluted and toxic parts of cities, see Sylvia Hood Washington, *Packing Them In: An Archaeology of Environmental Racism in Chicago, 1865–1954* (Lanham: Lexington Books, 2005). For an excellent investigation of the chemical exposures suffered by working people in turn-of-the-20th-century industrial production, see Christopher C. Sellers, *Hazards of the Job:*

scholars, who explore wildness and hybridity as more constructive, socially conscientious frameworks for understanding chains of environmental causation and change.[9] Environmental historian Paul S. Sutter proposes that sensory history is in fact one of the field's many recent outgrowths as its practitioners seek more specific forms of engagement with the increasingly capacious "environment."[10] Sutter worries, however, that the field's diversification, while productive of new approaches like sensory history, is a symptom of broader uncertainty about its moral commitment. To what – or to whom – are environmental historians responsible? To particular places, to the people in them, or to a more ubiquitous nature that includes both? Scholars of hybridity, while they argue to valuable effect for the inseparability of nature and culture in the rendering of hybrid environments, have yet to fully synthesize the field's commitments into a clear moral agenda for both healthy natural systems and vigorous, fulfilled human lives. North American environmental historians, in essence, struggle to locate common moral ground in a field grown ever more critical of its environmentalist origins.

Sensory history can help to redefine paths to political engagement in the increasingly expansive environmental literature.[11] In particular, sensory historians' preoccupation with urban spaces puts them in a position to help meld environmental history's commitments to the natural world and to understanding the historical roots of economic inequality.[12] In urban settings,

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From Industrial Disease to Environmental Health Science (Chapel Hill: University of North Carolina Press, 1997).

9. This historiographical summary takes cues from Sarah T. Phillips, "Environmental History," in Foner and McGirr, eds., *American History Now*, 285–313.

10. Paul S. Sutter, "The World with Us: The State of American Environmental History," *Journal of American History* 100 (2013): 94–119.

11. Sensory history may also aid labour historians in their struggles to adapt their field to the cultural turn. The broad shift to cultural analysis in North American historiography during the 1980s and 1990s seemed to some labour historians to challenge the field's commitment to activist scholarship. It also seemed irreconcilably at odds with the field's social-historical foundation and its "anthropological," class-based conception of culture. Daniel E. Bender argues that sensory history offers key insights for reconciling cultural and labour history in ways that strengthen both fields. In particular, sensory history's attentiveness to the roles of smell, taste, and sound exposes the frequency with which class hierarchy was defined in terms of physical difference. This insight, urges Bender, encourages a view of class as a constructed category no less significant than those of race, ethnicity, gender, and sexuality. Bender also contends that sensory history offers a key cultural stimulant to labour history. In particular, its sensitivity to diverse working-class ideas about the urban environment promises to broaden labour historians' view of class to a set of experiences that, although shared, included perceptions of difference and conflict within working-class communities. See Daniel E. Bender, "Sensing Labor: The Stinking Working-Class after the Cultural Turn," in Donna T. Haverty-Stacke and Daniel J. Walkowitz, eds., *Rethinking U.S. Labor History: Essays on the Working-Class Experience, 1756–2009* (New York: Continuum, 2010), 243–265.

12. It is important to keep in mind that these urban scholars often neglect to acknowledge

economically disadvantaged people often *sensed* industrial processes before others did because they frequently lived and worked in the city's most egregious sensory conditions. Sensory case studies, therefore, often directly concern these people and the social divisions that confined them to loud, putrid places. To tell sensory stories, in other words, often requires familiarity with urban working-class history, the literature on environmental justice and environmental racism, and the activist currents of thought that guide both bodies of scholarship. Meanwhile, urban sensory scholars' distinct interest in *bad* smells, tastes, sounds, and sensations brings them into the literature of urban environmental issues like pollution and waste accumulation. In essence, sensory history invites its practitioners to integrate urban environmental and working-class history because understanding its case studies often requires both.

Though the invitation cannot guarantee the result, four recent books suggest its strength. Adam Mack explores how elite perceptions of Chicago's sensory landscape affected ideas about livability in new urban spaces from the Gilded Age through the Progressive Era. Mack frames his study as sensory history and openly strives to develop that field. The remaining three works, though they engage the sensory historiography more peripherally, incorporate elements of sensory inquiry into their investigations of cities, citizens, and urban ecologies. These more tacit engagements are particularly interesting, for they collectively suggest the broad relevance of the sensory to the problems that plagued contemporaries of the growing North American urban (dis)order. Colin Fisher asks questions about working-class conceptions of nature that suggest historical connections between sensory definitions of healthfulness and efforts by underprivileged Chicagoan communities to improve the qualities of their lives during the last third of the 19th century. Nancy B. Bouchier and Ken Cruikshank likewise employ case studies that suggest the importance of sensory ideas to the social struggles that defined the environmental history of Hamilton Harbour in Ontario. Finally, Ellen Griffith Spears demonstrates the unexpected currency of sensory perception in a postwar world characterized by the intangibility of its environmental threats. Although these scholars engage sensory history to variable degrees and to different ends, they collectively demonstrate that attention to the senses can revive environmental history's faltering sense of advocacy by engaging working-class history and the activist impulses that guide it.

