Local water diversely known: Walkerton Ontario, 2000 and after

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Abstract. In this narrative of the water contamination in Walkerton, Ontario, in 2000–02 I consider the local priorities defining good water. These vernacular understandings emphasised taste, softness, and thrill in municipal water, and they highly valued local sovereignty in matters of water quality, and solidarity as a quality of local citizenship. By using contemporaneous evidence from media reports and the judicial enquiry into the incident, I trace how the qualities of good water were redefined, and with them community standards of safety, expertise, and risk. The emphasis on community consent to vernacular water monitoring practices and the implications of this shared responsibility differ from the journalistic and judicial accounts which emphasise individual culpability.

This study is a historian’s analytical account of a recent event of geographical, epistemological, and political interest. In the Ontario town of Walkerton in the week which followed the 24 May holiday weekend in 2000, seven people—all elders and children—died from the effects of E coli O157:H7 in the town’s water supply; in the six months thereafter, half the town’s 4000 residents found their bodies inscribed by a chronic water-borne illness. Blanket news coverage of events in town was carried nationally through the Canadian media. Both CNN and National Public Radio followed the story in the United States. Soon, far from this one town in the rural Ontario county of Bruce, people lost their sense of certainty about good water. In the years since, as a direct response to the circumstances in Walkerton, but not in Walkerton alone, the political and public disposition and regulatory frame governing drinking water have changed in Canada. Nowhere have these reconsiderations of the ways of knowing and governing good water been as closely followed, or as viscerally and intimately absorbed, as in the town of Walkerton itself where the tragedy has altered local politics, neighbourly relations, and popular understandings of the responsibilities of being and knowing in place.

This writing is theoretically informed. The reader will find here inflections and connections which depend upon my understandings of Ulrich Beck (1992 [1986]); Thomas Csordas (2002), Gilles Deleuze (1990), Donna Haraway (1991; 1997); David Howes (2003); Tim Ingold (2000); Michael Jackson (1983); and Bruno Latour (1987; 1996). But my work is pinioned in the instance. I write amidst an edgy project of ‘sorting things out’ (Bowker and Star, 1999), from the unruly not-yet-representational space which never quite entirely evades yet purposefully precedes abstraction. This is a project born in grounded theory. My goal is to trace how local people, when their search for new understandings was made urgent by sickness and death and made specific by their habits of mutual responsibility in place, relearned what good water was and what the habitus and governance to yield good water must be.

Although for thirty years I have practised and published in oral history, what I report here is based upon the transcripts of the judicial inquiry into the events in Walkerton and its supporting documents, all now public, and upon the prodigious local and metropolitan newspaper coverage. I attended the inquiry hearings when I

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could, and observed some town meetings, but this paper is written with documentation available to anyone through these public sources. My decision to rely on evidence mediated through the commission and newspaper texts is founded on two concerns: first that the case is sufficiently urgent that sorting out needs to begin even as community feelings remain too raw to ethically tolerate interviewing; and second that my relationships with the townspeople of Walkerton might make my requests for interviews a burden to refuse.

I write about these events both as a scholar and as a daughter of the townships where they occurred. In May 2000 when the E coli O157.H7 showed up in the town water I was a guest at a farm near two of the Walkerton wells, 6 and 7, waiting to settle into a field site at the nearby Bruce Nuclear Generating Station. In the 1980s I researched a study of masculinity and craft skills in the nearby town of Hanover and thus was reintroduced as neighbour, friend, and kin to the townships where both sides of my family had settled in the mid-19th century. Since May 2000 I have been in and about Walkerton for several months each year. This paper is thus an interdisciplinary intervention, both a conventional historical narrative, for historian is my trade, and an ethnographic account by a participant-observer, for no local historian of the recent past can practice adequately but by borrowing and learning to use well the skills of her anthropologist colleagues. It engages public policy issues, for the instance occasioned fundamental rethinkings about the appropriateness and efficacy of regulation.

The research context from which I have come, more by inadvertence rather than by considered intention, to write about Walkerton is this. In recent years I have been researching the radical landscape and work culture changes occasioned by megaprojects such as heavy water plants, large dams, and nuclear generating stations. These large engineering works were common features of Canadian economic development in the last half of the 20th century. This work takes the alternations effected in the circumstances of the human and nonhuman neighbours of megaprojects as foils for studies of the historically specific body, and inquires ‘how do people tune and retune their bodies in response to their environments?’ Some of this work explicitly follows scholarly research on skill acquired through practice. Some of it is about daily learning of the keynotes of a place—the common smells, the wind, the strength of the ‘natural’ light—that come to indwell as organising instruments for cognitive processing, without being spoken. This is knowledge that evades the discursive and depends on merged perceptions processed by sight, touch, hearing, and, as I came to recognise as I followed the Walkerton instance, by taste and smell. Partly in response to the events of May 2000 I have returned home and, since 2003, have pursued these studies in a research unit called ‘Technology, Culture, and Risk’ within the university geographically closest to the town.

The first sign of trouble in Walkerton was diarrhea: a common affliction, often transient, a shared ‘summer compliant’ which would pass without grave consequence before its causes were clear, or a more individual implication of kitchen incaution, a short-lived inconvenience nonspecifically linked to ‘something I ate’. But the third week of May is still spring, not summer in mid-western Ontario, and clusters of diarrhea sufferers were emerging amongst the children of the Mother Teresa elementary school and the elders at Maple Court Villa (a seniors residence) and at Brucelea Haven, the town nursing home. Such a high incidence of illness was not common, and the search for causes and remedies began quickly. The bodies of the young and the old are vulnerable to diarrhea. In the days before the holiday weekend, parents in numbers brought their children to the emergency room of the town hospital. Just in case, the administrator at Brucelea Haven instructed her staff to substitute boiled and bottled
water for tap water throughout the facility. Because the manager of the Public Utility Commission knowingly misled them with reports that the town water was ‘okay’, staff of the local Medical Officer of Health initially focused their search on a food-borne source of the spreading illness. Two days later on Sunday 21 May, as a precaution, the Health Unit issued a boil water advisory. Only on 23 May, as the pattern of the illness and the Public Utilities Commission’s manager’s deception became clear, was Walkerton’s drinking water established as the source of the contaminant that was making people sick. On Friday 26 May, Premier Mike Harris spoke in Walkerton of his sympathy with the townspeople and his ‘determination to get to the bottom’ of the tragedy. That evening, in the home of Veronica and Bruce Davidson, the Concerned Walkerton Citizens was formed; their first step was to demand from the premier a judicial inquiry into what had gone wrong with Walkerton’s water. In the months and years ahead this group became key to the remaking of water knowledge, for they insisted both on systemic explanations and remedies for the water issues which claimed national attention first in Walkerton and upon the importance of local voices in the crucial dialogues about risk and belief which would yield effective water regulations.

