**The Construction of Destruction:
An investigation into the social construction of disasters**

By

Daniel Braun , B.A.

A thesis submitted to
The Faculty of Graduate Studies and Research
in partial fulfillment of the requirements
for the degree of
Master of Arts

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Abstract

Disasters are objects which appear to be obvious and real, but are, in part, socially constructed through work performed by representatives of the Canadian Government. There is an ongoing state project of legibility designed to simplify complex sets of real-life events into objects manipulable by state officials. The administrative simplification processes are similar to those employed by scientists seeking to portray scientific knowledge, constructed within local, subjective contexts, as objective and universal. I begin by reviewing literature concerning state projects of legibility and the sociology of science, and then move to analyze Canadian federal legislation and policy in order to argue that these discourses work to constitute their target phenomena, 'emergencies' and 'disasters', through their simultaneous clarification and obfuscation. I include two case studies of events which were granted federal funding as disasters, in order to highlight the constructed and mutable nature of the object 'disasters' within state activities.

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Introduction

In this thesis, I discuss disasters as targets of state intervention in order to illustrate the ways in which knowledge that is common sensically taken as factual, objective and apparent is in fact constructed over periods of time through the local activities of involved parties. I use two distinct sociological modes of inquiry which interrogate formal truth-claims in order, first, to argue that the Government of Canada is involved in the construction of objects called ‘disasters’, and, second, to foreground some of the construction work, as well as the spaces in which it goes on, and the attendant enrollment of human and non-human actors.

I began this project wanting to perform some kind of debunking work; I wanted to find a topic that would allow me to highlight the constructed nature of some idea or set of ideas that seemed, at first glance, objectively true or real. I approached disasters as an appropriate topic through which to interrogate ways of knowing by asking the basic constructionist question, ‘what constitutes disasters?’.

Disasters appear to be events that impose themselves on our notice; yet organizations which have as their mandate the task of reacting to disasters must be able to determine when they will react and when they will not. This shapes a new question, ‘how do some events and not others come to be classified as disasters?’. The involvement of formal organizations in the constitution of the object led to my desire to take into account the ways in which political interests held by those organizations affect

the object they are seeking to create; the state is fertile (if problematic¹) ground for investigating the infusion of political goals into public knowledge. As such, the question I am posing is: What are the activities undertaken by the Canadian Government which shape reality through the constitution of a boundary line between events which (do or do not) come to be known as disasters? In answering this question I hope to illustrate the ways in which disasters, and the image of objective reality which they portray, are created facts.

Methods

I approach the social construction of disasters by examining primary Government of Canada material through the lens of sociological perspectives on state activities, fact construction and classification. The fact construction and classification literature derives from the sociological investigation of science, and I chose that perspective as a helpful way to discuss constructed knowledge which is often taken as objective common-sense. The state project work helps me to link the fact construction literature (which focuses on scientific, not state work) to the empirical material I want to investigate. It focuses on the ways in which states undertake projects that have as their ultimate goal the transformation of reality, which I see as another kind of fact construction.

I began my empirical research using Government of Canada internet resources to determine how disaster response is codified and coordinated by the state. While the bulk of my empirical corpus is drawn from materials produced by the Canadian Government, I

¹ The state theory I employ in this paper is useful in that it allows me to discuss state projects; it is problematic in that it assumes there is a thing 'out there' which can be called 'the state'. I acknowledge this issue but do no work to rectify it in this thesis, although I do discuss possible supplementary work in the Conclusion.

treat it as two distinct sections for the purpose of discussing the social construction of disasters. In chapter 2, I review federal legislation in order to illustrate that national emergencies² are still ‘fuzzy’ objects at best, difficult for state officials to get hold of in their day to day work. The legislation reviewed in that chapter was chosen based on on-line searches using the Government of Canada Laws and Regulations search engine for references to ‘disasters’ and ‘emergencies’ in federal legislation. No legislation was found to contain the term ‘disaster’. Many acts were found to contain some reference to ‘emergencies’ or ‘national emergencies’³; I present a small selection of them in this thesis. Although I return to theoretical discussion in chapter 3, I present a brief case-study in chapter 2 because it supports the argument I make there concerning the problems which arise from the application of the state-constructed object ‘emergencies’ to real life events. That case-study regards the 1990 Quebec Oka Crisis and includes discussion of Parliamentary debates concerning those events. The debates are taken from the official Canadian Government transcripts of Parliamentary Debate sessions. I opted to discuss the Oka events because they were presented to me by a government source as an official Canadian ‘disaster’, albeit an odd one. I discuss that source presently; I discuss the reasons for choosing to focus on ‘odd cases’ in chapter 1, and the implications of Oka as both a ‘disaster’ and as an ‘emergency’ in chapter 2.

In chapters 3 and 4, I do content analysis of documents which were obtained for me by two sources working for the Office of Critical Infrastructure Protection and

² ‘Emergencies’ are the object constructed in the legislation; ‘disasters’ are constructed mainly in the administrative documents discussed in chapters 3 and 4. I discuss the significance of this in chapter 2.

³ Indeed, this is a key element in the argument I present in that chapter.

Emergency Preparedness (OCIPEP), the office responsible for disaster response coordination for the Government of Canada. I met with and interviewed one source twice with the understanding that I was gathering information for a thesis. Some of these documents are in the public domain (again, I found some on Canadian Government websites), while others are OCIPEP internal working documents copied for me under my source's authority.

Chapter outline

Chapter 1 consists of a review of selected works from two distinct areas of sociological inquiry. I begin by discussing the work of James Scott, in which he develops his conception of 'projects of legibility' that are undertaken by the state. The goal of these projects is to transform reality into forms which are easily understandable and manipulable by the state. Transformation of reality is necessary because "the very concept of the modern state presupposes a vastly simplified and uniform property regime that is legible and hence manipulable from the center" (Scott 1998, 35). Reality must be simplified before it can be manipulated by a central agency. Scott argues that the simplification processes involved in these projects of legibility always involve three basic steps:

The first, indispensable step is the creation of common units of measurement or coding... In the next step, each item or instance falling within a category is counted and classified according to the new unit of assessment... [finally] each fact must be recuperated and brought back on stage, as it were, dressed in a new uniform of official weave- as part of "a series in a total classificatory grid" (Scott 1998, 80).

Scott's work is useful for me as a way to account for the kinds of work which I have found being done by the Canadian Government on disasters. As I discuss in chapter 4, the federal government invests heavily in 'redressing' disasters, in order to render disaster aid activities as uncontroversial as possible. In short, I am arguing that the Canadian Government is currently engaged in a project of legibility with respect to disasters, where the goal is to transform complex sets of real-life occurrences into forms which are easily manipulable and thus governable by central state officials. While Scott's work provides a suitable model through which I can discuss Canadian Government disaster work, I have found another strain of sociological theory useful for its greater problematization of the ways in which such work proceeds. The sociology of scientific knowledge (SSK) involves the critical investigation of the creation of scientific 'facts', and seeks to unearth the inherently subjective social processes by which this supposedly objective body of knowledge is created. Although it often takes as its subject the everyday activities of scientists, this work is still seeking to expose the ways in which facts have been changed (redressed) by the parties who work with them. I find that SSK theory supplements Scott's work in that it focuses on the 'micro-processes' involved in the manipulation of reality and the creation of new knowledge. As such, after my review of Scott's work, I move in chapter 1 to discuss SSK and then to pick out specific SSK concepts that are useful in the analysis of my empirical material.