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that the human senses were of prime significance in all kinds of places. The countryside was a sensed place too – and a place with working people and working classes. While the city is an arbitrary focus area, some of its historical circumstances have directed the resulting scholarship in productive ways. In this essay, I attend to these results, while looking forward to sensory histories that venture beyond the city.

The Unruly Sensorium

Adam Mack's *Sensing Chicago* demonstrates the centrality of sensory history to Gilded-Age and Progressive-Era middle- and upper-class concerns.[13] In a concise, episodic journey through Chicago's sensory landscape, Mack contends that members of the city's economic elite used their senses to gauge the city's fitness for inhabitance. Mainly based on articles from the *Chicago Tribune*, Mack's argument rests on a more fundamental set of principles, one of which is his conviction that the sensory environment constituted more than mere atmosphere. The senses, he argues, were significant for their role in helping elite Chicagoans to discern and navigate the challenges of urban life and those of the industrializing world more broadly. In this telling, the inert "environment" of much urban social and cultural history becomes a lively landscape that entered discourses of health and morality as readily as it entered the human sensory apparatus.

A second fundamental principle is Mack's belief in the need for a more unified sensory history that better integrates its specific historical topics – smell, touch, sound, and taste – into a broader method or set of approaches to studying the past. Mack models such a method by drawing from work on various senses to compile an investigation of "the sensory apparatus as a whole."[14] In Mack's view, middle- and upper-class concerns for civic health were predicated on the invasive nature of Chicago's sensory environment, which indiscriminately penetrated elites' noses, mouths, ears, and bodies. Attention to all of the senses, Mack argues, is therefore an important pathway to insights into these Chicagoans' apprehensions about the urban environment. Mack seeks to demonstrate this using five specific case studies.

In an opening analysis of mid-19th-century pollution debates, Mack argues that the Chicago River's stench profoundly affected middle-class perceptions of livability within the urban order. The liberal dumping practices of Chicago's proliferating riverside distilleries and meat-packing facilities fouled the city's air and dirtied its tap water system. Engineering projects that attempted to distance the city's municipal water intake from effluent sinks largely ignored the continuing problem of river pollution, and the river's malodor became an unbearable offence to middle-class expectations for civic health. Newspaper editorialists equated the river's putrefaction with civic spiritual decay and the corrosion of Chicago's reputation as a modern city. Moreover, the river's olfactory offence struck many middle- and upper-class reformers as a bellwether of private industry's usurpation of the common right to civic wellbeing. Mack is right to emphasize here that "common rights" discourse often excluded riverside workers, whose own olfactory sensibilities, though presumably offended

13. Adam Mack, *Sensing Chicago: Noisemakers, Strikebreakers, and Muckrakers* (Urbana: University of Illinois Press, 2015).

14. Mack, *Sensing Chicago*, 7.

by the smell of the river, were considered by editorialists and their elite readers to be less developed.

In a second case study, Mack argues that survival accounts of the Great Fire of October 1871 expose elite belief in the need for a contained, dutiful working class. Middle- and upper-class Chicagoans reviled the sensory chaos of the fire and the disturbing socialistic implications of forced evacuation and disorderly social mixing. Mack's sensory focus reveals an irony: while the fire devastated elite Chicagoans' efforts to control the sensory landscape, it also invited upper-class performances of sensory refinement. Mack concludes that elite accounts of the "awful democracy" of the evacuation and of revulsion at the fecund immediacy of regrowth all indicate the power of sensory cues to provoke elite anxieties about the urban social environment and its constant threat of disorder.

These anxieties reached their height during the 1877 national railroad strikes, a crisis that helped to seal elite equations of working-class protest and violent radicalism with filth, noise, and ignorance. Relying mainly on articles from the *Chicago Tribune*, Mack shows that many editorialists attributed the city's angry, threatening class politics to the foulness of working-class neighbourhoods. Rather than inspiring the city's organizers to support redistributive reforms, these beliefs spurred misguided projects to change working people themselves. Railroad sleeping-car magnate George M. Pullman's failed attempt to refine workers' sensibilities through his model company town during the 1880s and early 1890s demonstrated the ineptness of upper-class prescriptions. Most importantly, it reveals the significance of ideas about sensory difference to elite notions of labour's marginality in the modern city.

