Knowledge is always the knowledge of humans, and it is not something with which humans are naturally equipped; it must be acquired. Its establishment requires an effort. Since it is thus the result of willful acts, it may be asked what the intention is which is behind the pursuit of scientific knowledge.... (Burger, 1987)

**Abstract**

From a politics of assimilation to a politics of recognition (Coulthard, 2007), within and as a result of state policies, Canada’s Indigenous peoples and Indigenous knowledge systems are in a better position to contribute to public policy processes. Unfortunately, reflecting the power imbalance in our policy-making system, Indigenous people tend to be receivers of government policies instead of contributors to public policy (Abele, 2006). Furthermore, there is little to no evidence that Indigenous knowledge systems have received meaningful inclusion in public policy development, especially outside of lands and resources policy (Dudgeon and Berkes, 2003). As a result, public policy discourse in Canada has been and continues to be shaped and dominated by Western perspectives, which hold to a colonial model of governance and policy making (Graham et al., 1996).

**Key words**: indigenous knowledge; science; policy analysis; politics; positivism; postpositivism

---

**Introduction**

Two themes are central to this essay: i) the political and social construction of knowledge and ii) the utilization of that knowledge within government policy analysis. The structure of this essay is as follows: first, I examine the politicization of knowledge, revealing how scientific (technocratic and expert) knowledge is legitimized and other ways of knowing, such as Indigenous knowledge are excluded and marginalized. Second, I merge these theoretical insights with those of postpositivist policy scholars, who criticize the current mainstream policy analysis profession and its narrow (technical) quantitative focus rooted in the positivist philosophy of science.

**Political Construction of Knowledge**

Inherent within the different sections of this article are differences (dualisms) between scientific and Indigenous knowledge. I leave out discussions regarding the characteristics of each of these, and instead focus on the politics of their inclusion and exclusion in public policy processes. I also recognize that there may be many different theoretical frameworks on the politics of knowledge; in this next section, however, I focus on two examples. These are the concepts of “boundary work” (Gieryn, 1983 cited in Bocking, 2011, Scala, 2007), and politics of knowledge integration (Nadasdy, 2003).

Indigenous knowledge systems and Indigenous rights have received official recognition internationally (UN), regionally (Arctic Council), and through specific global treaties such as the International Labor Organization (ILO) 169, and the UN Convention on Biological Diversity. Individual countries have also legally sanctioned Indigenous rights. In Canada, these rights have been recognized and
protected in the Constitution, which extends to dual processes such as land claims and self-government. The potential contribution of Indigenous knowledge to inform these processes, however, is not clearly defined. Not surprisingly, attempts to incorporate Indigenous knowledge remains a challenge — lack of guidance is only one such challenge.

The limitations of the processes within land claims and self-government agreements have also been recognized. They can be seen as the imposition of Eurocentric limitations and definitions within negotiations (Irlbacher-Fox, 2009) and in the administration of lands and resources (Nadasdy, 2003; Tester and Irniq, 2008; White, 2005). As Nadasdy (2003) argues, attempts to absorb Indigenous knowledge or to define it for bureaucratic purposes, so that it poses no threat to existing agendas and management regimes, are a serious matter for the status and future of such knowledge. He states:

There are simply no acceptable bureaucratic rules or functions that allow First Nations peoples as bureaucrats to act upon the land and animals according to their own alternate conceptions of them ... [Co-management and land claims] ... processes may instead be acting as subtle extensions of empire, replacing Aboriginal ways of talking, thinking, and acting with those specifically sanctioned by the state. Essentially these ... [land claims and co-management] ... are incompatible with certain First Nations beliefs and practices. (2003, p. 9)

As a result of fundamental differences between the languages — scientific versus Indigenous — and their legitimacy and power, communication between the bureaucrat and the members of the local community will likely give shape to an unequal (communicative) relationship (Fischer, 2000, p. 18). In turn, the use of the “language of science” and technical jargon becomes an essential credential to participate in policy deliberations (Fischer, 2000, p. 23). This “distorted communication”¹ not only reflects but constructs different power relations within land claims and co-management regimes by legitimizing technical scientific concepts and language and by the imposition of state policies, concepts, language, and practices on Indigenous peoples.