In chapter 2, I begin my empirical analysis of government discourse, focusing on the legislative field. My first goal is to demonstrate that at the level of legislation, some work has been done to make 'national emergencies' legible. This work is evidenced by

the inclusion of references to emergency situations in a variety of federal Acts.

However, I also argue that the project of legibility is undermined at this level by the multiple, overlapping uses of the object 'emergency' in the different acts. Because the same object is mobilized in ways which are not made explicitly combinable, the object loses precision and the target is obfuscated rather than simplified. I illustrate this by discussing the controversy which arose in Parliamentary debates when the National Defence Act was invoked by the Premier of Quebec in 1990 in response to actions taken by First-Nations Mohawks. The Parliamentary debates serve to highlight the inability of those state officials who are meant to work within the legislative discourse to decide conclusively what kind of 'emergency' those actions constituted.

Chapter 3 moves out of the legislative sphere and into the administrative.

Whereas the object 'emergency' has not been rendered very manageable in the legislation, I argue that 'disasters' have been rendered much more so in the administrative policies which codify federal financial disaster relief. I refer to the SSK theory in order to point out that disasters have been transformed through the creation of immutable mobiles, documents which act to simplify the complex reality of 'disasters' and create new, distinct objects: 'fundable disasters'. The first major section of this chapter is devoted to analyzing a Government of Canada manual which codifies the Cabinet-approved guidelines used by state administrators to judge provincial requests for financial aid after disasters. I avoid focusing exclusively on the importance of the material documents, in order to emphasize the ways in which these interact with non-codified, ad-hoc negotiations in the day-to-day activities of state officials. I emphasize that taking

account of these non-codified, ongoing interpretations of the policy by state officials is essential to gaining a full understanding of how certain events, and not others, come to be classified as ‘fundable disasters’. In this first section I argue that the manual is an unstable immutable mobile. It is, at present, not sufficiently developed to be useful as an independent ‘disaster-classifying’ machine. The second section of this chapter discusses another document used by state officials on a daily basis. This document is not policy; it is a spreadsheet of all the events that have received funding under the current guidelines. I argue that this document is a more reliable immutable mobile, because it does a better job of reducing disasters to a few key, manageable characteristics and thus presents them convincingly in the new form of ‘fundable disasters.’ I engage briefly in basic statistical manipulation of this data in order to illustrate that facts which have been stripped of their real-life context are manipulable in ways other than those intended by those responsible for the simplification work.

Chapter 4 consists of two case studies which I use to support the arguments made in chapter 3. I begin by referring to some SSK theory in order to discuss the theoretical foundation for my choice of ‘odd cases’ to study. I then review Government of Canada files on two events which received federal funding as disasters, but which are both, for different reasons, unusual cases in that neither fits the category of ‘fundable disasters’ very well. As such, the amount of work done by state officials to constitute these events as fundable disasters is increased, and made more easily observable than in ordinary cases. In the first case, the event is first squeezed so as to fit into the category ‘fundable disaster’, and then, after it is found to set an unwanted precedent, squeezed back out

again. The second case highlights the political maneuverings which state officials can undertake in order to render these events fundable. Both cases serve to show that while the object 'disaster' may seem obvious, in the field of disaster relief there is no limit to the amount and kinds of work in which interested parties will engage in order to construct given events as disasters.

In the Conclusion, I introduce one final immutable mobile, taken from the Canadian Government discourse, in order to explore possible reasons for its exclusion from both the legislative and administrative fields; this, despite its effectiveness as a more fully developed and more reliable immutable mobile than those discussed in chapter 3. I review the arguments I have presented, point to some possible implications for state-project theory, and end with an anecdote.

Chapter 1. State and SSK Theory

I argue that disasters, both natural and man-made are, to some degree, socially constructed objects. In the introduction to the book Ecologies of Knowledge: work and politics in science and technology (1995), Susan L. Star says that “the term *socially constructed* is a reformist term... Its initial purpose was to demonstrate that the reports of science that had been stripped of production history were missing important historical and situated accounts; second, to restore accounts of the actual work and its organization to those reports” (Star 1995, 10). The social construction perspective is often placed in opposition to the ‘realist’ perspective, and this opposition can lead to conceptualizations of knowledge, truth and reality as either ‘real’ or ‘socially constructed’. Star proposes to “replace the either/or dichotomy of constructed versus real with more useful concepts” (Star 1995, 10), the central one being *ecology*. She argues that the “advantages of [an ecological] analysis are that the increased heterogeneity accounts for more of the phenomena observed; one does not draw an arbitrary line between organism and environment... Thus by ecological we mean refusing social/natural or social/technical dichotomies and inventing systematic and dialectical units of analysis” (Star 1995, 13).

In this chapter, I will review the work of authors who have undertaken the study of social interactions and truth claims along the line discussed by Star (although the term *ecological* is not often employed). For the most part, they avoid employing traditional dichotomies such as constructed/ real, social/ scientific, individual/ society, and structure/ agency. Instead, they have crafted concepts which serve to blur those divisions and bring

new ones into focus, allowing them to interrogate processes that have generally not been problematized in sociological discourse. I will focus on theorists who have chosen to interrogate the truth-claims of positivist science, generally referred to as the ‘hard sciences’. One goal of their work is to problematize formal truth claims, and I find that work to be well-suited to my interests for this thesis, even though I myself will not analyze empirical material which comes from a strictly scientific source. I make a more detailed argument for the validity of applying concepts from the study of science to the study of government work below. Before doing so, I will review some theory which deals more directly with the state and projects of legibility. This work will bridge the theory of scientific knowledge discussed below with the empirical corpus I have gathered for this thesis— Government of Canada documents— as well as frame my discussion of how the state is involved in the social construction of disasters.

State Projects

James C. Scott opens Seeing Like a State (1998) with the following:

Certain forms of knowledge and control require a narrowing of vision. The great advantage of such tunnel vision is that it brings into sharp focus certain limited aspects of an otherwise far more complex and unwieldy reality. This very simplification, in turn, makes the phenomenon at the center of the field of vision more legible and hence more susceptible to careful measurement and calculation. Combined with similar observations, an overall, aggregate, synoptic view of a selective reality is achieved, making possible a high degree of schematic knowledge, control, and manipulation (Scott 1998, 11).

I am arguing that this synoptic view of reality and high degree of control is one of the desired long-term outcomes for the programs that the Canadian Government has in place to fund damage caused by disasters. These programs are part of a large network of

people and materials which interact so as to create the requisite tunnel vision and attendant simplification of the target phenomenon, 'disasters'. Scott goes on to place state simplification projects in a larger context:

State simplifications can be considered part of an ongoing "project of legibility," a project that is never fully realized. The data from which such simplifications arise are, to varying degrees, riddled with inaccuracies, omissions, faulty aggregations, fraud, negligence, political distortion, and so on. A project of legibility is immanent in any statecraft that aims at manipulating society, but it is undermined by intrastate rivalries, technical obstacles, and, above all, the resistance of its subjects. (Scott 1998, 80).

I am calling the Canadian Government's work in the field of disaster response and relief a project of legibility which has as its goal the rendering of certain complex, real-life events into simplified and ordered objects which can be easily classified as 'disasters'.