Mack turns to a middle-class perspective more sympathetic to immigrant labour in his fourth chapter. He notes that Upton Sinclair's 1906 polemical novel, *The Jungle*, fixated upon the stench, noise, and cold of labour in the industrial meatpacking houses.[15] To Sinclair, the grind of labour dulled immigrants' senses, thus blunting their abilities to resist the dehumanizing aspects of industrial capitalism. In a somewhat clumsy transition into biographical analysis, Mack argues that Sinclair's own ascetic lifestyle and his concern for workers' sensory alienation gave rise to a complex sensory politics in his writing. According to Mack, this complexity manifests in *The Jungle* with Sinclair's typecasting of Black strikebreakers as torpid and depraved. Mack criticizes this racially divisive idea for interrupting the class-based dialectic Sinclair was attempting to establish between the sensory richness of ethnic working-class life and the sensory poverty of factory labour. Mack finds Sinclair's pedantic, disembodied conclusion on Chicago's socialist future equally troubling, since it fails to offer a solution to the sensory outrages of industrial capitalism.

15. Mack focuses on Sinclair because he feels that the novelist's work represented the beliefs of other proponents of the developing socialist movement.

Mack falls short of connecting the novel's narrative disjunctures to broader conditions of turn-of-the-century political discourse, but he succeeds at using Sinclair and *The Jungle* as a launch pad for his concluding study on Chicago's "White City" amusement park (named for the architectural centerpiece of the 1893 World's Fair). Synthesizing secondary literature on consumer history, Mack argues that elite cultural reformers expected the White City to serve as a sensory respite for working- and middle-class urbanites. The park's poor sales, however, indicated its failure to ameliorate the city's sensory deficiencies. Meanwhile, critics panned the sensory cheapness of a blooming national consumer culture, denigrating its role as the newest of the sensory landscape's threats to civic health. In the absence of a conclusion, this last thought is Mack's parting word.

Sensing Chicago mounts an eloquent, forceful argument for the importance of the senses to elite valuations of the developing city. Mack's subtitle neatly gathers together the connections he draws between the senses ("noisemakers"), class conflict ("strikebreakers"), and environmental politics ("muckrakers") in Gilded-Age and Progressive-Era Chicago. His methodological argument regarding the significance of the senses is admirably clear, and largely convincing: the senses served not only as nodes for the intake of environmental information but as composite cultural gauges for social standing. In a late Victorian urban world plagued by confidence men and other urban pretenders,[16] the truly elite classes could be said to comprise only those whose elevated sensibilities precluded them from the degraded ways of life required of more brutish sorts – those who naturally composed the labouring classes. Sensory refinement, in other words, served a dual performative role: it validated middle- and upper-class membership while naturalizing social segregation along class lines. Mack finds this sensory politics woven into an elite environmental discourse that was concerned with distinction from the urban poor and their squalid places. The unruly sensory landscape frustrated this desire. Failed attempts to enforce sensory boundaries upset middle- and upper-class conceits to control and provoked fears that the city's overwhelming disorder disqualified it from respectability. For at stake in the uncontainable sensory environment was the very uniform social stratification that urban environmental planning was intended to preserve and enforce. Elements of design like the grid, for example, though they helped to contain the working classes, failed to control the movement of unwelcome sounds, smells, tastes, and vibrations through the composite cityscape.[17]

16. While the classic work on confidence men focuses mainly on the Antebellum Era (Halttunen, *Confidence Men and Painted Women*), Perry R. Duis offers an excellent description of con artist activity in Chicago during the Gilded Age and Progressive Era. See Perry R. Duis, *Challenging Chicago: Coping with Everyday Life, 1837–1920* (Urbana: University of Illinois Press, 1998), 247–250.

17. In its emphasis on this dialectic of control and disorder, Mack's work resonates with a great deal of second-generation environmental historical work that emphasizes the resistance of

It is important to keep in mind that, while Mack's work successfully defends sensory ideas as key components of middle- and upper-class urban discourse, it does not engage working-class perspectives. Furthermore, Mack relies on discrete bodies of evidence that substantially limit his explanatory range. While this is understandable in light of Mack's modest purpose of demonstrating and promoting a method, Mack neglects to openly consider whether his circumscribed sources sufficiently portray the ideas of the "middle and upper classes" about which he expansively writes. Moreover, Mack analyzes only certain experiences – shocking, extraordinarily negative ones – that do not encompass the full range of ideas and experiences to which sensory history is obliged. Because Mack's curiosity lies in the socially anxious sentiments of the urban elite, he places disproportionate focus on the impact of sounds, smells, and other experiences that *offended* the normative sensory parameters of that group's desired world. With this approach, Mack runs the risk of normalizing the privileged perspective he ultimately seeks to historicize.