The dualism presented by politicizing scientific research as rational and Indigenous knowledge as irrational, cannot be countered by Indigenous knowledge, despite the misconceptions created, because the dominant scientific discourse is the accepted standard by which other ways of knowing are judged. Therefore, Indigenous knowledge becomes disadvantaged because it is removed from its social and cultural context. The process of “distilling” Indigenous knowledge results in the removal of important qualities that are relational, holistic, and fundamental to Indigenous identity, leaving those most useful for scientific purposes. Related to this is the compartmentalization of knowledge — classifying and categorizing Indigenous knowledge to make it amenable to scientific control and manipulation. Once classified and categorized into compartments, these technical processes separate Indigenous knowledge from Indigenous people in the exercise of administrative practice (Nadasdy, 2003).

The status, validity, and legitimacy of knowledge that is utilized in official government processes, then, is constructed by the dominant scientific paradigm. This active construction of the legitimacy of knowledge (and its power) reveals that current science-based policies derive their importance to resource management practices and policy development from the politicizing of knowledge. This politicization of knowledge can be carried out by individual scientists and supported by their academic and institutional disciplines. Federal and local government bureaucrats also politicize knowledge and shape the policy discourse in their official use and acceptance of certain data and concepts that inform their bureaucratic practices.

Furthermore, the status of Indigenous knowledge within the management over lands and resources in particular, is not static, but occurs within a historical and political struggle. In the Canadian North, this struggle, according to Bocking (2011), has seen Indigenous knowledge as discovered (by explorers), completely ignored (by technocratic southern based science and scientists), utilized for certain aspects (by local wildlife biologists), or attempts to learn from it in its context (by anthropologists). Ultimately, Bocking (2011) argues, this is dependent

¹ “Distorted communication” was coined by Jürgen Habermas (1970), cited in Frank Fischer. (2000, p. 18).
on scientists’ changing perceptions of Indigenous knowledge.

In society, Scala (2007, p. 213) argues science is accorded more power and authority relative to other forms of knowledge because of assumptions that: experts have special skills and relevant knowledge derived from training and professional membership; scientific knowledge enters policy processes through formal institutional arrangements such as policy research institutes or advisory commissions; and, there is better communication between the experts and policy makers because of this institutional context which is closed to other forms of knowledge.

Furthermore, Scala (2007, p. 12) argues that the concept of “boundary work” reveals the “interaction among social and political actors, specifically the state, civil society, and the scientific community in negotiating their roles in governing the scientific enterprise.” This highlights how people, typically experts, attempt to draw boundaries around their knowledge claims (who is outside and who is inside) and therefore construct their knowledge as legitimate and authoritative on any given issue. For her, the “boundary work” concept challenges the perception that scientific knowledge and experts enjoy a privileged status in society because of some superior quality that science or technical knowledge holds.

In the Canadian North, Bocking (2011, p. 42) explains that:

Those seeking to dismiss Indigenous Knowledge do so by excluding it from science, often by noting its anecdotal nature, its inaccuracy (as evaluated by comparison with scientific knowledge), or its spiritual dimensions. In contrast, scientists seeking to draw on Indigenous knowledge often emphasize those aspects, such as taxonomic classifications, that can be most readily understood in scientific terms. In effect, they redraw the boundary around science to include those aspects of Indigenous knowledge that have meaning with science.

Authority and legitimacy, then, of scientific expertise is perceived as a socially constructed outcome that boundary work provides. Scientific knowledge, as a result, is inherently political, as it involves conflicts over values and power (Scala, 2007, p. 213–214).

Building on the concept of knowledge construction and politicization, the following section includes an examination of the political nature of public policy development looking at the specific case of policy analysis. As mentioned earlier, and relevant here, scientific or expert knowledge is given a privileged status as a result of political constructions of its superiority and authority. The concept of “boundary work” revealed the political nature of the scientific enterprise and that the “divide between science and policy or between facts and values is therefore an artificial one at best” (Scala, 2007, p. 228, italics mine).

PROBLEM OF POSITIVISM IN POLICY ANALYSIS

In this next section I present a critique on the mainstream practice of public policy analysis, specifically its positivistic orientation. Positivist policy analysis is the dominant approach in contemporary government policy analysis, rooted in the positivist philosophy of science. Critiques on the following core assumptions of this paradigm will be presented:

1. the nature of our world as mechanistic, linear, simple, and orderly;
2. the nature of policy relevant knowledge and knowledge itself as technical/scientific, rational, objective, and neutral;
3. that there is a separation of politics from that knowledge.

