

to Fisher, "it seems as though a whole generation of students took Wilson's *Anthropology* 301" (p. 201). Duff assigned readings to his students like Alan Fry's *How a People Die*, (Doubleday, 1970), a novel based on the forced relocation of the Gwa'sala-'Nakwaxda'xw Peoples.

Fisher argues that Wilson Duff surpassed the ordinary range of human experience in his analyzing of Northwest Coast art, especially the art of his namesake, Albert Edenshaw. He seemed to transcend into a state of mind where very few could reach. However, there was a dark side, as Fisher points out, "As he was consumed by a burst of highly creative thinking about meaning in Haida art, Wilson was slipping through the formlines into negative spaces." (p. 258) The end of the book features a suicide, and that is naturally disturbing, but Fisher's cause and effect explanation to what led to it takes an unexpected turn at the end.

This book is well worth the purchase. It's a story well told that carries us through the deep waters of Wilson Duff's mind where we stay only on the surface yet can glimpse down and understand these waters are bottomless.

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Travis Hay, *Inventing the Thrifty Gene: The Science of Settler Colonialism*. Winnipeg: University of Manitoba Press, 2021. 196 pages. ISBN 978-0-8875-5934-1. \$27.95 paperback.

Travis Hay's *Inventing the Thrifty Gene* is an important book with an urgent message. Hay investigates the material and ideological conditions of over a century of colonial policy and scientific investigation which "divined from Indigenous blood and other biological materials a powerful mythology in which Indigenous bodies are seen to be programmed for the past as opposed to targeted by the ongoing embodied and structural violence of federal Indian policies" (3). The book skillfully shows the role science played, in its conception, execution, and interpretation, in justifying and enacting the destruction of Indigenous lives.

The book's primary target is the racialization and subsequent geneticization of diabetes in Indigenous communities. He traces how settler colonial science, as the author calls it, created "a national mythology of Indigenous maladaptation to civilization" (4). From the nineteenth-century discourse of the inevitability of Indigenous disappearance, to late twentieth-century discourses of genetic disposition,

Indigenous peoples are framed as *inherently*, in the precise meaning of the word, unsuited to the modern world. The result is a version of indigeneity where social issues, poverty, and death are pathologized as the result of a “self-extinguishing essence” (141), not as the result of historically destructive and racist federal policies. Agency and responsibility, then, lay with nature. There is no crime, only victims.

Across six chapters, Hay demonstrates a repeating cycle in which invariably white male imperial agents travel to observe Indigenous peoples and recommend intervention; oscillating between isolationist and assimilationist in nature. The resulting policy failures prompt a return to more observation and, yet again, more intervention. The cyclical nature to the process leaves the author struggling “with the question of where to begin the story of the thrifty gene hypothesis” (22). *The Jesuit Relations*, for example, made much of differences in food production and consumption among Indigenous peoples and colonists, with some misinterpreting the complexity of Indigenous peoples’ practices of sustainable resource use and the seasonal round with a “feast or famine” existence. However, Hay argues that the French colonial project was “rooted in a dominant Christian metaphysic” diametrically opposed to the “British tradition of Victorian science” (24) that underpinned Canadian federal Indian policy. Hay also considers Malthus as a potential originator of the thrifty gene idea but decides against it for two reasons. First, there is the impossibility of assigning Malthus’ population theory a scientific label given its Christian ontology. Second, Malthus did not study Indigenous peoples, nor did he engage in imperial travel. The author settles on Darwin as the originator of the thrifty gene hypothesis, an understandable and justifiable choice. The dismissal of other potential origins, however, feels unnecessary. One might argue, for example, as Alison Bashford and Joyce Chaplin have in *The New Worlds of Thomas Robert Malthus* (Princeton UP, 2016) that Malthusian theories were fundamental to understanding British Imperialism, even in the Victorian era. There was, after all, ceaseless traffic between metropole and colony where theories of surplus population, settler colonialism, food shortages, and Indigenous disappearance were used to legitimate imperialism globally. Furthermore, is it necessary to separate Christian ontologies from Victorian science? Though different, and sometimes at odds, Christian moral economies and settler colonial science were by no means fundamentally incompatible discourses, especially not in their goal of “civilizing” Indigenous peoples.

