

**Parallel session 4: Cultural Identity Implications in Genomics Research and
Communication**

DECOLONIZING THE THRIFTY GENE THEORY

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Abstract

This paper describes elements of a decolonizing textual science study of the 'thrifty gene' theory. Grounded in the notion that the construction of scientific knowledge is deeply imbricated in cultural and historical contexts, this research uses the production of 'thrifty gene' theory as a case study to explore, to decolonize, and to clarify the potential implications of the current production of medical-genetic knowledge about Aboriginal bodies, health and wellness. Here I problematize the recently burgeoning and uncritical linkages between evolutionary science, contemporary medical-genetic research and Aboriginal peoples' health in Canada.

Key Words: Thrifty Gene Theory, Decolonization, Aboriginal Wellness

Text

The 'thrifty gene' theory is currently a simplistic and captivating explanation for the high prevalence of non-insulin dependent diabetes mellitus (NIDDM) among Indigenous peoples globally. Originally proposed in 1962 by population geneticist James V. Neel, the 'thrifty gene' theory was based upon the evolutionary notion that hunter/gatherer populations survived feast and famine living conditions because they possessed a *thrifty* genetic predisposition to accumulate and store fat. Neel (1962) suggested that under recent conditions of rapid "Westernization" and related lifestyle and dietary changes, this naturally selected genetic predisposition, which sustained populations during times of famine, has led to the onset of obesity and diabetes among contemporary populations.

In subsequent publications in 1982 and 1999, confronted with evidence showing significant flaws in the original hypothesis, Neel re-adjusts its specifics and continues to argue, very convincingly, for the existence of the 'thrifty gene.' Despite its non-existence, the 'thrifty gene' theory does indeed exist in the current Aboriginal health literature as powerful explanation for NIDDM. While it waits, almost impatiently, for scientific authorization, the tale of the 'thrifty gene' theory is a telling sign of things to come in the construction of medical-genetic knowledge.

This paper is based on a decolonizing textual science study of the primary literature which constructs the 'thrifty gene' theory, namely the texts published by

James V. Neel in 1962, 1982 and 1999, to which I refer as the 'thrifty gene' papers. This research is grounded in the traditional teachings of two Aboriginal people, Flora Fiddler and Albert Fiddler. It also draws upon the social studies of genetic science (Hedgecoe, 2002; Lippman, 1991; Rabinow, 1996) and has linkages with global decolonizing literatures (Smith, 1999; Whitt, 1998). Decolonizing the 'thrifty gene' involved three primary methods: centering indigenous epistemologies of holism; critically understanding and challenging the principles of Euro-western scientific research; and revitalizing indigenous knowledge systems geared toward the larger project of self-determination. Here I describe the analysis involved with the second principle, namely the critical assessment of the assumptions, conclusions and the implications of 'thrifty gene'.

The analysis of the 'thrifty gene' papers reveals several key findings. While it is never acknowledged in current literature, the 'thrifty gene' theory is produced and reiterated from eugenic, evolutionary and neo-colonial perspectives. Where Neel explicitly looks to eugenic solutions for population health, the principles of his theory are based on incorrect categorical groups and problematic primitive/civilized binaries. Moreover, it fails to account for complex Aboriginal genealogical histories and wrongly assumes genetic homogeneity within Aboriginal communities. As such, the 'thrifty gene' not only remains an unproven hypothesis, but it also embodies an approach to Aboriginal disease where social, economic, and historical conditions (namely colonization) become naturalized or fixed. Where social conditions are treated as fixed, the Aboriginal body becomes the site of curative transformation. This shift is responsible for the way in which racialized bodies and individual moralities are necessarily blamed for illness. Already marginalized peoples become further entrenched in a biological paradigm which not only re-affirms racial categories of difference, but also bears little resemblance to Aboriginal healing knowledges, histories, communities and peoples.

Future genetic research about Aboriginal disease may not be accurate in terms of the assumptions it makes about populations, and therefore, it may not be useful in a curative sense if applied clinically. In fact, it may be harmful, not only by categorizing, stigmatizing and surveilling the peoples it describes, but also by spear-heading a trajectory of racialized genetic explanation, research, surveillance and treatment (Poudrier, 2003).

There is an additional chapter in the slick story of the 'thrifty gene' that needs to be told. It could begin with the mythical Trickster – the Raven. Like Donna Haraway's (1999) call to converse with coyote who is the manifestation of continually problematized binary distinctions, the Raven tale might break down problematic and reductionist binaries like civilized/primitive, modern medicine/Aboriginal wellness and nature/culture. It would most certainly highlight the importance of valuing and revitalizing Aboriginal healing knowledges. Future efforts geared toward decolonizing medical/genetic knowledge remain a strong possibility for advancing the projects of self-determination and the ongoing development of appropriate and emancipatory healing knowledges in current contexts; even in the genetic future.

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Notes

¹ Following other Canadian scholars, here I use the term “Aboriginal” to refer to Indigenous peoples of Indian, Inuit, and Metis heritage.

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