Scott argues that this 'tunnel vision' is the kind of knowledge which is required by the modern state because "the very concept of the modern state presupposes a vastly simplified and uniform property regime that is legible and hence manipulable from the center" (Scott 1998, 35). He begins his empirical analysis in the eighteenth century, a period of transition for the European state from an "early modern" (Scott 1998, 11) form, towards the modern form. He takes as one example of the broad project of legibility the drive to develop forestry as a science in eighteenth century Germany, specifying that "the new forestry science was a subdiscipline of what was called cameral science, an effort to reduce the fiscal management of a kingdom to scientific principles that would allow systematic planning" (Scott 1998, 14). Scott engages in the analysis of primary texts to illustrate a state interest in transforming forests from wild areas of unexplored nature into ordered fields of trees which could serve the economic needs of the German state. This

transformation of the forest into a “one-commodity machine... allowed German forestry science to become a rigorous technical and commercial discipline that could be codified and taught” (Scott 1998, 19). At the same time, “the more uniform the forest, the greater the possibilities for centralized management” (Scott 1998, 18), which is an end goal of any legibility project.

Key to any state project of legibility is the existence of standardized units of measurement. In the time period which Scott considers, issues such as taxation, housing and landholding

exhibited a diversity and intricacy that reflected a great variety of purely local, not state, interests. That is to say, they could not be assimilated into an administrative grid without being either transformed or reduced to a convenient, if partly fictional, shorthand... Backed by state power through records, courts, and ultimately coercion, these state fictions transformed the reality they presumed to observe, although never so thoroughly as to precisely fit the grid (Scott 1998, 24).

State legibility projects are not intended only to represent the object of legibility in manipulable form; the ultimate goal of such projects is to transform the object so that it matches the state representation. Even though “like all utopian schemes, [the German forestry project] fell well short of attaining its goal, the critical fact is that it did partly succeed in stamping the actual forest with the imprint of its designs” (Scott 1998, 19). Forests were replanted in orderly rows, organized into fields by tree type, and changed in other ways. Reality was transformed, not as an outcome of the project of legibility, but as part of its operation. The quote above mentioned some of the state tools which aid in the transformation of reality, and Scott goes on to explore one of the key tools in any legibility project, written documents.

State officials “are, of necessity, at least one step— and often several steps— removed from the society they are charged with governing. They assess the life of their society by a series of typifications that are always some distance from the full reality these abstractions are meant to capture” (Scott 1998, 76). These typifications most often take the convenient form of written documents. The sociology of science literature that I will review in the next section deals very specifically with the reasons why paper documents are so important, and with the complex social processes involved in their creation. For now, I will continue to review Scott’s work in order more fully to elaborate how specific kinds of documents are used by state officials.

State simplifications such as maps, censuses, cadastral lists, and standard units of measurement represent techniques for grasping a large and complex reality; in order for officials to be able to comprehend aspects of the ensemble, that complex reality must be reduced to schematic categories. The only way to accomplish this is to reduce an infinite array of detail to a set of categories that will facilitate summary descriptions, comparisons, and aggregation (Scott 1998, 77).

Scott uses the cadastral map as an example of a document of simplification, its value lying “in its abstraction and universality... The completeness of the cadastral map depends, in a curious way, on its abstract sketchiness, its lack of detail— its thinness” (Scott 1998, 44). The map stays thin by focusing exclusively on the one factor important for that specific state project, while disregarding other details about the land. Cadastral maps used for taxation purposes were kept thin by ignoring land details such as soil content, elevation, and native flora and fauna, while focusing exclusively on detailed grids defining land ownership. Any other quality important to any other state project would become the focus of a separate written document.

The cadastral map is the physical tool which allows state officials to narrow their vision and render one, targeted aspect of reality manageable. Scott warns that while “the forester’s and cadastral official’s range of knowledge is far narrower, we should not forget that their knowledge is systematic and synoptic, allowing them to see and understand things” (Scott 1998, 46) that would be missed with a less focused and less aggregate view. At the same time, that knowledge “is gained at the expense of a rather static and myopic view... [because schematic facts] are averages that may mask a great variation. Like the still photo of the cadastral map, they grow more unrealistic with time and must be reexamined” (Scott 1998, 46). Even projects which succeed in transforming reality cannot account for the complexity in the changed reality; by definition only the subject which is the focus of the project is fully accounted for. “These state simplifications, like all state simplifications, are always far more static and schematic than the actual social phenomena they presume to simplify” (Scott 1998, 46). In the case of the German forests, when real forests were manipulated according to the planned format, complex reality resisted the manipulation and the result was forest death. And so Scott warns that “we must keep in mind not only the capacity of state simplifications to transform the world but also the capacity of the society to modify, subvert, block, and even overturn the categories imposed upon it” (Scott 1998, 49).

I argue in the following chapters that the Canadian Government is engaged in an ongoing project to create legible ‘disasters’, and that this project is at different stages of advance at different levels of government operation. While Scott discussed the importance of societal resistance to projects, my empirical analysis will deal more with

the resistance provided by the ‘reality’ of disasters which do not fit formal classification schemes. In the remainder of this chapter I will explicate the importance of written documents in the creation and maintenance of what Scott calls “stylized facts” (Scott 1998, 77), and in what many of the authors below refer to as processes of ‘fact construction’. The authors I will examine below all focus on the fact construction which goes on in contemporary natural sciences. Their goal is to foreground the everyday social interactions in scientific laboratories and illustrate the ways in which these ‘micro-processes’ affect the creation of what is later labeled scientific fact.

SSK

SSK and knowledge construction

The sociology of scientific knowledge (SSK) looks at the construction of scientific facts in order to point to the ways in which subjective interests and social interaction are involved in and affect knowledge which comes to be regarded as factual, or as truthful. The SSK I review is rooted in the social-construction paradigm, which “is critical of the status quo. Social constructionists about X tend to hold that: ...X need not have existed, or X as it is at present, is not determined by the nature of things, it is not inevitable” (Hacking 1999, 6). Inputting knowledge as variable, constructionists emphasize that knowledge is not constitutive of truth— knowledge that may appear factual is not inevitable. In his book Laboratory Life, Bruno Latour provides a definition of construction which differentiates SSK work from the broader social-construction paradigm:

Construction refers to the slow, practical craftwork by which inscriptions are superimposed and accounts backed up or dismissed. It thus underscores our contention that the difference between object and subject or the difference between facts and artefacts should not be the starting point of the study of scientific activity; rather, it is through practical operations that a statement can be transformed into an object or a fact into an artefact (Latour 1979, 236).

SSK will be useful to me because it takes as its subject the problematization of formal truth claims. The hard sciences produce knowledge which is portrayed as objective, empirical, universal: in short, as more truthful than other forms of knowledge. This claim to objectivity is based on the portrayal of scientific methods as investigative (of reality) rather than constructive (of reality); the image is of men and women who use machines and numbers to discover how things really are in the universe. SSK researchers seek to highlight the local and subjective contexts which underlie scientific work. As I discuss below, SSK studies of the everyday interactions of those who do science have revealed that the processes of communication which lead to scientific knowledge are not fundamentally different from the informal, subjective communications of everyday life. Exposing the subjective foundations of supposedly objective knowledge appeals to me as a way into the epistemological question 'how do we know what we know?'. Becker makes the following link between epistemology and SSK:

Epistemology has been a... negative discipline, mostly devoted to saying what you shouldn't do if you want your activity to merit the title of science, and to keeping unworthy pretenders from successfully appropriating it. The sociology of science, the empirical descendant of epistemology, gives up trying to decide what should and shouldn't count as science, and tells what people who claim to be doing science do" (Becker in Bowker and Star 1999, 13).