These points aside, the five case studies Mack explores demonstrate the tendency of sensory history to call forth both urban environmental and working-class history – particularly in the urban context to which the approach is most frequently applied. Despite his stated interest in middle- and upper-class people, Mack's exploration of Chicago's sensory landscape brings him to the city's most polluted and unpleasant places – and, therefore, to the working people who lived and laboured in them. The banks of the Chicago River, the railroad lines, the meatpacking slums, and the loud exhibition spaces at the White City amusement park, while sites of ecological decay and sensory chaos, were also places for work. The distinction of these workscapes as sensory aberrations in the urban environment affirms the historical links between environmental degradation, the subjection of working-class people, and the effectiveness of sensory history as a drawstring between them.

Urban Artifice and Working-Class Cultures of Nature

Three additional works, though they do not directly engage sensory history, demonstrate the broad relevance of the sensory to the common working-class and urban environmental past. Colin Fisher's *Urban Green* is a fitting follow-up to Mack's project, for it more directly engages the ideas and experiences of working-class people.[18] In a succinct study of working-class Chicagoans, Fisher argues that these people's experiences of nature were historically significant. A robust urban environmental literature rightly emphasizes the differences in quality of life between urban elites and economically marginalized people.

"wild" forces to human manipulation, dissolving the conceptual divide between the natural and the artificial. See, for example, Cronon, *Nature's Metropolis*; Fiege, *Irrigated Eden*.

18. Colin Fisher, *Urban Green: Nature, Recreation, and the Working Class in Industrial Chicago* (Chapel Hill: University of North Carolina Press, 2015).

However, scholarly emphasis on material disparity has bled into assumptions of intellectual difference. While working-class people disproportionately suffered from environmental injustices, their relationships to the environment extended far beyond loss and affliction. Many poor, foreign-born, and lower-class people valued and sought out the attractions of nature, something that, for Fisher, manifested in what he calls the city's "green spaces." Fisher's argument, which treats the period from the 1880s to the onset of World War I, develops in two thematic parts – one on places, or urban "green spaces," and one on people.

In the first part, Fisher explores the places turn-of-the-century working-class Chicagoans went to find nature. He argues that, although some working-class people ventured beyond city limits on their time off, most found "green spaces" within the metropolis. In the late 1880s, municipal leaders designed Jackson and Lincoln Parks to provide working people with respite from the "artificial" overstimulation of the urban world.[19] Meanwhile, a Progressive-Era reform movement for playgrounds and athletic parks in Chicago's working-class neighbourhoods provided more readily accessible forms of "green space." Commercial forests, beer gardens, and cemeteries also served as nearby sources of nature for working-class Chicagoans. Those who could not afford leisure in these places may have taken comfort in what Progressive-Era amateur naturalist Leonard Dubkin termed "sidewalk naturalism," enjoying vacant lots, river banks, and tenement rooftops as places for intimacy with the natural. (Here one wonders what Mack would say to the proposition of enjoyable leisure on the Chicago River).

Fisher elaborates these claims in his second main section, which argues that working-class groups used rural and wild landscapes as well as urban "green spaces" primarily to imagine community. Early 20th-century European immigrants, their American-born children, and African Americans sought natural spaces to articulate and celebrate their respective common histories, rooted in the landscapes of preindustrial homelands, both remembered and imagined. Increasingly active in the city's tumultuous labour struggles, these groups also used natural spaces to envision common reformed futures. Fisher begins with European immigrants, who used the former strategy to counteract the socially disintegrative effects of loud, putrid, dirty living spaces and dangerous workplaces. Affirming the importance of time away from work and home, immigrants fiercely defended their right to participate in group activities like ethnic sports, music-making, and drinking in public spaces on Sundays. Immigrants also sought landscapes of leisure to remember distinct ethnic pasts rooted in villages or regions they had left behind. Nationalist festivals like the German Cannstatter Volksfest held in "green spaces" helped immigrants to forge community by celebrating shared memories of their homelands,

19. Fisher believes this anxiety – the city as artifice – to have been the greatest contemporary concern of urban life.

increasingly conceived in national rather than regional or local terms. Fisher likens this project to that of the middle- and upper-class Euro-Americans who travelled to national parks to "remember" a shared frontier past.

City-born children of immigrants sought "green spaces" for related purposes. Concerned that the urban environment encouraged shiftlessness in immigrant youth, immigrant leaders encouraged ethnic recreation in neighbourhood playgrounds and athletic parks, though white attitudes toward these spaces constricted in the nationalist wake of World War I. Into the 1920s, immigrant leaders developed outdoor recreation programs for inner city youth. Here Fisher pushes against the scholarly notion of an exceptionally nature-obsessed United States, arguing that romantic attachment to the land was a multinational phenomenon tied to global urbanization. Many urban parks and reserves became meeting places for interethnic gangs of young immigrant men and women, but young Euro-American working-class people of the 1920s rarely socialized with their African American contemporaries.