Knowing water in Walkerton did not long remain a local matter. All Canadian governments had become leaner in the 1980s and 1990s and citizens nationally were apprehensive that the tipping point toward too little regulatory oversight had been reached. The ethical conduct of public officials and environmental monitoring of threats to public health were particular concerns. Townspeople soon would be relearning their water from unsettling new perspectives.

The urban media began to file from Walkerton on the weekend after the 24 May holiday. Thus journalistic narrative conventions immediately began to structure and frame what the public beyond Walkerton would know about the event, and what would remain beyond scrutiny. For residents, sorting out what knowledge would safeguard and rebuild the threatened community now became a different, testing, and pressing task.

A reporter working to a deadline begins quickly to sort out the parties to an event into the roles a satisfying story will require: a hero, a villain, and a mobile chorus whose divided and oscillating opinion will move the narrative along. In the ‘Walkerton Tragedy’, as the Toronto Star in its continuing coverage named the event, one of these parties was immediately clear. The hero, in this case a heroine, was Kristen Hallett, the 32-year-old Owen Sound pediatrician who had tested the stools of a boy and a girl referred to her on Thursday 18 May from Walkerton, found E coli bacteria, and immediately reported the results to the Bruce Grey Owen Sound Health Unit. For city journalists, the other two expected players were frustratingly elusive. E coli O157.H7 was the contaminant that caused the sickness, but the move from cause to blame was disrupted by the contours of the social world in Walkerton.

Stan Koebel—as manager of the Public Utilities Commission he became the putative villain—had gone to ground by 26 May. Testifiers to his villainy were not to be found. The Toronto press made their story by the headlines: “People are looking to hang somebody”, “Water supply manager gets harsh words and sympathy”. But the text below the bold type characterised Koebel as an “upstanding member of the community”, trusted as a brother by his fellow volunteer firefighters, a decent man whose integrity was beyond reproach. Koebel had been

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1) The events of these days are clearly chronicled in Perkel (2002, pages 1 – 175) and in Report of the Walkerton Inquiry, Part One (WI, One) http://www.walkertoninquiry.com (pages 7 – 12).
raised in town. His father before him had served as public utilities manager. He met the town’s criteria as a guardian of its shared interests. In his twenty-eight years as a civic employee, he had become “one of the most experienced guys around”.(4) Koebel had shown himself capable and hardworking. He took pride in his work, and was always willing to go the extra mile to make sure things were done. And, as his bosses knew by observation, he commanded the respect of his peers amongst area waterworks managers.(5)

To the annoyance of the journalists from outside the area, there were no angry mobs or choruses of blame to be found in town. Without the dramatic momentum of clashing opinion, reporters had to get along with quotes such as this one from a Catholic parishioner who would not give her name: “that’s not the way here. People want to wait… There’s not time for anger. They have other things on their minds.”(6) Those who would speak generally expressed sympathy for a man in the unenviable predicament of having made an honest mistake. Nobody, the media frequently were assured, ‘meant this to happen’. Little changed when Koebel made himself available to meet the press, on 30 May, tearful in the company of his family and pastor on the steps of his church. Through his lawyer, he expressed his gratitude for the town’s compassion and his trust in the local sense of fairness in the face of ‘a horrible tragedy’. William Trudell, Koebel’s Toronto counsel, had read Walkerton well. His characterisation of community reaction as ‘gentle’, ‘understanding’, and ‘nonjudgmental’ was not far off the mark. The Walkerton Times-Herald covered Koebel’s return into view only by reprinting the statement his lawyer had prepared.(7)

And so, as often happens with hinterland events, the explanations of what happened in Walkerton fell by default to obliging, if remote, urban commentators. Rolf Helbig of Toronto, writing to the Toronto Star, called “the dead of Walkerton… silent testimony to the irresponsibility and incompetence of rural municipal governments, to the complete lack of caring on the part of much of the local populace and the stupidity of all those who know better but say—and do—absolutely nothing.”(8) Rick Salutin invoked the economic historian Karl Polanyi, in a Toronto Globe and Mail column headed “Walkerton and the great transformation”, to champion the 20th-century public institutions capable of safeguarding the public good, and to accuse the current provincial government led by Premier Mike Harris of taking Ontario back to the free-markets evils of mid-19th century.(9) John Gray in an op-ed page of the Saturday Globe and Mail, described Walkerton as three hours in driving time and 100 years in attitude from Toronto, a traditional face-to-face society where outsiders were suspect, local loyalties were strong, and people, close to their rural roots, in their own time made the best of the hand they were dealt. According to a June poll by Angus Reid, a Canadian leader in such work, 49% of Ontarians blamed municipal officials for the Walkerton tragedy.(10) City commentators were inscribing Walkerton as the ‘rural other’, in Gray’s words, “the kind of place you think you came from and to which you might some day return”.(11)

(4) WIT Jim Kieffer questioned by John Grace and Paul Cavalluzzo, 16 November 2000.
This characterisation comforted urban dwellers. It located Walkerton’s predicament in their past rather than in their present. It affirmed the capacity of the modern regulatory state to protect them as citizens. Yet it validated growing province-wide concern that the ranks of the experts monitoring the environment and public health had been perilously depleted.

In Walkerton the priority was compassionate care. The local paper carried letters, columns, and editorials reminding readers that the town had survived the closing of its principal employer and saved its threatened hospital from provincially mandated cuts. A letter of 14 June affirmed that the “recent disaster had opened people’s eyes to the true value” of the town’s officials.\(^{(12)}\) One columnist tried to tame the high-tech news invasion with naturalistic analogies: camera lenses as wide as town maples, microphone booms swaying like tall grasses and remassing above the action like flocks of shorebirds. Another asked for news of hobbies and diversions to brighten her section of the editorial page the next week. Most appeals were not to speak ill of the town, or its water, and to tend the personal neighbourly relationships which made Walkerton special. Concerned to protect those traditions of discretion they would need to rebuild their community on a more sound footing; citizens were wary of premature ‘finger-pointing’ by city media, discomfited by journalists’ insistent sidewalk interrogations and their intrusions upon funerals.\(^{(13)}\)

But already in the local sorting out of events, there were gestures toward something else. Herald-Times columnist, John Finlay, confessed bewilderment that home had “suddenly stop[ped] providing the safety and security which are expected”.\(^{(14)}\) Sue Ann Ellis, reporter and photographer at the paper, wrote of an eerie silence, louder than blades of the medivac helicopters, filling the town, a silence born of uncertainty and disbelief. “We’ve lost an innocence and we will be changed forever”, she observed, “the silence, the tears and the downcast eyes say all those things. Not a word needs to be spoken.”\(^{(15)}\) Turning a faucet, she wrote, hearing a helicopter, smelling bleach—the disinfecting agent being distributed for use in high concentrations throughout the town—had become tacit links to an unforeseen and still largely unspeakable consequence. The burden was deathly, the continuing illness painful, pungent, and intimately disabling.