As Becker states, most of the literature I am about to review deals empirically with scientists and laboratories; however, I will use the methods and concepts employed in

SSK to illustrate similar processes of fact-construction within the Canadian

Government's disaster discourse. This not a novel idea; Latour draws out the similarities between science and forms of administration at the end of Laboratory Life:

What appeared at the beginning of this book as vast and insulated pockets of science are probably best understood if they are seen to be scattered through centres of calculation, dispersed over files and records, seeded through all the networks and visible only because they accelerate the local mobilisation of some resources among many others that are necessary to administer many people on a large scale and at a distance... [administration] constitutes a mixture of other disciplines which have to be studied with the *same* method I have presented in this book even though they are not considered as pertaining to 'science and technology' (Latour 1979, 255).

My interest is in interrogating formalized truth claims. Like science, state administration is deeply involved in the lives of the population, as Scott warns:

State officials can often make their categories stick and impose their simplifications, because the state, of all institutions, is best equipped to insist on treating people according to its schemata. Thus categories that may have begun as the artificial inventions of cadastral surveyors, census takers, judges, or police officers can end by becoming categories that organize people's daily experience precisely because they are embedded in state-created institutions that structure that experience (Scott 1998, 82).

In later chapters I discuss the ways in which law and policy makers also influence people's daily lives. The rest of this chapter is devoted to reviewing concepts from SSK which I have found useful to supplement Scott's views. These concepts focus on the 'micro-processes' which underlie the construction of knowledge, and thus must gird any large-scale administrative project.

Facts and Artefacts

‘Artefact’ is a term which seems to be used somewhat loosely by SSK researchers to talk about both errors in laboratories and the deconstruction of reality⁴. Star begins by defining an anomaly as “an interruption to routine...a general category of event”⁵ (Star and Gerson 1986, 147), and then goes on to explain that “[a]n anomaly is artifactual when its origin is ascribed to the conduct of the researcher rather than to nature and where some logical possibility inherent in a research program has not been anticipated by design... typically, suspected artifacts arise when research designs fail in unanticipated ways to reflect the complexity of natural phenomena” (Star and Gerson 1986, 150). This definition distinguishes artifacts as one particular kind of interruption in scientific work: scientists wanting to do things differently after having discovered a problem with the current processes (Star and Gerson 1986, 150). Lynch takes a similar tack to explain anomalies when he makes this distinction: “Positive artifacts and distortions were attributed by members to the troublesome effects of a procedure; what I am calling negative artifacts were tied to the *absence* of expected results and effects of procedures. The former cases were discussed as procedural excesses; the latter were available as procedural inefficacies” (Lynch 1985, 107). Star and Lynch both want to place artifacts on a continuum of different kinds of anomalies, and to discern (or invent) different kinds of artifactual events in order more precisely to discuss laboratory goings-on. But I want to focus on another usage of the term which questions more directly the possibility of objective knowledge.

⁴ I have come across the term spelled both as above and as ‘artifact’ in the SSK literature, and the uses seem to overlap.

⁵ Which is, on its own, a good preliminary definition of a disaster.

Latour interrogates the conception of knowledge as objective by discussing artefacts in relation to facts. The term ‘fact’

can have two contradictory meanings. On the one hand, our quasi-anthropological perspective stresses its etymological significance: a fact is derived from the root *facere, factum* (to make or to do). On the other hand, fact is taken to refer to some objectively independent entity which, by reason of its ‘out there-ness’ cannot be modified at will and is not susceptible to change under any circumstances (Latour 1979, 174).

As Latour’s interest is in the natural sciences, he leaves aside the anthropological perspective and focuses on the ‘hard fact’ to lay out the conceptual differences between facts and artefacts: “At the frontier of science, statements are constantly manifesting a double potential: they are either accounted for in terms of local causes (subjectivity or artefact) or are referred to as a thing ‘out there’ (objectivity and fact)” (Latour 1979, 180). Out-there-ness, objectivity and fact are all being placed on one side of a line, and locality, subjectivity and artefact on the opposite side. Latour is critical of this division, and works to blur it:

Facts and artefacts do not correspond respectively to true and false statements. Rather, statements lie along a continuum according to the extent to which they refer to the conditions of their construction. Up to a certain point on this continuum, the inclusion of reference to the conditions of construction is necessary for purposes of persuasion. Beyond this point, the conditions of construction are either irrelevant or their inclusion can be seen as an attempt to undermine the established fact-like status of the statement (Latour 1979, 176).

Facts and artefacts are not opposites, but steps along the path traveled by all statements. By emphasizing statements, Latour is maintaining a focus on local, day-to-day realities lived by the people doing science, and the ways in which they interact.

Scientists themselves constantly raise questions as to whether a particular statement ‘actually’ relates to something ‘out there,’ or whether it is a mere figment of the imagination, or an artifact of the procedures employed. It is

therefore unrealistic to portray scientists busily occupying themselves with scientific activity while leaving debates between realism and relativism to the philosophers (Latour 1979, 179).

Latour asserts that, instead, scientists are involved in what he calls the agonistic field, which is “in many ways similar to any other political field of contention” (Latour 1979, 237) because those involved are struggling to make their claim heard over other claims.

In the case of scientists, the struggle is over the claim to truth.

While the agonistic process is raging, modalities are constantly being added, dropped, inverted, or modified. Once the statement begins to stabilize, however, an important change takes place. *The statement becomes a split entity*. On the one hand, it is a set of words which represents a statement about an object. On the other hand, it corresponds to an object in itself which takes on a life of its own. It is as if the original statement had projected a virtual image of itself which exists outside the statement (Latour 1979, 176).

The status of the statement changes over time, as “[a]t the onset of stabilization, the object was the virtual image of the statement; subsequently, the statement becomes the mirror image of the reality ‘out there’” (Latour 1979, 177). At that stage, the statement has achieved the status of fact: references to the conditions of the statement’s production are no longer welcome, and are abandoned in favour of the explanation that its legitimacy derives from reality. Latour makes the link with artefacts as follows:

Perhaps the most forceful argument for the occurrence of splitting and inversion is the existence of artefacts. A modification in the local context of the laboratory may result in the use of a modality whereby an accepted statement becomes qualified or doubted. This yields perhaps the most fascinating observation to be made in the laboratory— the *deconstruction* of reality. The reality ‘out there’ once again melts back into a statement, the conditions of production of which are again made explicit (Latour 1979, 179).

I will return in chapter 4 to the deconstruction of reality when I examine a case from Canadian Government files in which an event was classified as a disaster, and then

subsequently re-classified when it was found to set an unwanted precedent. For the moment, I want to highlight the importance of Latour's argument to the topic of knowledge construction and epistemological questions. By maintaining an emphasis on the temporal aspect of scientific endeavors, Latour convincingly portrays the knowledge which results from them as constructed. He makes the following important conclusion:

The importance of observing the transformation of a statement between fact-like and artefact-like is obvious: if the 'truth-effect' of science can be shown both to fold and unfold, it becomes much more difficult to argue that the difference between a fact and artefact is that the former is based on reality while the latter merely arises from local circumstances and psychological conditions. The distinction between reality and local circumstances *exists only after* the statement has stabilized as a fact. To summarize another way, 'reality' cannot be used to explain why a statement becomes a fact, since it is only after it has become a fact that the effect of reality is obtained. This is the case whether the reality effect is cast in terms of 'objectivity' or 'out there-ness.' It is *because* the controversy settles, that a statement splits into an entity and a statement about an entity; such a split never precedes the resolution of controversy (Latour 1979, 180).

By blurring the line between facts and artefacts, Latour foregrounds the ways in which scientific reality is developed in a process; it is constructed. A field of knowledge which is commonly portrayed as objective is in fact inevitably founded on individuals' activities and subjective involvements. The next section continues this line of argument by highlighting the similarities between patterns of communication in scientific and everyday settings.