Chicago's racial segregation, in fact, prompted a growing contingent of working-class African Americans to rearticulate Blackness around common nostalgia for an imagined Africa. Fisher argues that "green spaces" were crucial sites for this collective project. While Black workers typically lived and worked in the least desirable neighbourhoods and workplaces, they also faced intimidation and violence in Chicago's "green spaces." The municipal government's meager attempts to create Black parks revealed its complicity in the project to exclude African Americans from "white" outdoor public spaces. The racial contest over these public spaces culminated in the devastating 1919 race riot, a vicious three-day altercation that began when fourteen-year-old Eugene Williams took a stone to the head while swimming in Lake Michigan, and drowned. Despite ongoing segregation and hostility, Black activists continued to demand equal access, achieving city mandates for parks in Chicago's Black Belt and replacing old goals of assimilation with new goals of racial solidarity within the "Black race." Outdoor pageants and events like Bud Billiken Day (an annual parade and picnic celebrating West African American identity and racial pride) demonstrated the importance of "green" spaces for forging common Black identity.

In a final section on the working classes as a whole, Fisher argues that although Chicago's working people looked to the past to forge group identities, they also pursued nature in increasingly interethnic and interracial configurations, united by hopes for the future. The 1886 May Day general strike for an eight-hour work day united diverse trade unionists, socialists, and anarchists under the banner of a practical, short-term goal: more time for leisure. Fisher argues that many working-class people associated leisure with nature, which they understood as an antidote to the profoundly artificial conditions of turn-of-the-century industrial labour. He urges that the desire for recreation, linked

to hopes for a life with stronger ties to nature, was an undeniable part of the vision for a reformed future compelling both May Day radicals and their more conservative trade-unionist contemporaries. Diverse workers used "green spaces" like parks and camps to recall common grievances and to organize union activity, geared toward securing more time for leisure in these places.

Fisher's ultimate achievement is the creation of a space for immigrant, minority, and working-class people within dominant intellectual historiographies of the environment. Fisher joins a developing body of scholarship that insists that marginalized people are not merely relevant, knowable, and interesting for the conditions of their marginalization. In addition to being oppressed workers, they were also thinkers and important contributors to "nature's nation," a concept that scholars like Henry Nash Smith, Leo Marx, and Roderick Nash attributed almost entirely to the ideas of middle- and upper-class white men. Fisher demonstrates that American ideas about nature developed within myriad "cultures of nature" that transcended ethnic, racial, and class boundaries. This work advances the environmental historiography, which, though it remains attentive to inequity, has only begun to fully explore the industrial and working-class origins of environmentalist thought. Working-class people, while they often serve as the victims in holistic accounts of American capitalist culture, led intellectually complex lives in political dialogue with the forms of disorder they encountered in the urban context. Fisher also advances the literature by bringing workers' bodies and ideas out of the workplace and into places where they dictated the terms of their activities. Furthermore, his clear focus on pluralistic "cultures of nature" corrects Mack's tendency to generalize urban environmental discourse as primarily middle- and upper-class.

Fisher neglects to comment on the sensory significance of the ideas he studies. However, the close connections Mack draws between sensory experience and conceptions of urban health suggest research questions that might have helped Fisher to create a more culturally robust portrait of Progressive-Era ideas about nature. *How*, for example, did Progressive-Era landscape architects expect their urban parks to refresh overworked Chicagoans? Surely, the promises of fresh-smelling air, quiet, and the feel of open space – all sensations bound to urban notions of civic health – were culturally significant to the working-class people who sought them out. Moreover, what cultural and psychological significance did the sound of ethnic music and the feel of commonly shared space have for working-class festival-goers? Fisher rationalizes working-class behaviours as responses to the perceived artifice of the city. But Mack might have urged him to consider that artifice was, before anything else, something that labouring Chicagoans *sensed*. Smelling, hearing, feeling, and tasting Chicago were fundamental elements of the sense of security and hope working people gleaned from natural spaces.

Urbanization and Nature

In their environmental and social history of Hamilton Harbour, Nancy B. Bouchier and Ken Cruikshank continue the refrain of urban disorder, though they venture further afield of sensory history. *The People and the Bay* is a thematically divided, chronological story of developments between people and their place over the past 150 years.[20] It is deeply concerned with questions of provenance and belonging, exploring the key historical question "whose harbour?" by interrogating various social groups' visions for order in industrializing Hamilton. Through deep research in thematic bodies of primary sources, Bouchier and Cruikshank mount an extended argument demonstrating that elite visions for orderly urban development often conflicted with imperatives of ecology and with competing views of nature and its proper configuration in the bay.