However, mainstream policy analysis obscures the actual policy analysis process — as the application of knowledge to public (as fundamental social and political problems). More importantly, in its claim to objective science and truth, the paradigm sets significant limitations on public participation and alternative worldviews, ultimately imposing its own normative values of governance on society (Hajer and Wagenaar, 2003, p. 6).

POLICY ANALYSIS DEFINED

What is policy analysis? Policy analysis, for Leslie A. Pal (2010, p. 15), is “the disciplined application of intellect to public problems.” For those unfamiliar with the policy analysis profession this definition needs expanding. The following description offers a clearer picture of the
policy analysis practice that is discussed throughout the rest of this essay; that is, policy analysis as the process of research and inquiry aimed at deriving policy options for political decision makers. As a result, the terms policy research and policy analysis are used interchangeably.

**Who conducts policy analysis?**
The short answer is any person concerned with public (government) policies and their impacts. These individuals could conduct this on behalf of the public or private sector, nongovernment organizations, or research institutes. In this essay the focus is on government policy analysis, and its highly political context. In Canada, federal, provincial, and territorial government departments all have specific units devoted to policy development. Since most policy analysts — as bureaucrats — work within a large organizational network of analysts who compile and analyze information, I take a broader definition of policy analysis and the role of knowledge in public policy development.

In the academic literature, policy science has been defined by one of its founders, Harold Laswell, as the production and application of knowledge of and in policy (Pal, 2010, p. 15). As an academic branch within political science, knowledge of policy for policy science aims to understand how policies are made and develop a theoretical model of policy making (McCool, 1995; Sabatier, 2007). Knowledge in policy aims at mobilizing knowledge in order to inform policy development and design. As a result of the latter concern, knowledge in policy, a specific mode of inquiry, policy analysis, has developed (Fischer, 2005, p. 3).

**Policy Analysis Today**
While a significant literature began within academia regarding the democratic potential of a “policy sciences of democracy” — a goal envisioned by Harold Laswell since policy science was founded — it has been widely recognized that in practice, a “tyranny of expertise” and its positivist orientation presents fundamental challenges to Laswell’s vision (Fischer, 2005; Hajer and Wagenaar, 2003; Dryzek, 2002, among others). Today’s technocratic policy analysis has come under scrutiny for failing to resolve our complex social and environmental problems (Fisher and Forester, 1993; Hajer and Wagenaar, 2003, Torgerson, 1998). Claims that policy analysis should focus on scientific or technical knowledge to produce better and more practical results are thus unfounded. Critics argue that the current paradigm’s obsession with quantitative techniques and attempts to prove causality has simplified and depoliticized the social world to make it easier to categorize and control.

**Neutral Policy Analysis?: Positivism and the Construction of Policy Knowledge**
Leslie A. Pal (2010, p. 23) argues that the model of rationality at the heart of the policy analysis field rests on several basic assumptions, including “(1) expertise, (2) reliance of western science, (3) deductive logic, (4) measurement, and (5) clear and replicable steps or stages.”

These assumptions require quantitative techniques, such as economic analysis, cost-benefit analysis, and statistical surveys (Howlett et al., 2009; Pal, 2010). These are the dominant methods in contemporary policy analysis, which not only reflects the power of positivist policy discourse prevalent in many policy fields, it actively shapes it in the first place. The implications of this, as with scientific disciplines in general, is that not just anyone can do it properly. The more disciplined and systematic, the more the analysis is regarded as “superior” (Pal, 2010, p. 17), drawing a constructed boundary between citizens and experts. Emphasizing technical knowledge over local or Indigenous knowledge excludes people from contributing to policy relevant knowledge (Fischer, 2000, p. 23).

Furthermore, like science itself, the methods of policy analysis assume they are applicable to any situation, and that a universal standard of our world exists. Hajer and Wagenaar (2003, p. 16) argue that “[t]his assumption about the external world is central to the promise of rational policy analysis to deliver objective, certain knowledge to their political taskmasters.” However, assuming that this type of analysis is objective and neutral, obscures the actual process and the political nature of choosing certain policy prescriptions (Fischer and Forester, 1993; Fischer, 2005; Hajer and Wagenaar, 2003).
Questions of whose knowledge, stories, arguments, meanings, and definitions to include in analysis are excluded because those are political questions, none of which objective science can answer (Fischer and Forester, 1993).