No words needed to be spoken for, over the years, much had been said and written. In Walkerton, and commonly in Canadian towns, water was a public issue, its cost, quality, and supply a matter for discussion at election time, at meetings of town council, and it was a topic keenly followed in the local press. Though most citizens did not have the expertise to pass judgments on engineering reports about the state of their wells, mains, and sewers or firsthand knowledge of the monitoring, testing, and chlorination practices of town public utilities employees, they felt confident, even obliged, to make reports when they perceived the water to be wanting. The terms of the pragmatic agreement about water in this sense were known. And to this extent citizens accepted that they were party to a shared town consensus about water and thus implicated in the consequences if that bargain had been flawed.

Local water is a product of more complex systems than most people in Walkerton and in Canada—as they voted in elections and on levies for municipal improvements,

\(^{(12)}\) WH-T 14 June 2000, letter to the editor, “Recent disaster opens people’s eyes to the true value of town officials”, page 8.
as they maintained their households and drank from their taps—then commonly recognised. In this sense water bargains were flawed. In Walkerton, as in the contested waterscapes of Equador and Spain which Eric Swyngedouw has so tellingly explored (1999), the local aquifer was a finely tuned communicator, a receptor of global influences which by unbidden reciprocity carried the local out toward the global. Here, unwittingly, voters and householders engaged a daunting complexity, a coalescence of mechanical, chemical, human, and nonhuman organic agents, the fusing of social, biological, and technical processes (Haraway, 1991; Latour, 1993).

For those who gained their knowledge of events through the urban press, what made water differently meaningful in the spring of 2000 was a sense of threat, that what was happening in Walkerton could happen anywhere. This was the articulation the satellite trucks beamed to audiences far beyond Walkerton. In Walkerton a more complex understanding that the town bargain about water had been too simple and, by local practice, unsafe was dawning within an altered embodied space. The contaminated water townspeople drank changed bodily experience of being in Walkerton. These were days lived amidst the merged sensations of pain in the gut and the mingled smells of chlorine and excrement by the many local sickbeds in town, and overhead too many times there could be heard the dark beat of helicopter blades as the most gravely ill were evacuated to the nearest university hospital. In town all these experiences were understood as implications of the long-standing compact the community had made about their water and its guardians. This knowing and sense of shared responsibility, this different articulation, remained local, part of somatic and moral compass of the town.

Historically in Walkerton good water was understood as an arbitrage amongst taste, softness, and thrift. As Justice Dennis O’Connor, the member of the Ontario Court of Appeal appointed to investigate the events of spring 2000, noted in his report, the provision of water is a natural monopoly, and thus unique as a local service. While certain Ontario municipalities in the postwar years had turned their waterworks over to a provincial body—from 1993 called the Ontario Clean Water Agency—most towns, Walkerton among them, regarded water as an intrinsically municipal matter (Sancton and Janik, 2002, pages 30–31).(16) Jim Boulden, a former mayor and public utilities commissioner told the O’Connor Inquiry, “we had a well run organisation. We didn’t need somebody [the Ontario Clean Water Agency] to run it for us”.(17) In many places, long after the regulation of the quality of schooling, medical care, and goods offered in trade was ceded to the competence of distant authorities, good water remained a homely matter, a service nearly free, reliable by custom. Evading the current of centralising governance, the regulation of water outside large urban centres frequently remained a closely held community prerogative.

Water tastes. Historically few people drank water, possibly because, from many sources, it was unappealing to the senses. But by the 1930s the practices and aesthetics of water shifted. Palatability became an important feature in this newly desirable commodity, drinking water (Benidickson, 2002, page 42). Aesthetic distinctions are learned. Many people like best what they know best, which is often what they knew.

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(17) WI, Two (pages 279–280). The province developed the capacity to deliver water services directly in 1956, through the Ontario Water Resources Commission. “The recent trend has been for the delivery of water services to shift further back to the municipalities.” In 2001, 70% of municipal water systems were operated by the municipality (WIT 29 November 2000, Jim Boulden questioned by Frank Morocco).
first. The contemporary vocabulary of taste is relatively impoverished, by comparison with, say, colour. Rather, we commonly recognise and can recall water by place and can be drawn into extended, even acrimonious, discussions of how the municipally treated water of the place where we live compares with water in cities we have visited, or with the well water or spring water we drink at this cottage or that farm. This too was the case for Stan Koebel and his brother Frank, also a Walkerton public utilities employee, both of whom grew up in town but in a household which took its water first from a spring and then from a well. Into his adulthood, Frank Koebel preferred the raw water to that treated with chlorine, which by taste he found less clean, fresh, and familiar.\(^{(18)}\)

The appeal of taste as the discriminator of good water is plain enough. Taste was historically the quality by which the value of springs and deep wells had been appraised. Unlike scientific tests hedged by the inferences from a sample collected in some single place in some past time, taste, as a sign of goodness, was an immediate and continuous sign. As they drank, drinkers, with each ingestion, believed they could judge the quality of the water. This reckoning depended upon local knowledge of local waters processed through local bodies according to local standards. It measured safety by the local history of bodily consequences. Most residents discounted the expertise which counseled chlorination, as chlorination compromised taste for an impalpable, inferential, and counterintuitive promise of safety. That these standards from taste and histories of ill effects themselves might be compromised—given that neither E coli nor its associated pollutants necessarily generated off-flavours, and that personal trials with intestinal complaints were resolutely private matters in town—was a vital connection not made in the chaotic early weeks of the crisis.

In their reasoning about good water the Koebels were not alone. As O'Connor noted in his report, local residents objected to the use of chlorine and often pressured their waterworks employees to decrease the amount injected into their water.\(^{(19)}\) Even as, and perhaps because, the consequences of this preference were unfolding in June 2000, one of these implications being hyperchlorination to clean the pipes, the reactions of some townspeople against chlorination were strident.

