Ignorance is Power
Ignorance Mobilization & Knowledge Mobilization in Science

Joanne Gaudet, Doctoral Candidate and HQP – jgaud041 [at] uottawa.ca – Department of Sociology, University of Ottawa

Introduction

"While the job of a scientist is to probe the unknown, most of the probing takes place at the edge of the known…" (Freudenburg 1996:27).

The processes underlying the dynamic interplay among the known, the unknown and the edge of the known in science research are particularly relevant in modern knowledge society. Drawing mainly from emerging literatures in the sociology of ignorance and in knowledge mobilization, in this poster I have two goals:

(1) I propose the concept of ignorance mobilization (Gaudet, unpublished) and develop an ignorance and knowledge mobilization dynamic model.

(2) I apply the dynamic model to a PrioNet Canada laboratory case study. The guiding question is: "How does a predominantly basic research university science laboratory adapt to membership in a primarily commercially-driven collaborative research network?"

Typology for Ignorance and Knowledge

Table 1: Proposed Epistemic Categories and Sub-Types

Overarching Category	Sub-Types	
Knowledge An overarching concept that by in large points to knowing including existing knowledge and extended (new) knowledge.	Knowledge (existing)	A justified belief that is connected to purpose or use and is generally associated with intentionality.
	Extended (new) knowledge	An outcome of planning, theorizing and/or research with active non-knowledge. *Can potentially lead to further iterations of ignorance or active non-knowledge if limits to extended (new) knowledge are uncovered.*
Ignorance An overarching concept that by in large points to the borders and the limits of knowing including the intentional and the unintentional consideration or bracketing out what is not known. *See active and latent non-knowledge.*	*Active* non-knowledge	A type of ignorance where the limits and the borders of knowing are intentionally or unintentionally taken into account for immediate or future planning, theorizing and action. *What is not known can continue being active, be developed into further active non-knowledge or be transformed to latent non-knowledge where it will no longer be taken into account.*
	Latent non-knowledge	A type of ignorance where the limits and the borders of knowing are intentionally or unintentionally not taken into account for immediate or future planning, theorizing and action. *It can remain latent or be developed into active non-knowledge where it will be taken into account.*
Nescience Complete absence of knowledge, which can potentially lead to ignorance. *Exists in a distinct epistemic class from the above categories and can only be known and investigated in retrospect (i.e., nescience of cross-species contamination when scrapie infected sheep offal was added to bovine feed or nescience of prions and their role in neurodegenerative disease).*		

(inspired from Gross 2010 in Gaudet et al., 2012: 7)

What is Knowledge Mobilization?

Mobilization is the activation and application of individual or organizational resources towards a goal. Knowledge mobilization is the use of knowledge towards the achievement of goals – such as social, cultural, political, professional, and economic goals. Use is multidimensional: *instrumental* use, *conceptual* use, *strategic or symbolic* use, and *inspirational* use.

The knowledge mobilization approach of investigating processes into *how* knowledge is produced, transmitted, received, evaluated, and integrated into existing knowledge is therefore insightful.

Knowledge Mobilization Limit ➜ New Concept

While attempting to understand dynamics in a basic research laboratory through this approach however, I encountered one of its limits – knowledge mobilization *does not* accommodate ignorance. Yet, ignorance plays a vital role in basic research. I therefore proposed *ignorance mobilization* (Gaudet, 2012).

Ignorance is Normal

Ignorance, though integral to scientific practice and innovation, and a key indicator of a 'knowledge' society, remains ill-accounted for theoretically and analytically. As new knowledge increases, ignorance also increases while potentially yielding greater unintended uncertainties – which can lead to more ignorance.

In innovation as in research ignorance is *valuable* but *invisible*.

- Surprise can be understood as an impulse to make a person aware of his or her ignorance, potentially leading to the production of new knowledge.

- Knowledge is not 'permanent'. More knowledge brings more surprises which brings more ignorance where new knowledge 'replaces' existing knowledge. Knowledge is provisory in relation to ignorance in a complex and dynamic relationship.

- Ignorance is not a competing epistemological category with knowledge, and not a pessimistic variant of knowledge (Gross, 2010:66). Ignorance is normal. In this study it sheds its pejorative character and joins knowledge in equal epistemological understanding.