What kind of policies will be produced if context and values are neglected? In proposing technical solutions to public problems, positivist policy analysis denies the nature in which the public is social and politically constructed and constituted. Our world is not so simple, neat, and orderly. Furthermore, in a policy process that includes certain knowledge and excludes others, we need to recognize who benefits and who loses as a result. The choice of methods and methodology is a political activity itself (Fischer, 2005). A methodological obsession to “gather” data with little relevance to the social or environmental problems or experience doesn’t just lead to bad explanation and inappropriate policies (Fischer, 2005, Fischer, 2000, p. 19). It can and does result in the exclusion of the public and other ways of knowing in the policy process (Fischer, 2000, p. 23).

Torgerson (1986, 1998) attempts to understand policy analysis in terms of its political and historical roots, to provide a contextual orientation to the current paradigm of policy analysis — rational analysis rooted in objective knowledge. He indicates that positivism and bureaucracy have developed as a result of the modernist ideals of the Enlightenment, the ideology of progress and development that the bureaucracy was designed to support (Torgerson, 1998). The claim that contemporary analysis is rational and based on objective science, providing neutral information to political decision makers, ignores its ideological foundations.

Finally, the claim that policy analysts can conduct objective value-free inquiry neglects the essential link between analyst and politicians. For policy analysts, “the production of policy knowledge may be systematic and scientific, yet the message, and the context in which it is conveyed, are inherently political in nature” (Prince, 2007, pp. 170–171).

Fischer and Forester (1993) recognize the social and political characteristics of inquiry, and the range of policy options that result. In their groundbreaking text on the “argumentative turn” of a postpositivist policy analysis, they succinctly summarize the problems with mainstream positivist policy practice today:

The controversy of relevance to policy analysis and planning here involves central questions of truth and power. If analysts’ ways of representing reality are necessarily selective, they seem as necessarily bound up with relations of power, agenda setting, inclusion and exclusion, selective attention, and neglect. If analysts’ ways of representing policy and planning issues must make assumptions about causality and responsibility, about legitimacy and authority, and about interest, needs, values, preferences, and obligations, then the language of policy and planning analyses not only depicts but also constructs the issues at hand. (Fischer and Forester, 1993, p. 1)

**Discussion**

Implicit in the political context surrounding Indigenous and scientific knowledge and knowledge relevant to policy analysis are the conflicts between oral and written traditions, and the interaction between communities and state institutions. In the Canadian North, a deeper analysis within a local context requires a case study of the approaches and techniques used to construct knowledge in governmental policy discourses (federal and territorial governments) in the Northwest Territories in general, and/or focus on a policy field (i.e., environmental or social policy). It will be up to those with understanding and training in the traditional teachings to provide a respectful exploration of traditional approaches to knowledge construction and its use in public policy analysis in particular, and for a postcolonial and decolonizing agenda for policy making in general. Having said that, I recognize several challenges and possibilities for Indigenous people as a result of the research discussed.

There are significant power imbalances in society. The underlying assumptions within the dominant discourses, and the institutions that provide unfettered power to them, must be challenged before any meaningful recognition and inclusion of Indigenous knowledge in policy deliberation, and policy analysis in particular, can be realized. This possibility exists for Katharine Rankin (2010, p. 1)
and she urges planners and international development workers in particular, with relevance to policy analysts practicing within Indigenous territories, to “substitute a liberal ‘responsibility for’ others with a postcolonial ‘accountability to’ them.”

Unfortunately there is limited research on creating a postcolonial policy analysis (or postpositivist at the very least) that would better suit Indigenous knowledge systems and Indigenous communities. Some have suggested that a “holistic policy framework” (Kenny, 2004), or an “Indigenous policy paradigm” (Maaka and Fleras, 2009) can build from the precedents set in the current Canadian government policy discourse on gender-based analysis. These are pragmatic solutions and important starting points. Ultimately, Indigenous people have established their own research and policy agenda. This is one in which knowledge and methodology are grounded in an Indigenous worldview, and not that of the Western world (Smith, 1999; Wilson, 2008). Nevertheless, gender-based analysis can form an important foundation to a postcolonial or postpositivist policy analysis framework. However, the extent to which the premises of Indigenous knowledge might alter those of Canadian democracy and decision-making is unknown (Abele, 2007, p. 248).