“Has everyone forgotten that chlorine is a poisonous gas that killed, blinded or choked thousands of troops in World War I ... Poisons cause cancer. Period.

What really are the long-term effects of drinking, washing and cleaning out homes with chlorine? You can just bet the bleach manufacturers and water treatment plants aren’t going to tell us!...”

“Will our water ever be ‘safe’ again?” Elaine Crilly demanded in the Herald-Times of 21 June, “By safe I mean clean and sparkling without chlorination?”\(^{(20)}\) The Walkerton paper published the same concern the next week, in a letter from Carol Barclay, who after being sick for five weeks with nausea, headaches, cramps, and diarrhoea wondered, “If over-chlorinated water is the only way to have ‘clean water’ what then? Chlorine can kill too.”\(^{(21)}\)

The local aesthetic objections to chlorination were multiple and long-standing. Town officials sympathetically referred complaints about the smell of chlorine from taps, especially first thing in the morning, and the effects of chlorine on clothing to their public utilities staff.\(^{(22)}\) These objections continued to be angrily asserted even as

\(^{(18)}\) \textit{WIT} 6 December 2000, Frank Koebel questioned by Brian Gover; 7 December 2000, questioned by Mike Epstein; and 7 December 2000, questioned by Paul Burnstein.

\(^{(19)}\) \textit{Wl}, One page 183.


daily cable broadcasts of the progressing commission of inquiry made the science of bacterial levels and time of chlorine contact as familiar in town as the plots of the daytime soaps which the televised cable broadcasts of the inquiry proceedings had displaced. In early December, soon after Frank Koebel’s testimony to his own preference for raw water and his actions to keep the town water palatable in his terms, Brian Glover, one of the commission counsel, was intercepted in a local coffee shop by an elder who queried, “You that fella on TV? ... Well I got a complaint .... there’s too much damn chlorine in the water” (Perkel, 2002, page 209). The long list on the war memorial of town sons who had perished on the toxic battlefields of World War 1 and the contemporary experience of chlorine as a corrosive agent made the positive association of chlorine with health and safety implausible.\(^{(23)}\)

Historically the water drawn from wells in Walkerton had been hard, and this raised further aesthetic issues in town. The high mineral content left unsightly iron stains on kitchen and bathroom fixtures and rapidly corroded water tanks. It made bathing and showering less pleasant and doing laundry more of a chore. Chlorination accelerated the precipitation of rust from the water. But the local preferences for softer water and water which bore minimal traces of chlorine were problematically linked. The near source of softer water, well 5 to the southeast, was shallow, prey to surface contamination, and thus unsafe without treatment. Well 5, as it turned out, was the site of the E coli contamination in May 2000.\(^{(24)}\)

These contending aesthetic preferences were complicated by the predisposition of the town toward thrift, a trait for which Walkerton was known in Bruce County. Householders in Kincardine, 25 km to the west, were charged $57.08 monthly as a flat rate for their water, in Port Elgin, 40 km north, they were charged $35.20. Residents in both towns paid an additional metre charge for the amount of water they used. Walkerton levied a flat rate alone. That rate, in October 1999, was $16.50, half that in Port Elgin, a third that in Kincardine. Keeping costs down for customers was a matter of pride in Walkerton among municipal officials who paid close attention to budgets and expenditures, and ran their utility conservatively, building up ample reserves. The public utilities commissioners imparted this philosophy to their employees, requiring them to keep staffing and spending as low as possible.\(^{(25)}\)

That spring, and in the three years which followed, the people of Walkerton and the wider public who shared in the changing regulatory context of late-20th-century Canada were learning to think about good water differently, as an unfamiliar complexity. Water remained spatially distinct, but good water shed its definitional clarity. Good water emerged as something multiply fashioned: by the currents of statecraft; by fiscal

\(^{(23)}\) The debate about chlorination, disinfection byproducts, and cancer risks is also, of course, being carried on amongst experts, although I have no sign that town residents were directly aware of this controversy (see Thornton, 2000, chapter 5). The standard authority on chlorination is George Clifford White. See the refutation of associations between chlorine and cancer in the 4th edition (White, 1999, xv – xx, and chapter 12).

\(^{(24)}\) WIT 28 November 2000, Jim Boulden questioned by Paul Cavaluzzo; 6 December 2000, Frank Koebel questioned by Brian Gover; WI, One (page 206).

\(^{(25)}\) TS 28 November 2000, “Utility head pleading ignorance”, page A4; G&M 6 June 2000, Joel Axler, “E coli, paralysis and complacency”, page A17; WIT 16 November 2000, Jim Kieffer questioned by Paul Cavalluzzo; 15 November 2000, Janice Hallahan questioned by Freyja Kristjanson; Walkerton Public Library, Commission Exhibits Exhibits prepared to accompany the testimony of Janice Hallahan, number 105, table 6, “Rate comparisons, Walkerton, Hanover, Kincardine, Port Elgin, Wingham (page 5); WI, Two “The role of municipal governments” (pages 299, 302, 312). The commissioner found that the overuse of reserves, as appeared to be the case in Walkerton, reflected an “unduly conservative approach to financing”. The Walkerton Public Utilities Commission had about $347 000 in its reserve fund as of 1 January 2000 (page 314).
decisions about how much public intervention was enough; by private decisions about what water as a commodity was worth; by global definitions of scarcity; and by international judgments about appropriate investments to secure defensible standards of service. Forceful and fearsome within this arbitrage was a new bottom line. Good water must be safe water, and safe water was neither popularly knowable nor publicly certain given the Ontario regulatory frame of 2000. Its security as a life support system could not be assumed without a fundamental reordering in the multiple processes which made water good, a reordering which ceded public health the priority that custom, convenience, and cost had long naively subverted. The way ahead would be through converging and unsettling acknowledgments that knowledge is not complete, nor its constituting elements reconcilable, that life must continue amidst uncertainty, that neither tradition nor science were a sure refuge in times of trouble.