Negotiation

The key to Latour's analysis of fact construction is the emphasis on locality and subjectivity: scientific facts are decided by persons doing science in laboratories. They are not culled from distant galaxies or teased out of sub-atomic worlds. I am focusing on

SSK theory which politicizes the processes of science by looking at the ways in which everyday activities and exchanges among scientists are counter-intuitively non-objective:

In the course of these exchanges beliefs are changed, statements are enhanced or discredited, and reputations and alliances between researchers are modified... the most important characteristic of these kinds of exchange is that they are devoid of statements which are 'objective' in the sense that they escape the influence of negotiation between participants. Moreover, there is no indication that such exchanges comprise a kind of reasoning process which is markedly different from those characteristic of exchanges in nonscientific settings (Latour 1979, 157).

The intrusion of informal exchanges into scientific settings is counter-intuitive to the positivist conception of scientific discourse as inherently more formal— more factual, more truthful— than everyday communication. But

sociologists have demonstrated the importance of informal communication in scientific activity. This well-documented phenomenon takes on a new meaning against the newly modified assumption: the production of new information is necessarily obtained by way of unexpected meetings, through old boy networks and by social proximity. The informal flow of information does not contradict the orderly pattern of formal communication. Instead, as we have suggested, much informal communication derives its structure from its constant referral to the substance of formal communication. Nonetheless, informal communication *is the rule*. Formal communication is the exception, as an *a posteriori* rationalisation of the real process (Latour 1979, 251).

Taking formal communication as rationalisation returns us to the notion of facts as objects which have become stabilized, where the formal discourse is a part (perhaps the final part) of that stabilizing process. To be a fact, a datum must be insertable into established patterns of formal communication, but simultaneously the patterns are used to support the claim of fact-ness, of truth. This pulls out an important, inherently political aspect to knowledge creation:

Because scientists evaluate their work according to whether they find a publicly replicable 'truth', and not (as with doctors or lawyers) 'good current practice,' their criteria for 'good work' is that it be universal and enduring. Parlaying their

local work circumstances into durable truth involves managing anomalous findings through a series of trade-offs and negotiations that illuminate the relationship between local and widescale work organizations (Latour 1979, 163).

‘Trade-offs and negotiations’ are part of the rationalization process which serves to stabilize certain data into facts and others into artefacts. Neither facts nor artefacts simply are; in both cases work is done to create them, and that work is in part based on the subjective interests of the parties involved⁶. The next section introduces immutable mobiles as one of the key tools used in the construction of facts within formalized fields of knowledge.

Immutable Mobiles

SSK researchers take as one of their goals “recovering multivocality... [and] understanding how standard narratives that appear universal have been constructed” (Bowker and Star 1999, 41). Latour introduces distance as a critical factor in knowledge creation by proposing that

what is called ‘knowledge’ cannot be defined without understanding what *gaining* knowledge means. In other words, ‘knowledge’ is not something that could be described by itself or by opposition to ‘ignorance’ or to ‘belief’, but only by considering a whole cycle of accumulation: how to bring things back to a place for someone else to see it for the first time so that others might be sent again to bring other things back (Latour 1987, 220).

Accumulating (creating) knowledge necessarily involves the problem of

how to act at a distance on unfamiliar events, places and people? Answer: by *somehow* bringing home these events, places and people. How can this be achieved, since they are distant? By inventing means that (a) render them *mobile* so that they can be brought back; (b) keep them *stable* so that they can be moved back and forth without additional distortion, corruption or decay, and (c) are

⁶ ‘Interests’ have been problematized in the SSK literature (Callon, 1986; Callon and Law, 1982). I invoke ‘interests’ as purposes with which actors enter (or are entered) into relations, which are then modified over time through involvement in those relations.

combinable so that whatever stuff they are made of, they can be accumulated, aggregated, or shuffled like a pack of cards (Latour 1987, 223).

I illustrate in chapter 3 that disasters are one example of the kinds of events that are undergoing this process of transformation: the only way for the Government of Canada effectively to regulate the way it spends money on disaster response is to transform disasters so as to fit the three characteristics listed by Latour. Only then are disasters legible, and only then can they be dealt with as standardized objects. Latour calls objects which have successfully undergone this transformation “immutable and combinable mobiles” and identifies their common feature: “no matter whether they are far or near, infinitely big or small, infinitely old or young, they all end up at such scale that a few men or women can dominate them by sight; at one point or another, they all take the shape of a flat surface of paper that can be archived, pinned on a wall and combined with others” (Latour 1987, 227). Disasters have to some degree been transformed into immutable mobiles: I argue over the next three chapters that the status of this transformation at the level of legislation is less advanced than at the level of administrative policy.

That immutable mobiles often take the form of paper documents is key because it underlies Latour’s emphasis on “the importance of the material elements of the laboratory in the production of facts” (Latour 1979, 238). I will elaborate on the importance of material objects from two perspectives. First, Michel Callon defines the term actor so as to blur the divisions between humans and non-humans:

In the way I initially want to define the term, an ‘actor’ is any entity able to associate texts, humans, non-humans and money. Accordingly, it is any entity that more or less successfully defines and builds a world filled by other entities

with histories, identities, and interrelationships of their own. This initial definition suggests that intermediaries are synonymous with actors. For instance, a scientific text seeks to create a reader with the skills needed to mobilize, consolidate, or transform the network described in the paper. Thus it acts: it is an actor (Callon 1991, 140).

Objects of any form can play vital roles among other actors in a network of relations, as long as they operate to associate those actors and have an influence on the relations.

Latour, referring to the work of Madeleine Akrich, calls “the behaviour imposed back onto the human by nonhuman delegates *prescription*” (Latour 1988, 301). Money is an obvious example of a non-human link between other actors which is both unavoidable and highly influential on those interacting with it.

The second point which elaborates how objects play a key role in knowledge production is made by Latour:

At some earlier point, each item of equipment had been a contentious set of arguments in a neighboring discipline. Consequently, one cannot take for granted the difference between “material” equipment and “intellectual” components of laboratory activity: the same set of intellectual components can be shown to become incorporated as a piece of furniture a few years later... In order to emphasize the importance of the time dimension, we shall refer to the above process as *materialisation*, or *reification* (Sartre, 1943). Once a statement stabilises in the agonistic field, it is reified and becomes part of the tacit skills or material equipment of another laboratory” (Latour 1979, 238).

Laboratory objects can only ever be the reified product of ideas which came earlier, and since ideas are taken as constructed (argued over, negotiated, debated and eventually agreed upon), then those objects represent the winning ideas, those whose proponents were more able at negotiating the agonistic field.

John Law summarizes and adds an important point to Latour’s conception of immutable mobiles.

Essentially the argument is that texts, lists, and the like, represent forms of time-space travel— that they bring bits and pieces together in one place by selecting from, simplifying and so representing what was previously both heterogeneous and distributed around different locations and times. But the argument is also that by concentrating, homogenising and simplifying, such representations generate new objects and relations (Law 1991, 183).

Manipulation of reality through representative forms such as immutable mobiles creates the possibility for relations which did not exist before. This brings us back to Scott's argument that the cadastral map (and other tools in legibility projects) provide a vision of the object under study which is selective and focused, and can thus afford state officials opportunities for new understandings and interpretations of that object. As well, Scott says that the ultimate goal of any legibility project is to transform the object under observation so as to fit the designs of those in charge; Law is agreeing when he says that the work done with reality and immutable mobiles can create entirely new objects. I argue in chapter 3 that this is a goal which has been partially accomplished in Canadian disaster relief discourse; a new object— the fundable disaster— exists, but it has yet to stabilize sufficiently for it to be reliable and fully active in the larger network of relations.