Bouchier and Cruikshank focus on Hamilton as "a good example of perhaps a more common type of North American city"[21] – a significant Great Lakes port rather than a gargantuan metropolis. Bouchier and Cruikshank also hope that Hamilton's complex history can help to redirect Canadian environmental scholars' attention from the "wild" Canadian north to the country's southern sites of urban activity. Primarily interested in the processes of Hamilton's urbanization, Bouchier and Cruikshank begin with a section on 19th-century attempts to create a working port. "Civilizing nature," they contend, entailed reconstructing the bay's landscape by filling its swamps for a railway station and opening canals for port trade. As Hamilton's population ballooned at midcentury, sanitarians informed the city's leaders of the importance of access to clean water, and engineers completed an expensive waterworks project in 1860. While promoters took care to ensure clean water for the city's taps, they also sanctioned the ongoing practice of dumping the city's sewage into parts of the bay that abutted working-class homes on the North End. Hamilton's municipal government also played an unusually active role in creating an exclusive district of public and private resorts along the harbour's best beachfront, demonstrating the council's eagerness to promote an image of orderly middle-class Victorian health and recreation. Meanwhile, faced with declining populations of cold-water fish like herring, sturgeon, and northern pike, Hamilton's leaders cracked down on "unsportsmanlike" fishing techniques like gill-netting and spear-fishing, arguing that angling for sport was the only fishing practice that could preserve fish populations and inculcate appropriate (i.e. middle class, sober, contemplative) attitudes to nature. A series of prohibitions spanning from the 1860s to the late 1880s interrupted the seasonal practices of local farmers and other working people for whom fishing was an important means

20. Nancy B. Bouchier and Ken Cruikshank, *The People and the Bay: A Social and Environmental History of Hamilton Harbour* (Vancouver: University of British Columbia Press, 2016).

21. Bouchier and Cruikshank, *The People and the Bay*, 5.

of sustenance during the winter. Nonetheless, Hamilton Bay's fisheries were badly depleted by the 1890s. Failing to protect fish, the prohibitions mainly reflected elite hostility toward working-class Hamiltonians and their "uncivilized" practices. They also masked the true problem, which scientists identified in the 1890s as the city's worsening water pollution problem.

Bouchier and Cruikshank turn next to the period from the 1890s to the 1940s, which they characterize as the time of the city's heaviest industrialization. They begin by describing the work of urban boosters, who hoped to attract industry to Hamilton Harbour without sacrificing its healthfulness and beauty. City councillors made Hamilton profitable for industry by touting its surpluses of electricity and steel and by offering tax incentives and lowered water rates to potential corporate branches. As American companies began to establish branch factory sites along the waterfront, local business leaders formed the Hamilton Harbor Commission to dredge deeper channels and standardize the irregular shoreline. Meanwhile, nuisance complaints about escaping sewage and industrial effluence spurred investment in chlorination and a waterworks filtering system, ensuring clean water for the economic elite while ignoring the hazardous outputs that continued to plague working-class neighbourhoods. Moreover, struggles to protect citizens' access to fishing and swimming provoked disagreement over questions of access and water quality, pitting visions of industrial progress against those of civic health. According to Bouchier and Cruikshank, Hamilton Parks Board leader Thomas B. McQuesten's work on the Hamilton waterfront demonstrates the drive of Hamiltonian social leaders to realize both the city's economic potential and it goals for public health and natural beauty. McQuesten successfully pushed for the creation of carefully planned parkland at the west end of the harbour to serve as a natural, moral antidote to the noise and bustle of the city. Despite McQuesten's eviction of working-class families and transients from the area, Bouchier and Cruikshank conclude that his project illustrated his generation's civic-mindedness and balanced commitment to both industrial prosperity *and* healthy environments.

The final section covers the environmental consequences of 100 years of industrial development, tracing pathways of industrial pollution, grassroots activism, and regulatory remediation in the post-World War I era. "Smoke stacks" initially prevailed as civic leaders focused on channeling postwar growth into improving shipping infrastructure and promoting heavy industrial development along the eastern waterfront. In the 1960s, however, local activists like Gillian Simmons advocated cessation of port development initially to protest aural and aesthetic nuisances and later to preserve natural habitats. Bouchier and Cruikshank express admiration of the increasingly diverse, participatory nature of public efforts to clean Hamilton Harbour's polluted waters and shores. Grassroots efforts, they claim, ultimately succeeded in reconstructing coastal wetlands and securing the harbour's future for economically diverse generations, though scientists continued to discover

"toxic blobs," or sites irredeemably marred by coal tar and other pollutants, into the 2010s.