I certainly empathize with the narrative challenges of coherently traversing an extensive time period; however, it may be just as productive to inhabit that uncertainty. The historic origins of the thrifty gene hypothesis are, as the author ably shows, murky and multiple. This lack of certainty, though seemingly unscientific, could

be seen as a key part of what gives settler colonial science its power and longevity. Degeneracy and eugenics, for example, offer powerful explanations for social crises by refusing to blame settler colonialism or capitalism, and instead blaming the intrinsic nature of Indigenous peoples, the poor, people of color etc. We see it at work in both nineteenth-century social Darwinism and in post-World War Two genetic science. The language of race, heredity, and genetics is powerful precisely because it is malleable.

When the author relaxes into the history, the results are enlightening. Hay traces the medicalization of residential schools, the scourge of unchecked tuberculosis, and the nutritional experiments carried out on Indigenous children. His analysis of how James Neel's genetic work in Canada and beyond was "formative in articulating Indigenous bodies as sites of supreme genetic value" (p. 87) is sharp and informative and provides an important link between colonial race science and postwar Western genetics. I found myself wanting to know even more about Neel's exploits as a "biopirate." At this moment, however, the narrative veers "slightly from the archival and historical into the speculative and psychoanalytical." Hay suggests that Neel, because of his non-service in World War Two and the death of his father, suffered from a "neurotic need to connect with an authentic and primal masculinity" (106). Whatever his psychological motivation, Neel is clearly representative of a broader scientific approach to indigeneity in Canada and beyond. Hay offers a nuanced and contextual understanding of Neel, placement that neither exonerates him nor accuses him outright of genocide. Indeed, Hay cautions restraint in relation to previous accusations against Neel published in *The New Yorker*. That nuanced interpretation is a little lacking in other areas of the book.

The book's most important argument concerns Hay's goal "to prove beyond any reasonable doubt that residential schools were biologically genocidal" (57). Considering recent revelations about mass graves in residential schools, such a claim is justifiable. This argument, however, might benefit from a definition as to what constitutes genocide in Hay's reading. Offering a definition of genocide is not to minimize the "national crime", rather it might clarify Hay's claims. For example, Hay's arguments about genocide turn towards comparison with Nazi Germany. Department of Indian Affairs' Duncan Campbell Scott is accused of forming a "final solution." Chief Medical Officer Dr. Percy Moore is said to be "positively Eichmann-like" (56) and akin "to another Nazi, Josef Mengele, who represents ...the worst excesses of medical violence in the context of genocide" (72).

While I understand the motivation for Nazi comparisons, they feel heavy handed and possibly counterproductive. The accusations of Nazi-like genocide are backed up by analysis of Moore's

experiments in teaching Residential School children the importance of nutrition by observing rats fed different diets. Such experiments were, as Hay shows, designed to discipline Indigenous children and to teach them to eat cheaper foods like vitaminized biscuits and sausage. Deplorable though the experiments were, Nazi comparisons might alienate some readers. One might also wonder why Hay doesn't reach for other British colonial comparisons that involved mass death, starvation, and medical experimentation. From famine-stricken Ireland and India to Tasmania and Australia, British imperial history is not short of shocking comparisons.

The book finishes strongly by skillfully incorporating Indigenous voices to reread the colonial archive. The author relies not on settler scientific expertise but on Anishinaabe knowledge to identify archives that would speak to "this history of knowledge production and blood extraction" (110). The result is an engrossing and somewhat hopeful story that offers a sharp critique of the settler colonial science but also shows how some settler-led initiatives, like Dr. Harry Bain's University of Toronto Sioux Lookout Project, could have positive impacts on northern communities. More importantly, Hay shows how Indigenous politics in the form of refusal and hunger strikes challenged the medicalization of Indigenous communities. Chief Josias Fiddler's political work, for example, exposed a fundamental lack of Indigenous voices and sovereignty in health care. Hay argues that Chief Fiddler brought into sharp relief a stark reality: "the federal government will fund settler colonial science but not Indigenous wellness in the Canadian North" (123). It is a powerful message with continued relevance.

This book is a key part of a growing body of scholarship that exposes the role of science and medicine in settler colonialism in Canada. While the book occasionally loses its way, it is a provocative and eye-opening read. Perhaps most importantly it asks us to remain vigilant against the discourses of settler colonial science, whether they deal with Indigenous disappearance, the thrifty gene, or Aboriginal diabetes. The power of race science is by no means consigned to some distant past; as Angela Saini argues in *Superior: The Return of Race Science* (Beacon Press, 2019), it still shapes public discourse today. Recognizing the longevity, power, and purpose of settler colonial science is key to undermining the pathologizing of indigeneity and poverty.

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