I have focused so far on authors working in the general SSK field, in order to discuss the concepts they introduce which interrogate objective knowledge. In the next section, I shift to discuss work that zooms in on issues of classification, specifically within large informational infrastructures. The authors I address have introduced other concepts which I have found helpful in my analysis of disasters, and my goal below is again to link their work to issues of knowledge construction, while providing some initial indication of how these concepts apply to my chosen empirical topic.

Classification Theory

Bowker and Star (1999) discuss how subjective interests are wrapped up with large-scale infrastructure and classification schemes and, in doing so, move the level of analysis from individuals in a laboratory to bureaucratic systems. They read Latour as saying that “we can either look at what scientists say they are doing (working within a purified realm of knowledge) or at what they actually are doing (manufacturing hybrids of nature-culture),” and so they advocate “a pragmatic methodological development—pay more attention to the classification and standardization work that allows for hybrids to be manufactured and so more deeply explore the terrain of the politics of science in action” (Bowker and Star 1999, 48). They posit that “the spread or enforcement of categories and standards involves negotiation or force. Whatever appears as universal or indeed standard, is the result of negotiations, organizational processes, and conflict... [because] someone, somewhere must decide and argue over the minutiae of classifying and standardizing” (Bowker and Star 1999, 44). These authors do not theorize the micro-processes involved in the creation of facts as does Latour, nor do they make state projects their exclusive target like Scott. However, in their portrayal of large-scale classification systems as devices aimed at “changing the world such that the system’s description of reality becomes true,” (Bowker and Star 1999, 49) they can be seen as tackling issues which overlap with both of those lines of inquiry. Their method is to start with the fully formed infrastructure⁷, the ‘constructed’ or ‘redressed’ fact, and to work backwards.

⁷A distinction should be made here. Infrastructure can be considered instrumental in the negotiations which precede stabilization; formal statements, such as those involved in scientific study, can only take place in pre-existing infrastructures. However, when I say ‘fully-formed infrastructure’, I am using Bowker and Star’s perspective in which infrastructure is part of what would be, in Latour’s words, the

Whereas many SSK researchers practice ethnomethodological observation in laboratories, Bowker and Star take as their empirical focus large-scale, formal classification schemes such as the International Classification of Diseases (ICD), a 2000-plus page statistical classification manual used by workers in the health science and medical fields, and the official state-enforced racial classification systems employed in apartheid South Africa. Their approach emphasizes the often unplanned ways in which isolated decisions are drawn together into formal classifying systems which they call ‘information infrastructures’, and the ways in which these infrastructures ‘torque’ the lives of people who are involved with them. Their general argument is that such systems always start as decisions made by people, but that “[o]nce a system is in place, the practical politics of these decisions are often forgotten... built into software or the sizes and compositions of things” (Bowker and Star 1999, 45) — another way of saying that the systems become reified. Informational infrastructures are characterized by their semi and selective transparency: “The easier [systems] are to use, the harder they are to see. As well, most of the time, the bigger they are, the harder they are to see” (Bowker and Star 1999, 33). The authors include a full-page table to list some of the properties of infrastructure, rather than presenting a single cohesive definition⁸. They highlight four points in their understanding of infrastructure, which exists as:

a historical process of development of many tools, arranged for a wide variety of users, and made to work in concert; a practical match among routines of work

object which has become fully stabilized in the agonistic field. Taking the example I present in the next paragraph, the infrastructure which supported state-enforced apartheid could only arise after the stabilization of the objects involved in racial classification such as skin-color, biological lineage and so on. As much as this infrastructure changed over time, epistemologically it can still be considered, along with more concrete representations such as the passport, as part of the ‘new object’.

⁸I have proceeded on the assumption that it is a choice on their part to eschew precision in exchange for greater inclusion in the category ‘infrastructure’.

practice, technology and wider scale organizational and technical resources; a rich set of negotiated compromises ranging from epistemology to data entry that are both available and transparent to communities of users; a negotiated order in which all of the above, recursively, can function together (Bowker and Star 1999, 34).

I include these four points of definition because they seem to me to resemble very closely the network of tools, actors, resources and processes involved in government activity surrounding the creation, implementation and use of legislation and administrative policy. That is the focus of my empirical work in later chapters: I will be examining the informational infrastructure which underlies state responses to disasters.

One key property of infrastructure is that the “normally invisible quality of working infrastructure becomes visible when it breaks... Even when there are backup mechanisms or procedures, their existence further highlights the now visible infrastructure” (Bowker and Star 1999, 35). These ‘breaks’ occur “when the messy flow of bodily and natural experience must be ordered against a formal, neat set of categories... it is the case that all complex classification schemes have multiple sets of faults and fractures arising from similar tensions” (Bowker and Star 1999, 68). The authors refer to such occasions, which they call “infrastructural inversion,” as opportunities to foreground all the important work performed by infrastructural classification schemes usually going on in the background. Once the schemes are foregrounded it is possible to investigate their origins and look for the political, subjective decision making which laid their groundwork. This is a methodology I employed in selecting case studies for this thesis; one is presented in the following chapter, and two others in chapter 4.

I briefly describe some similarities and mention one significant difference between the work Bowker and Star have undertaken and my own. I have followed much of Bowker and Star's suggested method of looking for cases of infrastructural inversion, in order to foreground all the work which disappears into the 'infrastructural woodwork'. In their case studies, the authors generally situate classificatory work around a central 'master document', for example the ICD or the South African passport. The master document is their theoretical and empirical center of analysis- in each case they are carrying out a separate analysis on a single classification *schema* which takes the form of hard-to-see, yet *material*, infrastructure. They do pay attention to the ways in which people "subvert the formal schemes with informal work-arounds" (Bowker and Star 1999, 54), but because they want to focus on classification *schemes*, they tend to treat this informal work as external to the general 'classification processes'.

Much of my empirical work will also focus on material documents involved in the Canadian Government's responses to disasters; these are fertile areas which allow for rich analysis. Despite this methodological focus, I want to emphasize that in my view of the ongoing project of legibility surrounding disasters in the Canadian Government, these documents cannot be taken as the principal actors. In chapters 3 and 4, I analyze two documents from the administrative level of the Canadian Government, and discuss the roles they play in the construction of the object 'fundable disaster'. In as much as these documents represent the codified rules for classifying disasters for the purposes of funding, those rules are gappy and pliable. I do not treat them as 'the system', and the negotiations which occur around and outside of them as work-arounds. First, such a

treatment would be a misrepresentation, because there is no document which, alone, is influential enough in the overall process of disaster classification to be treated as a master document⁹. Second, focusing on a master document would diminish the importance of those ‘external’ negotiations, when my desire is to highlight *all* the ways in which formalized truth-claims can be constructed. I want to illustrate how a variety of actors (human and non-human), networks (formal and informal), documents (codified rule sets), *and* ad-hoc interpretations and negotiations all play constitutive roles in ongoing efforts to create a classification process which is transparent to and easily manipulable by the state. As such, I want to move away from Bowker and Star’s emphasis on classification schemes, and frame my substantive interest inside what Callon calls “the techno-economic network (TEN)... a coordinated set of heterogeneous actors which interact more or less successfully to develop, produce, distribute and diffuse methods for generating goods and services” (Callon 1991, 133). The TEN I will examine does not work to produce goods for the public, but it does involve a large group of heterogeneous actors doing work to produce a desired outcome. Whereas Bowker and Star approach classification with an interest in investigating material infrastructure, Callon’s emphases on heterogeneity and coordination of actors afford a more egalitarian consideration of the ways in which all the ‘players’ in the classification processes, human and material, have impact on one another. While this method may not provide as penetrating an examination of large-scale infrastructure systems, it does take account of the day-to-day realities of ad-hoc classifying which necessarily accompany large-scale systems (as I

⁹ Especially once one takes into account the propensity for those involved for ad-hoc classifying and the ways in which this constantly changes the documents, the codified rules— discussed in depth in chapter 3.

argue throughout this thesis). Perhaps the work Bowker and Star present in Sorting Things Out could be enhanced through further considerations of such ad-hoc classifying activities.