The People and the Bay is not sensory history, nor does it aim to be. Bouchier and Cruikshank mention sensory experiences only when these form an undeniable component of the stories they tell. Their work is relevant here, however, for its focused attempt to integrate social and urban environmental history. Bouchier and Cruikshank join scholars like Michael Rawson and Mark Fiege who have interrogated the specious divides between human and natural forms of historical agency.[22] They especially align with these scholars in their shared conviction that nature and city are co-constitutive and dynamic, a sentiment best expressed in the closing lines of their introduction: "In 2015, no less than in 1865, human and non-human nature complicated outcomes."[23] However, Bouchier's and Cruikshank's narrative often assumes the feel of a contest between recreation and industry, setting up a dualism that insufficiently represents the social dimensions of land use conflict in Hamilton Harbour. One consequence of this is that Bouchier and Cruikshank tend to condense complex, stratified social matters into holistic "causes." Their habit of referring to Hamilton Harbour's sparring industrial interests with the reductive phrase "smoke stacks" is one example of this. Moreover, their discussion of McQuesten's green space project merely hints at the ironies inherent to the project's eviction of working-class people. Working people's own forms of leisure were spurned by McQuesten and his supporters as crude and inferior. Civic health, in these developers' framing, was an exclusive concept – one that caused upheaval for the people who most desperately needed stability. Bouchier and Cruikshank would have done well to critique the insidious social consequences of both industrial *and* "recreational" interests in more balanced fashion.

Sensory history, while not the solution, can more organically integrate environmental and social concerns because its case studies often invoke both. The most important sensory events in Hamilton's historical development were likely those instances of alarm and disgust in which working-class people noticed developing environmental problems like sewage pollution. Historical moments like these require scholars to pay attention to compounding environmental problems *and* geographies of economic inequality. A sensory historical approach, with its attention to environmental problems and the hardships of working-class life, might have helped Bouchier and Cruikshank to remain more consistently attuned to the plights of working people, for whom "recreation" (in McQuesten's use of the word) portended deterioration – not improvement – in quality of life. I do not mean to suggest that Bouchier and Cruikshank add sensory history and stir. I mean simply to advocate

22. Michael Rawson, *Eden on the Charles: The Making of Boston* (Cambridge: Harvard University Press, 2010); Fiege, *Irrigated Eden*.

23. Bouchier and Cruikshank, *The People and the Bay*, 10.

sensory history as a research strategy that can help urban environmental histories to remain attentive to the class dimensions of the environmental issues they study.

Sensory Difference and the Politics of Exposure

A FINAL WORK ADVANCES a clearer agenda for environmental justice while engaging sensory history more directly. Ellen Griffith Spears's *Baptized in PCBs* is a social, political, and environmental history of Anniston, Alabama.[24] Remarkable for its chronological and disciplinary breadth, it follows the stories of two interwoven chemical dramas: one town's struggle to deal with a stockpile of Cold War-era chemical weapons, and its eventual discovery of deep local contamination by a nearby Monsanto plant. Rather than following familiar environmentalist plotlines that pit local communities against corporate polluters, Spears integrates Anniston's local story into a broader history of the American South and its cultural legacies: poverty; racial enmity and disparity; economic dependence on US militarism; the southward concentration of a multinational chemical industry; and widespread chemical contamination. The narrative follows paths of "toxic knowledge," a phrase that describes the secret, specialized nature of industrial chemical knowledge, the toxic psychological effects of knowledge about long-term exposure, and the toxicity of deeply rooted social inequalities. Spears ultimately discovers that an evolving set of natural resource regimes, economic structures, and attitudes toward race and the health of the labouring classes permitted Anniston's chemical devastation and the disproportionate exposure suffered by Black working-class civilians. Ironically, perhaps, Anniston's story hinges on polychlorinated biphenyls (PCBs), a family of invisible, odourless, tasteless fluids that nonetheless call forth sensory history in surprisingly rich ways.

Originally valued for its iron deposits, Anniston developed upon a "model city" booster rhetoric designed to legitimate the town's racial and class inequities. Toward the turn of the 20th century, an alliance of scientists, politicians, and industrialists promoted chemical production as the South's economic salvation. World War I stimulated a chemical weapons market that initiated a long-term partnership between the US military and the booming Southern synthetic chemical industry, a development that reinforced Jim Crow segregation through the industry's discriminatory hiring practices. By the 1930s, researchers at the Monsanto chemical plant in Anniston realized that PCBs were harmful to human health. The company responded by redoubling its efforts to create a healthful public image, insisting that synthetic chemicals were natural. Meanwhile, the developing field of industrial hygiene focused mainly on workplace safety, ignoring pollutants leaving factories.

24. Ellen Griffith Spears, *Baptized in PCBs: Race, Pollution, and Justice in an All-American Town* (Chapel Hill: University of North Carolina Press, 2014).

World War II deepened Anniston's military-scientific-industrial alliance and compounded its economic reliance on scientific expertise. African Americans and working-class whites who lived closest to Anniston's Monsanto plant first suspected the travel of plant chemicals through their neighbourhoods in the 1950s, when the noxious odour of sulphur began to plague their homes. Into the 1960s, Anniston's all-white "technological high command" blocked Black access to knowledge, health care, and political power. But during this decade, African American activists reshaped the town's political landscape by engaging in extensive nonviolent civil rights protest and by developing networks and supporting local activists who would later turn to environmental injustices. Meanwhile, Monsanto's carefully cultivated allies in state and federal agencies protected the corporation's interests in the wake of a dramatic 1961 fish kill caused by the company's surplus dumping practices.