The residents of Walkerton had not believed that their preferences—for good-tasting, sweet-smelling, minimally chlorinated, soft water, thriftily acquired through a locally managed public utility—compromised their safety. The employees of the town waterworks regularly drank water from the raw side at the wells; Stan Koebel filled his daughter’s swimming pool with town water on the 26 May weekend. And the municipal council was sufficiently attentive to safety that they, on learning that the Ontario provincial Progressive Conservative government, led by the fiscally conservative Harris, was about to privatise water-testing services in June of 1998, promptly sent a letter of protest to the legislature at Queen’s Park. Besides taste, and their long-standing experience of the consequences of judging good water by a somatic inference, the residents of Walkerton believed that their well water had been purged of impurities by geological processes. If groundwater, water filtered through an aquifer, was safe then municipal drinking water drawn from drilled wells was safe. This was a long-standing belief, a verity passed down through generations of water managers in Walkerton, and not in Walkerton alone. Confidence in the safety of groundwater, in the cleansing qualities of the natural overburden around wells, was common throughout Canada in 2000. The beliefs in the reliability of judgments based on taste and the innate purifying properties of drilled wells were sustained by similar epistemological dispositions—to reason locally about the direct point of contact between water and the body.

On the basis of vernacular knowledge, the local community had trusted the immediacy of taste to judge good water. Its citizens had long suspected the discrete samples appraised in a distant laboratory as reliable signs of the fittenedness of the watershed upon which they depended. To incorporate into these appraisals of risk systemic influences such as threats from microbiological contamination or compromised watersheds, conditions which were not palpably and mechanically apparent and needed to be discerned through laboratory results, would have held a spatially specific political consequence. Town and village authorities would have had to defer to the inferential testing regimes of county and provincial experts. Across Canada, outside major metropolitan centres, confidence in local knowledge and concern for local sovereignty made this change seem unnecessary and this consequence unwelcome. Locally validating reasoning—such as that in Walkerton, about deep wells and the practices of minimal chlorination—was unexceptional nationally.

Slowly in the months following that spring weekend the local unspoken came to speech, and doubt muted technical and policy assurance witness Finlay’s bewilderment that home had “suddenly stop[ped] providing the safety and security which are expected”.[29] Carol Barclay’s question, “If over-chlorinated water is the only way to have ‘clean water’ what then?”[30] and Elaine Crilly’s assertion, “You can just bet the bleach manufacturers and water treatment plants aren’t going to tell us” about the long-term effects of chlorine.[31] With blanket media coverage of Walkerton, followed closely by news of a similar waterborne illness in North Battleford, Saskatchewan, uncertainty about the safety of groundwater became a national issue. Who could know safe water, and what would be the quality of that knowledge from now on?

The authority of custom, the bodily appraisal by sight, taste, and smell that took the risk self-sufficiently in hand, was discredited by illness and death. The apparent alternative, the expertise of science, was neither local nor embodied. Its trade was in the invisible, the impalpable, the only indirectly perceptible (Beck, 1992 [1986]). Its method segregated effects rural people suspected might interact. It offered only meagre findings, arcane test results tied to a moment and hedged by probabilistic qualifications. It was stoically silent about the long term, and apparently as fallible as a meteorological report in seedtime or harvest. Early in June the Toronto Star had reported that water tests were “imprecise scientific instruments” which left local people wondering “who can actually conduct a meaningful water test?”[32]

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The journalists, lawyers, and scientists brought to town to witness and investigate the growing tragedy had some difficulty assimilating the commonplace assumptions about water in Walkerton. For those from outside the area struggling in good faith to ‘sort things out’, these local beliefs commonly were too alien to be creditable or even recognisable as part of the story. Yet both the lay knowledge of inhabitants long accustomed to observing how the water cycled through the bodies of humans and domesticated animals in the aquifers and drainage basins they shared and the scientific knowledge which guided the interpretation of technological tests depended upon inference. Both kinds of inference yielded results bound by circumstance. For townspeople, the distant experts in the management of news, provincial regulation, and public health challenged local knowledge about how humans were implicated in their surroundings. Yet their expertise, it soon became evident, was dissident and contending.

The October Saturday before the O’Connor Inquiry hearings began in Walkerton, the Toronto Star published a special report, “The anatomy of a preventable tragedy”,[33] which by bold headline accused: “Town knew wells were unsafe”. The headline was wrong. While the Star’s eight pages of well-crafted prose and accessible graphics told distant readers much they did not know about the physical and managerial history of the town waterworks, Walkerton residents that weekend learned, apparently definitively, one thing. Because their aquifers consisted of “limestone honeycombed with wide channels”, Walkerton groundwater was not safe.[34] By the following Monday, everyone in town was contending with this daunting revelation, for the Rotary Club and the

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(29) WH-T 31 May 2005, Finlay, “Media feeding frenzy eye-opening”, pages .....  
(30) WH-T 28 June 2000, Carol Barclay, “Community has suffered enough”, pages 4, 5.  
Walkerton Community Foundation had arranged for a thousand free copies of the report to be distributed at the three Walkerton convenience stores, the depot at the rink where residents were going for bottled water, the library, and Herald-Times office.\(^{(35)}\)

That groundwater was unsafe, if groundwater was unsafe, voided the terms of the town consensus that good water could be judged through taste, softness, and thrift. The Herald-Times carried into print the reappraising talk from the street. If groundwater was unsafe then the public utilities commissioners’ careful scrutiny of waterworks expenditures was ‘nonchalance’. If groundwater was unsafe then public utilities men measuring out only minimal chlorination were ‘complacent’. If groundwater was unsafe, then local elected officials, rather than having served the town honourably, had “let their responsibility slide in an attempt to save money and win votes”.\(^{(36)}\) If groundwater was unsafe then the residents’ exposure to waterborne contamination had been long term and the town had gone for years without the protecting local expertise it had assumed.\(^{(37)}\)

The bedrock of local beliefs about water and risk was crumbling. The residents of Walkerton were aware of their own history. The consensus about good water had been widely shared. People knew that their water rates were low and unmetered and they had expected their complaints about the taste and smell of chlorine to be heeded. They had supported the search for a source of softer water. It was not easy to construct an urban carapace around the town conscience.

But was groundwater unsafe? The Tuesday before the Star special report, Dr Murray McQuigge, the Medical Officer of Health for Bruce, Grey, and Owen Sound convened a town meeting in Walkerton. He summarised the results of an investigative report on the events of May–June prepared by his staff. The historical assumption that groundwater sources were secure when treated only with chlorine needed to be reevaluated. Groundwater sources in the province were endangered by increasing population density and changes in agriculture and needed to be protected.\(^{(38)}\) That afternoon he turned away most questions as premature, citing the impending inquiry. The Herald-Times covered the meeting under the headline “Report questions safety of all deep-drilled wells”.\(^{(39)}\) But Davidson of the Concerned Walkerton Citizens, a group formed in the spring to press for the systemic answers a judicial investigation might bring, observed that “people were left feeling they’d seen a promo for the inquiry”; “I don’t think there’s any confidence in any level of authority right now”.\(^{(40)}\) Who was an expert?