- Ignorance can be *socially constructed* (e.g., social processes of selecting/putting aside projects).
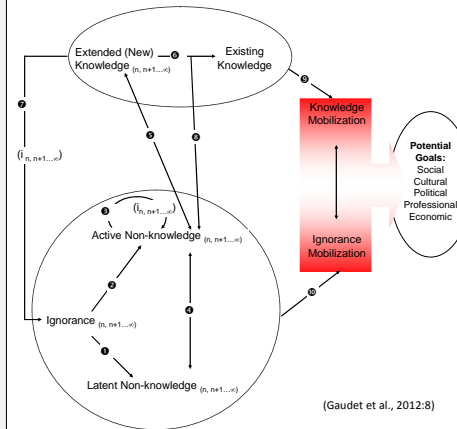
Ignorance Mobilization

Ignorance mobilization is the use of ignorance towards the achievement of goals (i.e., social, cultural, political, professional, and economic).

Mobilizing Ignorance & Knowledge In a Dynamic Model

Ignorance mobilization + knowledge mobilization

Figure 1: Epistemic Mobilization Dynamics in Science

(Gaudet et al., 2012:8)

Sample dynamics at Steps 9 and 10: Researchers mobilize ignorance and knowledge for professional goals.

Sample dynamics between Steps 1 & 2 and 8: The publication peer review process (a social process) enables or prevents publication of research from given active non-knowledge research programs and also reproduces what can be deemed as active non-knowledge through review.

Sample dynamics at Step 10:
- Government of Canada Science Policy - engaging in ignorance mobilization on BSE to establish PrioNet Canada for social, political and economic goals.
- US Government closing down of the US-Canada border for Canadian beef was *using* ignorance for political and economic goals – ignorance mobilization.

PrioNet Case Study Methodology

- Social network analysis (SNA) (2005 to 2011).
- Published scientific article discourse analysis (N=10).
- Interviews (performed discourse analysis on transcripts and furthered understanding of SNA and ignorance and knowledge dynamics) (15 interviews with 13 subjects).

Select Findings

Case Study Baseline in 2005:
- Laboratory engaged in curiosity-oriented basic research.
- Higher preponderance of ignorance mobilization with two main goals, professional and (re)producing further basic research.

Changes from 2005 to 2011:
- Change in materials used, from simple to involving human and complex animal samples. Mobilized knowledge (tacit and explicit) through PrioNet Canada network collaborations (step 9). Change in material complexity also evident in publications.
- Funding agency peer review processes influenced change of orientation and materials (steps 1, 2, 8).
- Social network gradually increased in complexity and in actor diversity to foster greater ignorance and knowledge mobilization (steps 3, 5, 9, 10).
- Nature of the research became progressively strategic, but remained basic in orientation.
- Although still mainly focussed on ignorance mobilization, the laboratory demonstrated adaptation contributing towards more applied knowledge mobilization goals outside of academia.

Conclusion

The dynamic (re)calibration of ignorance mobilization and of knowledge mobilization appears to have been one of the main laboratory case study adaptation processes to the network. The time has come to expand Bacon's famed saying, 'knowledge is power'. When ignorance assumes its role alongside knowledge, **"ignorance and knowledge are power"**.

Bibliography & Acknowledgements

Freudenburg, W. 1996. "Strange Chemistry: Environmental Risk Conflicts." Pp. 11-36 in *Handbook of Environmental Risk Decision Making: Values, Perceptions, & Ethics*, edited by C. R. Cothern. New York: Lewis Publishers.

Gaudet, Joanne, Nathan Young, and Matthias Gross. 2012. "Ignorance is Power: Science in Practice Epistemic Mobilization Dynamics." Pp. 24. Presented at the Canadian Sociological Association 2012 Conference in Kitchener-Waterloo. May 28-June 2, 2012.

Gaudet, Joanne. 2012. Working Paper - In praise of Ignorance: Theoretically Reconciling Ignorance and Knowledge Mobilization Towards Network Epistemic Mobilization in Collaborative Science Research Networks.

Gross, Matthias. 2010. *Ignorance and Surprise: Science, Society and Ecological Design*. Cambridge: The MIT Press.