

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

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Rationale:

The 'thrifty gene' theory is a captivating explanation for non-insulin dependent diabetes mellitus (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.

The Thrifty Gene Theory as a Trickster Tale.



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.



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. Koberling and R. Tattersall (eds.). London: Academic Practice, pp. 283-93.
 Neel, J.V. 1999. "The 'Thrifty Genotype' in 1998." *Nutrition Reviews*, Vol. 57, pp. S2-S9.

Science as Culture

All knowledge is contingent upon, and takes shape, within its specific socio-historical and cultural context



Methodology:

This indigenous science study

- 1) is grounded within the traditional teachings of one Elder and another Aboriginal community member from Saskatchewan;
- 2) connects academic literature in geneticization and decolonization theory.

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.



Are Aboriginal peoples genetically homogenous and comparatively 'different' from non-Aboriginal peoples?

Results:

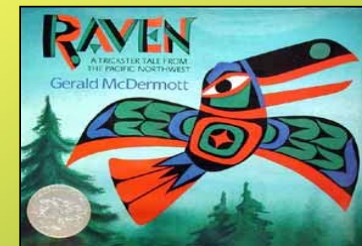
- The thrifty gene theory has the potential to reify racial categories of biological risk by matching neo-colonial ideologies of 'problematic races' with disease epidemics. It can be decolonized by
- 1) challenging the assumptions of genetic homogeneity among Aboriginal peoples
 - 2) assessing the value of comparative racial groups in research.



'Aboriginality' as a Genetic Risk Factor?
What are the Implications?

Conclusions:

The thrifty gene might 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.



Raven Trickster as
Communicator/ Transformer:

Open dialogue from Aboriginal peoples' perspectives about genetics in the future. We can discover what is possible in transforming our thinking about genetic susceptibility and risk. We can bring new perspectives into light.