Conclusion

I have reviewed some work in the sociology of state projects and of scientific knowledge in order to convey how I undertake my epistemological investigation, and to introduce frameworks and concepts which will underlie, and constitute tools for, my empirical analysis. Scott's conception of state projects and Latour's immutable mobiles will both figure prominently in the rest of this thesis. I begin my empirical analysis in the next chapter, where I argue that within the discourse of legislation, the federal government has yet to create 'national emergencies' which are particularly manipulable, even for the state officials who work within that discourse.

Chapter 2. ‘Emergencies’ in Canadian Legislation

Having reviewed some of the sociological theory on projects of legibility, I argue throughout the rest of this thesis that the Canadian Government is involved in multiple projects of legibility with respect to disasters. I distinguish two discourses, the legislative and the administrative, in which emergencies and disasters (more on this distinction below) are the targets of state projects of legibility. In this chapter, I discuss the legislative sphere by reviewing some Acts which include mobilizations of the object ‘emergency’. I argue that each of these mobilizations is constitutive of attempts to render emergencies into standardized, manipulable objects. I then argue that the multiple mobilizations overlap and can be employed against one another, and that this has the effect of obfuscating, rather than simplifying, the target object. I illustrate this by reviewing Parliamentary debates concerning the invocation of the National Defence Act by the government of Quebec during the 1990 ‘Oka Crisis’. These debates highlight the controversial status of emergencies within the legislative discourse.

One key difference between the legislative and administrative discourses I review is that they target different objects, and I will briefly explore the consequences for my thesis. The administrative documents which I discuss in chapters 3 and 4 are specifically concerned with ‘disasters’, and that is the object which they mobilize. However, the term ‘disaster’ does not appear in any of the legislation below; rather, the term emergency¹⁰ is

¹⁰ In some Acts, ‘emergency’ and ‘national emergency’ are distinguished, while in others they are not. I make the distinctions clear when discussing each Act, but refer generally to ‘emergency’ as the object being constructed within the legislative discourse.

put into play. As a result, in this chapter I refer to emergencies, and not disasters. I will return to this distinction at the end of this chapter. For the moment, I review some federal legislation which refers to ‘emergencies’.

The Emergencies Act

The Emergencies Act (R.S.C., 1985, c. 22 (4th SUPP)) is the longest piece of federal legislation which deals directly with emergency situations. It is “an act to authorize the taking of special temporary measures to ensure safety and security during national emergencies and to amend other Acts in consequence thereof”. It contains a set of legal guidelines which define the ways in which the federal government may respond to extraordinary situations. As is the case with most legislation, this document begins with a broad definition of an essential term before moving into more focused applications of that term:

For the purposes of this Act, a ‘national emergency’ is an urgent and critical situation of a temporary nature that (a) seriously endangers the lives, health or safety of Canadians and is of such proportions of nature as to exceed the capacity or authority of a province to deal with it, or (b) seriously threatens the ability of the Government of Canada to preserve the sovereignty, security and territorial integrity of Canada and that cannot be effectively dealt with under any other law of Canada (s.3).

Declaring a national emergency is within the purview of the Governor in Council, “the constitutionally recognized executive of the federal government. It is comprised of the Governor General acting on the advice of the members of the Privy Council... and it is taken for granted that the Governor General will approve a recommendation from the Cabinet” (Hubley and Beaulieu 2001, 34). The act divides national emergencies into four categories, and events in each category have a pre-determined time-limit, after which

they must be renewed by the Governor in Council and Parliament. As well, each kind of national emergency provides its own selection of special powers to the federal government.

Much of the twenty-seven page document is divided up into four ‘Interpretation’ sections, each addressing one type of national emergency. A *Public Welfare Emergency* fits best with the idea of disasters as unintentional, large-scale disruptions, and is defined as one “that is caused by a real or imminent (a) fire, flood, drought, storm, earthquake or other natural phenomenon, (b) disease in human beings, animals or plants, or (c) accident or pollution and that results in a danger to life or property, social disruption or a breakdown in the flow of essential goods, services or resources, so serious as to be a national emergency” (s.5). The list of examples is not meant to be exhaustive; rather, the category is left open-ended to allow interpretation for any given event. There are two key features which define this category: first, the disruption is not intentionally caused by an attack— this would fall more easily into the second category of national emergency— but is “naturally” occurring or accidental. Second, the effects of the disruption must be “so serious as to be a national emergency.” This places the emphasis for qualification on the effects of the event rather than on the kind of event. The stipulation that the effects must qualify as a national emergency returns us to the earlier definition of a national emergency as one which surpasses the coping capacity of the affected province, which leads to the matter of provincial consultation. Two points are key: first, before the Governor in Council declares a public welfare emergency, the Lieutenant Governor in Council of the affected province must be consulted. Second, “the Governor in Council

may not issue a declaration of public welfare emergency... unless the Lieutenant Governor in Council of the province has indicated to the Governor in Council that the emergency exceeds the capacity or authority of the province to deal with it” (s.14.2). This stipulation sets up an important distinction among the four types of national emergency.

Public Order Emergencies generally deal with riots, armed insurrections and other situations internal to Canada; a Public Order Emergency is “one that arises from threats to the security of Canada and that is so serious as to be a national emergency” (s.16). The definition of “threats to the security of Canada” is taken from the Canadian Security Intelligence Service Act (S.C., 1984, c. 21, s. 1) and includes espionage, terrorism and insurrection (s.2). Provincial requests for assistance are still necessary before a public order emergency can be declared by the Governor in Council, but this is not the case for the other two kinds of national emergencies.

International Emergencies deal with emergencies “involving Canada and one or more other countries that arise from acts of intimidation or coercion or the real or imminent use of serious force or violence and that is so serious as to be a national emergency,” (s.27) but not serious enough to fall into the category of *War Emergencies*, “war or other armed conflict, real or imminent, involving Canada or any of its allies that is so serious as to be a national emergency” (s.37). A Government of Canada Fact Sheet (a public information document without any official status) makes the following distinction among these four kinds of emergencies:

The first two categories fall mostly within provincial jurisdiction, the federal government intervening only when asked or when the situation impinges directly

on its own jurisdiction. However, the federal government would have the lead role in any international or war emergency, as these would involve such key areas of federal jurisdiction as defence, foreign affairs and national security (A Federal Policy for Emergencies, 2000).

This document specifies that in the case of a civil disaster (or public welfare emergency), the provincial government must initiate contact with the federal level for the aid process to begin. This model, where aid is requested from the next higher level, rather than offered down, is how Canadian disaster response is portrayed in government discourse.

The fact-sheet instructs that

[f]ollowing the practice that has evolved in Canada, and in keeping with Canada's legal and constitutional framework, responsibility for initial action in an emergency lies with individuals, who should be prepared to do what is reasonably possible to protect life and property. The different orders of government only become involved, as their resources and response capabilities are needed to control and mitigate an emergency situation¹¹.