The danger of PCBs finally became public in the early 1970s when Søren Jensen and other leading chemists published studies on these chemicals' disastrous effects on ecosystems and human health. Monsanto's Board of Directors responded cynically; convinced that federal regulations would inevitably rein in PCB production, they ordered the Anniston plant to maximize production. By the time a congressional ban on PCB production was enacted ten years later, Anniston's Monsanto plant had spilled massive quantities of PCB-rich fluids into nearby streams without ever informing residents of the danger. News in the late 1980s about the US Army's extensive stockpile of chemical weapons at Anniston and its plan to burn the weapons on-site distracted local attention. The ensuing conflict between the Army and an increasingly bipartisan local protest movement eroded local trust of the city's most significant employer and inspired broader criticism of the South's economic dependence on the military-industrial complex. The official measurement of Anniston's PCB contamination by state and federal health agencies in the early 1990s coincided with the rise of a nationwide environmental justice movement that had grown into a multiracial, decentralized crusade for social and environmental justice. As knowledge of PCB contamination permeated Anniston's communities, anger, fear, and uncertainty plagued those who stayed. The eventual $700 million settlement of the Anniston PCB cases undoubtedly represented a victory for environmental justice advocates, but it could do nothing to restore human health or remedy the legacies of racial mistrust and chemical toxicity that remained.

Spears's remarkable chronological and spatial range allows her to probe the long-term production of environmental injustice, particularly its sinister accumulations. As chemicals gathered within bodies, Anniston itself gathered a reputation for contamination within the military-industrial complex, an identity that seemed (to a handful of key officials) to sanction further degradation. Anniston's racist ideologies, the immobility and geographic vulnerability of its communities of colour, and its hierarchy of expert knowledge allowed toxic exposures to take on discriminatory patterns.

While the imperceptibility of PCBs seems to preclude sensory history from this story, Spears remains open to its lessons. She acknowledges moments of sensory alarm – such as the sudden sulphurous odour of the 1950s – and their crucial role in sparking suspicion of danger. But most importantly, Spears clearly advocates the historical significance of racial ideas about sensory difference and their roles in perpetuating inequality. For example, she shows that supervisors in early chemical plants dismissed health complaints by African American workers not as legitimate marks of bodily discomfort but as evidence of Black lethargy and incompetence in the workplace. This and other forms of discrimination contributed to an insidious sensory politics in which white Annistonians characterized their Black neighbors as coarse, culturally vulgar, and less sensitive to harm. Sensing, Spears confirms, was an act both physical and cultural, and it retained its dual historical significance through the 20th century. While PCBs themselves are invisible, odourless, and tasteless, *ideas* about the senses were of vital importance to Anniston's history, for they fed the racial ideologies that condemned Black citizens to poisonous workplaces and contaminated homes. *Baptized in PCBs* demonstrates the relevance of the human sensory apparatus to a postmodern age in which environmental harm often takes place gradually and inconspicuously.[25] Despite the uselessness of the physical senses as historical sources in this case, ideas about sensory difference played a significant role in the politics of exposure. In this way, Spears's book exquisitely fulfills sensory history's potential, advancing concern for the health of natural systems while expressing deep commitment to exposing the historical roots of racial and economic inequality.

While a set of circumstances converged in the late 1950s to warrant a plea for precaution in American chemical production and use, *Silent Spring* did not write itself. Rachel Carson laboured for four years to compose her manifesto. In a parallel sense, while sensory history nicely positions its authors to grapple with both environmental destruction and the difficulties of urban working-class life, it cannot do more than this. It remains to be seen whether sensory historians will draw synthetic meaning from the topics to which the approach leads them. This said, Mack, Fisher, Bouchier and Cruikshank, and Spears collectively demonstrate sensory history's scope and promise. While Mack advocates the historical significance of urban sensory experience, Fisher, Bouchier and Cruikshank, and Spears explore intersections of working-class and urban environmental history that invite sensory analysis, suggesting the approach's broad relevance to these historiographies. Urban

25. Rob Nixon offers the seminal work on "slow violence," or the slow, undetectable ravages of environmental problems in a world of transnational corporate power. See Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge: Harvard University Press, 2011).

sensory history will continue to lead its scholars to case studies that demand familiarity with the urban environmental and working-class histographies. As it currently stands, it cannot be said if Mack's work signals the beginning of a more concerted shift to sensory subjects in the urban environmental historiography – or if Spears's work will lead environmental historians to strive for more politically engaged scholarship. If so, the movements are nascent. In the meantime, as scholars continue to probe the relationships between human senses, city spaces, and city labour, we may take these four works as examples for future directions. The resonances between them suggest broader possibilities for an environmental scholarship that can advocate environmentally sound and socially just urban orders in a hybrid world.