Six days after McQuigge garnered national headlines with his claim that the province’s well-water system was in trouble, another expert called his assertions ‘alarmist’. Ken Howard—a hydrogeologist from the University of Toronto called to appear before the O’Connor Inquiry on its opening day—from a different scientific perspective, came to a different conclusion: “There’s no reason to suddenly suggest that all groundwater in the province is a serious problem”.\(^{(41)}\) In the Saugeen River valley at Walkerton, where many people were still sick and the boil water order had been in effect for six wearying months, disenchantment about the possibility of knowing good water settled in as unwelcome as a damp fog during the November ploughing.

\(^{(35)}\) WH-T 1 November 2000, see the picture of Rotarian Tim Mancell reading the TS report, page 1.

\(^{(36)}\) WH-T 1 November 2000, “Story evolved many emotions among Walkerton residents”, page 2.


\(^{(38)}\) Bruce–Grey–Owen Sound Health Unit (2000, pages iii, 54); press release of 10 October 2000, “Can’t assume groundwater sources secure—Public Health Unit’s investigative report”.


\(^{(40)}\) WI, One (pages 99, 100); personal observation by the author, Walkerton Community Centre, 10 October 2000; WH-T 18 October 2000, pages 1, 2; TS 16 October 2000, page A4.

Nothing in life is certain, but in Walkerton, and in Ontario, citizens had come to believe that by supporting prudently run government institutions and paying their taxes they were lowering the odds against calamity. If risk was a simple arithmetic of odds, about probability times consequences, then surely the apparatus and the resources of modern public administration would have made daily life more secure, as a flu shot in autumn reduced both the likelihood and the severity of winter illness. But late modern risk is not about arithmetic. It is a delicate and fraught exercise in arbitrage. This risk trades our knowledge about the future against consent to pursue the most desired of our prospects, in conditions where knowledge is uncertain and consent is ordinarily contested (Douglas and Wildavsky, 1982). As the months wore on, and the political, epistemological, and managerial complexity of securing ‘good water’ became increasingly apparent, the dire consequences of defending local sovereignty became more difficult to discount.

Many of the witnesses before the inquiry in November were from the provincial regulators and among these was the Ministry of the Environment (MOE). MOE staff described the document which guided their oversight of waterworks, the *Ontario Drinking Water Objectives* (MOE, 1984). That water intended for humans should not contain any disease-causing organisms or hazardous concentrations of toxic chemicals or radioactive substances was first in the list of objectives. Detailed specifications quantifying ‘maximum acceptable concentrations’ for many pollutant types—among them metals, pesticide residues, and microbiological organisms—followed. In mid-paragraph the document then shifted to aesthetic considerations, acknowledging that “water should be pleasant to drink” (1984, page 1), and to such quality matters as corrosiveness and excessive soap consumption, recognising that these constrained the distribution and domestic and industrial use of water. The goal of the *Ontario Drinking Water Objectives* was “to outline the minimum requirements necessary to fulfill” these joint public health, aesthetic, and economic objectives (1984, page 1). As questioning from counsel made plain, and as O’Connor found in his report, the *Ontario Drinking Water Objectives* framed as guidelines criteria that should have been covered by regulations.(42)

The *Ontario Drinking Water Objectives* had been given the muted force of objectives because consent to the most desirable balance amongst health, aesthetic, and economic concerns for drinking water was contested amongst the citizens of the province, a circumstance to which the voting record of their elected representatives in the provincial legislature at Queen’s Park in Toronto bore witness. Thus did the provincial regulatory regime substantively authorise municipalities to monitor their drinking water as they best saw fit.

At the commission of inquiry local hearings MOE officials described an incident in Walkerton that made plain why discretionary guidelines and regulations would yield different public health effects from mandatory and enforced objectives and requirements. An MOE inspection report in May 1998 had found, and not for the first time, serious problems in the operation of the Walkerton water system: E coli in a significant number of water samples; inadequate chlorine residuals, sampling, record keeping, and training. The inspector, Michelle Zillinger, in her report at that time emphasised the need for the Walkerton Public Utilities Commission to comply with the *Ontario Drinking Water Objectives*. Stan Koebel promised the commissioners that he would correct the deficient practices. Without question they accepted his assurances. When the Zillinger inspection document was tabled at the June meeting of municipal council, one councillor, Mary Robinson-Ramsay, suggested that the town’s noncompliance with the *Ontario Drinking Water Objectives* would be better remedied by

(42) *WI, One* (pages 30, 133); *WH-T* Pat Halpin, 15 November 2000, “MOE officer’s report critical of PUC”, page 9.
engaging the “regular and on-going technical expertise” of a consulting engineer or a municipal director of public works. She found little sympathy for this proposal, and council took no further action on the MOE findings.

Robinson-Ramsay, who taught music and French at the local Catholic high school, was the daughter and granddaughter of physicians who had served the area as medical officers of health. But, when pressed in December 2000 by lawyers representing the Ontario government to find fault with her fellow members of council, she would not oblige. Contrasting her own experience accompanying her husband on fieldwork in Africa with the experience of her Walkerton colleagues, she replied, “maybe they hadn’t had a brush with more serious problems”, and cast the question more broadly than Walkerton, suggesting: “Perhaps a lot of Canadians have been lulled into complacency because, when we have had some bacteria, it’s been relatively minor.” When counsel for the Canadian Environmental Law Association styled the council’s stance as ‘indefinite postponement’, she demurred: “I think you are putting it in a negative light. I think that perhaps some of them just really didn’t realize the seriousness of it.” Given their circumstances, Robinson-Ramsay found credible, even though she did not share, the risk assessment her colleagues had made, a risk assessment which ranked safety too low amongst the criteria for judging good water.

Plainly, risk assessments about water in 2000 were being made according to two knowledge systems, one vernacular and dependent on the senses and the local oral traditions by which such sensuous information was passed on, the other professional and dependent on scientific data disseminated in the civil service reporting which, buffered through the arbitrage of provincial politics, guided discretionary action at the MOE. Robinson-Ramsay had a grasp of how both knowledge systems worked and could serve as an interlocutor between them. Several of her colleagues on the teaching staff of Sacred Heart High School—who with Ron Leavoy (the local printer) and Charlie Bagnato of the town’s liquor store, led the Concerned Walkerton Citizens—also showed themselves able to interpret between these different ways of knowing and make useful sense of them for others.

