

Thrifty Geneticization: An Indigenous Science Study of the Thrifty Gene Theory

Author: Jennifer Poudrier

Rationale: The ‘thrifty gene’ theory is a captivating explanation for NIDDM among Indigenous peoples globally. It was proposed by James V. Neel (1962). In subsequent publications (Neel, 1982 and 1999), he acknowledges significant flaws, re-conceives some elements, but continues to argue for the validity of the general concept a *thrifty* genetic predisposition to store fat in Westernized diets. These re-conceptions have been hotly debated and the thrifty gene metaphor is very much alive as a powerful explanation for NIDDM. However, where there is an easy and seemingly ‘natural’ transition between Aboriginality and genetic risk through geneticization, the lustrous and provocative thrifty gene concept must be opened to critical dialogue, particularly from indigenous perspectives. Objective: Where scientific knowledge is shaped and understood in socio-cultural and historical contexts, it is essential the cultural construction of the thrifty gene as a scientific concept and discuss its role in the geneticization Aboriginal peoples. Methodology: This indigenous science study 1) is grounded within the traditional teachings of one Elder and another Aboriginal community member from Saskatchewan; and 2) connects academic literature in geneticization and decolonization theory. This research involves a textual analysis of Neel’s thrifty gene papers based in decolonizing theory with a view to: 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. Results: The thrifty gene theory has the potential to reify racial categories of biological risk by matching neo-colonial ideologies of ‘problematic races’ with disease epidemics. It can be decolonized by 1) challenging the assumptions of genetic homogeneity among Aboriginal peoples and 2) assessing the value of comparative racial groups in research. Conclusions: The thrifty gene might better be imagined as a complex character in an evolutionary drama about genes, race and culture. The thrifty gene frequently emerges as a character in the historical-evolutionary drama of disease and society and in the current genetic era, it is certain to enter the stage with more regularity. A more robust and empowering story of the thrifty gene concept should include the voices of Aboriginal peoples in specific contexts and could begin with Raven Trickster.

Affiliations: Jennifer Poudrier PhD. Department of Sociology, University of Saskatchewan, Saskatoon SK Canada

Corresponding Author: Jennifer Poudrier, jennifer.poudrier@usask.ca

References

- Neel, J.V. 1962. “Diabetes Mellitus: A “Thrifty” Genotype Rendered Detrimental by Progress?” *American Journal of Human Genetics*, Vol. 14, pp. 353-62.
- Neel, J.V. 1982. “The Thrifty Genotype Revisited.” In *The Genetics of Diabetes Mellitus*, J. Kobberling and R. Tattersall (eds.). London: Academic Practice, pp. 283-93.
- Neel, J.V. 1999. “The ‘Thrifty Geneotype’ in 1998.” *Nutrition Reviews*, Vol. 57, pp. S2-S9.