Indigenous people are at a significant disadvantage in terms of always having to speak in English and engage with Eurocentric concepts that are embedded in the institutional structures of government. The bias for Western or scientific knowledge over Indigenous knowledge make it essential to create a context for policy inquiry that engages more meaningfully and respectfully with communities. This is one in which knowledge and methodology are grounded in an Indigenous worldview, and not that of the Western world (Smith, 1999; Wilson, 2008). Nevertheless, gender-based analysis can form an important foundation to a postcolonial or postpositivist policy analysis framework. However, the extent to which the premises of Indigenous knowledge might alter those of Canadian democracy and decision-making is unknown (Abele, 2007, p. 248).

A better understanding of public policy goals is required, including what the goals of these policies should be for Indigenous peoples and communities. Policy success then can be measured based on a mutual recognition (state and Indigenous communities) of these goals. As goals are a matter of values and politics, policy analysis should not filter these out but instead encourage attention by politicians, educating them and the public. Fundamentally, what is required is a recognition and acceptance of other ways of knowing, and a willingness to learn from them. This in turn challenges the privileged status of technical/scientific knowledge that is currently required to produce successful policies. Overall policy success should be measured in terms of an understanding of the direct and indirect forces that negatively affect society, ameliorating these problems accordingly. Recognizing that those that define the problem in the first place have ideological preferences, it becomes important for both problems and goals to be identified and discussed in a participatory setting. This will contribute to a respectful research and a community-based policy discourse to supplant the colonial tendencies built into the dominant policy paradigm. This will also require the analyst and research processes to venture outside of the confines of government offices (literally) and Western contexts, to gain a better understanding of the local context.

The failures of mainstream bureaucratic techniques in policy analysis to adequately consider the social context in general, and Indigenous peoples’ worldview in particular, point to the need for appropriate methods of research. Participatory and democratic policy analysis methodologies can be important tools for developing policies that better incorporate marginalized perspectives or communities in public policies.

Taking cues from the situated and contextual orientation which guides a postpositivist policy analysis, the context of public policies in the Northwest Territories must include Indigenous knowledge as a source for policy inquiry at the very least. The next step is follow through to inform policy design, implementation, and the challenges that are posed in these activities.

According to the Government of Canada (Indian and Northern Affairs, 1999), “Gender-based analysis (GBA) assesses the differential impacts on women and men by considering their different life situations — their different socio-economic realities. GBA recognizes that the realities of women’s and men’s lives are different and that equal opportunity does not necessarily mean equal results.” Both Indian and Northern Affairs Canada (now Aboriginal Affairs and Northern Development Canada) and Health Canada have policies to conduct GBA. [http://www.aadnc-aandc.gc.ca/DAM/DAM-INTER-HQ/STAGING/texte-text/plc_1100100028538_eng.pdf]
more meaningful and representative public policy discourse. The challenge will be to recognize the underlying conditions of the perceived policy problems in society.

Often people demand changes to government policies without questioning the policy research approach that leads to the policies. In part, since the policy research methods are not made transparent (and the politicization of expertise puts nonexperts outside of the policy discourse), they are difficult to question. Whether government analysts use conventional quantitative methods, ad hoc, or no methods at all should be transparent. Public availability of methods will inform citizens on their potential and vital participation and identify knowledge gaps that might otherwise be overlooked. In a democracy, principles of transparency and accountability should be fundamental to good governance. Particularly in this case, the knowledge (theory, research, methodology) used in policy analysis is important; different knowledge leads to drastically different policies and impacts in society.

In my research I have come to realize that an alternative to the positivist paradigm for policy analysis is fundamental to us all. In developing an Indigenous policy paradigm, recognition must be given to the scientific political power and the bureaucratic and colonial filters embedded throughout the current political systems. Ultimately, I have revealed significant problems with mainstream policy analysis and its inability to respond to the needs and priorities of Indigenous peoples, and why this is the case. There is a responsibility, then, for policy analysts currently practicing to recognize the deceptive lure of scientific knowledge in policy analysis and the alternative participatory methods available to them. Fundamental changes are required, and new paradigms must feature Indigenous knowledge as a source for policy making, informing a relational form of governance altogether. This is needed in a world in which racism, colonization, social suffering, and environmental degradation are both explicit and implicit.

References


Moses Hernandez was born and raised in Somba K’ę (Yellowknife) and has worked for the civil service in the Northwest Territories for several years, in the fields of research, policy, and program delivery. He has studied Political Science and Arctic Studies, at St. Francis Xavier University and the University of Lapland respectively. He is also an alumnus of the Dechinta Bush University (NWT) Pilot Program and is currently completing an MA in Polar Law from the University of Akureyri.

moses.hernandez@gmail.com