The lawyers at the inquiry were not similarly situated. When it became apparent during background interviews for their appearances at the inquiry that the Koebel brothers and their staff had been falsifying chlorination records, Cavaluzzo—O’Connor’s lead counsel in Walkerton—and both the Koebels’ own attorneys were confounded. None had experience with fraud that was not grounded in greed (Perkel, 2002, page 203). In the inquiry hearing room many hours were spent reading documents into the record, a process which baffled local residents unfamiliar with lawyerly standards of evidence. Many hours, too, were spent trying, in vain, to place on record the oral transmission—by time and place, from this individual to that individual—of the unspoken consensus shared in town about how to know good water. The inquiry report noted many instances in which municipal officials had not asked questions about assumptions and actions the inquiry commissioner and his staff thought would have been questionable. O’Connor found that the Koebels had breached the trust of the community.

(43) WI, One (page 236).
(45) WIT 1 December 2000, Mary Robinson-Ramsay questioned by Frank Morocco and Ramani Nadarajah.
(46) A good example is WIT 20 December 2000, Stan Koebel questioned by Earl Cherniak, page 169.
(47) WI, One pages (4, 19, 42, 229). The economists who prepared a study for the commission on provincial—local relations and drinking water in Ontario reasoned similarly from a unitary epistemology of interest. “Provincial testing requirements that reinforced the obvious self-interest in testing by the municipalities made perfect sense”. “It is never in the economic interests of a particular community to provide itself with impure water although it might well be in the interests of the majority not to provide decent public transit or welfare systems” (Sancton and Janik, 2002, pages 3, 4, 35, 50).
And yet, the Koebels, the council, and the public utilities commissioners had assiduously enacted the local consensus about what was desirable in municipal drinking water. Robinson-Ramsay had told the inquiry as much. They had elected a fiscally conservative member to represent them in the provincial legislature. Through November it was within this epistemological frame of shared responsibility that Walkerton grieved for its lost citizens. Like citizens across Canada, and around the world in the 1980s and 1990s, the people of Walkerton had been persuaded by the promises that smaller public sectors would be more effective and that private services guided by market incentives more efficient. In Walkerton these contemporary global ideological currents had amplified rural and small town confidence that modest self-sufficiency and careful attention to spending were the watchwords of good governance. This was the substance of the town’s lost innocence. Its consequence framed the next challenge the community faced, a dilemma also reconfiguring the relationships amongst safety, solidarity, and sovereignty far beyond Walkerton.

That there were two contemporaneous ways by which to know good water, one vernacular and one professional, was not a peculiarity of Walkerton in 2000. In Ontario there were training programs and certification processes designed to ensure uniform, measurable, and controllable standards of knowledge and practice amongst the stewards of municipal water (Busch and Tanaka, 1996). But the social compact upholding the integrity of these certification regimes had been weakened by contravening commitments in the 1980s to reduce both provincial spending and central interventions in local administration. To meet these goals, the MOE in 1987 introduced a voluntary grandparenting program which short-circuited the requirement that water operators retrain. Cost saving and streamlining in intent, grandparenting had the proximate effect of accepting practical experience as commensurable for certification with scientific and technical training. Thereafter, there was no enforced ‘common set of practices’ binding operators in a shared monitoring culture (Sims, 1999). The Koebels’ certifications were regularly upgraded thereafter as the mandated requirements to run a system such as that in Walkerton were raised. In the years which followed, as O’Connor noted in his report, the “MOE took no steps to inform them of the requirements for continuous monitoring or to require training which would have addressed that issue”.

Through the 1990s the provincial government, focused on disentangling provincial–municipal relations and trimming its regulatory apparatus, paid little attention to water (Scanton and Janik, 2002, pages 5, 7, 8).

The Koebels, and the many other waterworks operators with grandparented certifications, were not running their systems with “unguided practical experience” (Grover and Zussman, 1985, cited in Benidickson, 2002, page 132), as some have accused. They were guided by experience their communities shared and respected. They acted not in the absence of knowledge, in a vacuum calling out to be filled, but on a series of propositions held in common which were integral to the valued cognitive sovereignty of their community. These propositions were part of the connecting tissue which held the town together. Shearing them away would be consequential.

Near well 5 was the farm of the town’s veterinarian, Dr David Biesenthal and his wife Carolyn. The Biesenthal’s kept a small herd, and manure from their herd contained bacteria that matched the E coli O157:H7 found in well 5. In the week of 8 October the town had celebrated the return to Walkerton of their daughter, Laryssa, a bronze medalist in swimming. She had to miss the event. The Koebels mistakenly believed the water supplying the Walkerton wells was safe, but also that it was unclear “whether Stan and Frank Koebel would have altered their improper practices if they had received appropriate training” (WI, One pages 28, 29).
at the Sydney Olympics. That same week, Stan Koebel and the Public Utilities Commission named the Biesenthalts as a third party in a $350 m civil suit (Perkel, 2002, page 194). (50)

In early December, as Frank Koebel’s history of habitually falsifying chlorination reports entered the inquiry record and the town reweighed both the burden of its lost innocence and the question of blame, a number of agricultural groups began to solicit support for a trust fund to assist the Biesenthalts with their legal bills. As herdsmen, the Biesenthalts were model practitioners of modern scientific risk abatement strategies. As the Herald-Times reported, quoting a press release from the Bruce County Cattlemen’s Association, the veterinarian and his wife had “taken numerous steps to ensure that their farming practices” were “as safe as possible”(51) and had been among the first farmers in Ontario to complete an Environmental Farm Plan. To blame the Biesenthalts, as if they “had played an active role in what happened”(52) seemed equivalent to blaming every person in town who, when ill in May and June, might have unwittingly contaminated their neighbours and kin. Surely, Finlay affirmed, in a 6 December column headed “Compassion goes missing when money on the line”, no single person or event was going to emerge as the villain in the Walkerton story of 24 May 2000. (53)

Following the money became a preoccupation in town, the mundane materiality of this pursuit was a clear contrast and complement to the fugitive, if now speakable, apportioning of blame. On Friday, 8 December Walkerton learned for certain that Stan Koebel had negotiated a $98 000 settlement with the Public Utilities Commission, and by implication that his Public Utilities Commission salary had been $69 000 per year. In a local economy where many earned little more than the minimum wage, where Betty Borth, whose career as an operating room technician at the hospital paralleled Koebel’s at the Public Utilities Commission, had been paid less than half Koebel’s salary, the sum was startling. The following Monday the Concerned Walkerton Citizens convened a meeting, in which they planned to frame a petition calling for a retrospective health study of the effects of the town’s incontrovertible history of contaminated water. By force of circumstances the meeting turned to rereckoning the consensus about good water now that the principal guardian of that bargain had been revealed in default of the terms about thrift. Although there could be no certainty about whether residents’ histories of bowel problems were linked to the water, as stories of cramping and diarrhoea endured covertly over decades came to voice in the hall, strong and certain opposition formed to Stan Koebel’s severance settlement. (54)

Though his appearance was delayed by deliberations over his mental state, Koebel, sedated and tearful, testified for three days beginning on 18 December, setting into the inquiry record a detailed account of his troubling stewardship of the town’s water. The urban press responded with outrage. A Globe and Mail editorial refused Koebel the sanctuary of ignorance, and condemned his behaviour as a “sort of calculated deceit”. (55) The Toronto Star published a stinging parody by Joey Slinger of a small town where nepotism, drunken debauchery, petty violence, and fractious

(52) WH-T 6 December 2000, “Compassion goes missing when money on the line”, page 6.
complicity prevailed along streets piled high with manure. The Star also published an editorial cartoon twinning Koebel with Homer Simpson under the heading “Separated at birth?”. But both city papers acknowledged that rural idiocy was not a sufficient explanation for events in Walkerton, and that citizens of the province were separated from a similar catastrophe only by a few overworked civil servants and a misguided government besotted with thrift, an unhopeful appraisal of the efficacy of late modern risk management in Ontario.

In Walkerton, outrage was more of a luxury. As with any luxury there were those who found themselves in a position to indulge and who did so, at least for a time. Bagnato, the manager of the liquor store, and a man who knew himself to be excitable, found the outraged passing through his doors, “the usually conservative Walkertonians, very quiet”, and he was in the unfamiliar position of “having to calm them down”. Walkerton, being Walkerton, there were many who thought about luxuriating and then rethought, and some for whom the thought was unthinkable. Leavoy, the printer who headed the Concerned Walkerton Citizens, was one of these. Leavoy thought Koebel, whom he counted a friend, “was being scapegoated when he was far from acting alone in his role in the tainted water”. “I don’t think there was any malicious intent there at all. Most people in town are that way too. They know he made a mistake, but he didn’t intentionally go out to harm anybody.”

Finlay, the Herald-Times columnist, by avocation a member of a Christian Peace-makers team, put in print the reasoning of many in Walkerton. Frank Koebel believed in the town’s water, as many others in Walkerton and in other communities had for 150 years. “This faith was either misplaced or a bit too old-fashioned. It didn’t keep pace with changing technology, land use practices and other environmental considerations.” But, as the people of Walkerton had shared in the consensus that good water was defined by taste, softness, and thrift so they shared responsibility for the tragedy of 2000, “both those who betrayed their trust through their actions as well as those who did so through their acceptance of the way things have been for a long time.”

Finlay did not mention Frank’s brother Stan in this summation. Anger toward him remained keen; his severance package was a continuing sign of trust betrayed. The municipal council of Brockton, a new entity formed by provincial streamlining initiatives to merge the town with surrounding rural townships, dissolved the Walkerton Public Utilities Commission in January 2001, hoping thereby to prevent payment of the terms of termination to which the Public Utilities Commission had agreed. In their final severance settlements, Stan received $48 000 and Frank $55 000. Management of the town’s waterworks was turned over to the provincially run Ontario Clean Water Agency. Physicians from the University of Western Ontario Medical School have undertaken a five to seven year study of the long-term effects of E coli. And the government of the province has committed $50m to support the Clean Water Centre of Excellence to be located in Walkerton. In April 2003 the Koebel brothers were charged criminally with reckless endangerment, breach of trust, and forgery. But the lessons learned in Walkerton are spreading slowly. Ontario MOE reports in December 2002 show that half of the province’s water-treatment plants are still in default of

(60) WH-T 13 December 2000, page 5.
(61) WH-T 20 December 2000, page 5.
proper testing protocols and in violation of the safety rules implemented after Walkerton.\(^{(62)}\)

And so the story ends and does not end. At the time of this writing, three years after the events of the 26 May weekend of 2000, and thirty months after the lifting of the boil water advisory, many residents of Walkerton will not drink water from the municipal system; some vow they never will. Elements of the local tradition about how to know a good man have remained. Stan Koebel has moved away from Walkerton, but Frank has “stayed in town to face people and people respect him for that”.\(^{(63)}\)

Troubled by the uncertainty inherent in the late modern assessment of risk, and by the authority they have ceded to distant regulators whose methods and necessary compromises they will not know, townspeople live on in a present where the preconditions for their safety are impalpable and thereby a matter of scientific inference, chastened by their own histories of trusting consent. A widely supported ‘Healthy Communities’ initiative is at work, laying new foundations for solidarity in town. Members of the Concerned Walkerton Citizens have traveled widely to share what they have learned with First Nations band leaders and water advocates across Canada. More intimately than the city journalists and their readers, or the lawyers and social scientists who so effectively served the O’Connor inquiry, more viscerally than most citizens in the early 21st century, the residents of Walkerton know the doubt at the heart of a society organised around risk. And, to their credit, they have acted in conscience, and have not pushed that troubling knowledge away.

In Walkerton, taste was an authoritative vernacular knowledge, trusted as a guide to direct, embodied, and unmediated truth about water. Rather, such knowledge is made and remade within the social and cultural history of the sensing body (Bijsterveld, 2001; Burke, 1993; Classen, 1993; Parr, 2001) and was being remade in Walkerton as the events of 26 May 2000 discredited taste as a test for safety. To know good water was no longer a privilege of commitment to place, a feature of a body adapted to discern local truths. The new definition of good water as safe water depended on scientific expertise tied more to profession than to place. Thus the derogation of the authority of taste was a challenge to local confidence in certain local ways, to this locally embodied knowledge, and to local sovereignty. Water bore the current which reshaped understandings of safety and sovereignty in Walkerton. Like a tide, it flowed two ways. Water carried far from town the implications of local beliefs and practices. These were in turn being remade, both before and after the tragedy of 24 May 2000, by international influences. Good water emerged as a complex of decisions about risk, guided by knowledge and hedged by uncertainty.

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\(^{(63)}\) TS 23 November 2002. The speaker quoted is Donnie Berberich, whose two youngest daughters were gravely ill during the crisis of spring 2000.
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