The document goes on to describe the responsibilities of municipal governments in creating and maintaining emergency response plans, since “[m]ost emergencies occur in, and are dealt with effectively by, a municipality.” These responsibilities are listed in the Emergency Preparedness Act, the topic of my next section. In the event that a municipality cannot cope, the province is “expected to come to the municipality’s aid,” but presumably provincial-level coordination does not begin until municipalities request it. Should provinces be unable to cope with the event, “they must formally request federal government aid.” Officials from the Research branch of the Office of Critical Infrastructure Protection and Emergency Preparedness, the office responsible for

¹¹ An enticing example of individualized responsibilization within a liberal state regime.

coordinating Canadian Government disaster response, have referred to this process as ‘cascading-up’¹².

The Emergency Preparedness Act

The Emergency Preparedness Act (R.S.C., 1985, c. 6 (4th SUPP.)) is a shorter statute than the Emergencies Act, designed primarily to list the various Ministerial responsibilities “for advancing civil preparedness in Canada for emergencies of all types, including war and other armed conflict, by facilitating and coordinating, among government institutions and in cooperation with provincial governments, foreign governments and international organizations, the development and implementation of civil emergency plans.” Section 5 of the document outlines the responsibilities of Canada’s Defense Minister with respect to the development and implementation of civil emergency plans. Included in these duties are “(2bii) the provision of assistance, other than financial assistance, to a province during or after a provincial emergency; and (2c) to provide financial assistance to a province when authorized pursuant to section 9.” The relevant portions of section 9 read as follows:

The Governor in Council may, on the recommendation of the Minister, make orders or regulations... (c) declaring a provincial emergency to be of concern to the federal government; and (d) authorizing the provision of assistance, including financial assistance, to a province when a provincial emergency in the province has been declared to be of concern to the federal government and the province has requested assistance¹³.

¹² As my empirical analysis will remain at the federal level, I have not critically investigated the accuracy of this ‘cascading-up’ model laid out in the government discourse. In a personal communication, an expert in the field of Canadian disaster issues informed me that this model is more myth than reality, often violated, and should not be taken as actual policy.

¹³ As I discuss in the next chapter, events need not be so severe as to be declared a ‘national emergency’ (pursuant to the Emergencies Act) in order to receive financial assistance; the latter often happens without the former.

The Act goes on to define the responsibilities of “every minister accountable to the Parliament of Canada for the administration of affairs of a government institution,” including “identifying the civil emergency contingencies that are within or related to the Minister’s area of accountability and developing a civil emergency plan therfor [sic]” (s.7.1). However, in keeping with section 9, a restriction is added to the above point: “[w]here the implementation of all or any part of a civil emergency plan... would be in response to a provincial emergency, that plan or part shall not be implemented unless the government of the province has requested assistance or an agreement between the Minister and the province requires or permits implementation” (s.7.3); cascading-up is again described.

The Emergency Preparedness Act does not attempt to distinguish between different kinds of events as the Emergencies Act does, so examples are never invoked and again the term ‘disaster’ does not appear in the document. Nevertheless, I argue that disasters are one kind of civil emergency upon which ministerial responsibilities have been fixed. These responsibilities (and their resulting expenses) are taken seriously enough that the office of the Auditor General has conducted two audits to determine the state of emergency preparedness (1987, 1992) at the federal level; in both cases it was “found that in general, long-standing problems in federal emergency planning were not being addressed within a reasonable time frame” (1992, s.24.17).

Some other legislation

The Emergencies Act and Emergency Preparedness Act are the two main pieces of legislation designed to deal directly with issues of federal preparation for and response to

national emergencies. There are other pieces of legislation which are not intended specifically to deal with emergencies, but which nevertheless invoke and mobilize the object in some way. Like the Emergency Preparedness Act, the acts discussed below refer to types of situations that, by implication, include disasters, although they never employ that term. The list of acts presented below is not intended as exhaustive, but as an indication of the different ways in which the legislation invokes emergencies. These documents were selected from the results of an internet search for terms like 'national emergency' and 'emergency' using the Canadian Government 'Laws and Regulations' internet search engine. There may be sections of some of these acts which would add to my analysis but which are unavailable to the public through that search engine.

The National Defence Act (R.S.C, 1985, c. N-5) defines emergency as “war, invasion, riot or insurrection, real or apprehended.” Looking at the four national emergency types laid out in the Emergencies Act, this definition bears no similarity to the kinds of events listed in the first category, Public Welfare emergencies, but overlaps with the other three categories, Public Order, International and War emergencies. I will return to discuss the significance of this overlap below, when I review a case study concerning the invocation of the National Defence Act. The language used in this act emphasizes events resulting from intentional human actions, and does not seem to be intended for use in events such as floods or earthquakes.

The Energy Supplies Emergency Act (S.C., 1978-79, c. 17, s. 1) specifies that special measures be taken regarding petroleum conservation when “the Governor in Council is of the opinion that a national emergency exists by reason of actual or

anticipated shortages of petroleum or disturbances in the petroleum markets that affect or will affect the national security and welfare and the economic stability of Canada” (s.15.1). This process follows the pattern laid out in the Emergencies Act by placing the power of declaration within the purview of the Governor in Council, and by referring directly to a “national emergency.” However, it also defines a new kind of emergency based on energy reserves: while a disaster could theoretically lead to the loss of fuel reserves, and effects of a fuel shortage could lead to situations of panic or rioting, a fuel shortage itself does not fit neatly into any of the four kinds of emergency outlined in the Emergencies Act.

The Nuclear Safety and Control Act (S.C.,1997, c. 9) outlines the powers of the Canadian Nuclear Safety Commission, a committee “appointed by the Governor in Council.” In case of emergency, this appointed committee “may, without conducting any proceedings, make any order that it considers necessary to protect the environment or the health and safety of persons or to maintain national security and compliance with Canada's international obligations” (s.47.1). Any emergency situation involving nuclear power would seem to fall under the purview of the Emergencies Act as a public welfare emergency. However no mention is made here of the procedures discussed in that act for declaring such an emergency, or the powers invoked by the Governor in Council in such a case.

According to a section on International Air Pollution in the Canadian Environmental Protection Act (S.C., 1999, c. 33), ““environmental emergency” means (a) an uncontrolled, unplanned or accidental release, or release in contravention of

regulations made under this Part, of a substance into the environment; or (b) the reasonable likelihood of such a release into the environment” (s.173). While there is no specific mention of any other emergency-related act or regulation, the following proviso is included: “The Governor in Council shall not make a regulation... in respect of a matter if, by order, the Governor in Council states that it is of the opinion that (a) the matter is regulated by or under any other Act of Parliament that contains provisions that are similar in effect to sections 194 to 205” (s.200). This allows the legislation specifically designed to deal with emergencies to supercede this act; but there is no clarification as to how the emergency defined in this act is meant to correlate with definitions presented in other acts.

The problem of overlapping mobilizations

My goal above was to point out that there are multiple, overlapping and occasionally contradictory definitions of the term ‘emergency’ in Canadian legislation. Scott argued that legibility projects center around key material documents which employ a tunnel-vision approach to their target, reducing complex reality to a smaller list of more manageable attributes. Each of the pieces of legislation reviewed above operationalized its own reductive definition of ‘emergencies’, and in that way produced its own ‘tunnel-vision version’. The SSK material discussed how reality is rendered manipulable through the creation of immutable mobiles. Printed pieces of legislation are immutable mobiles which place their target-phenomena (emergencies, federal powers, ministerial responsibilities, etc.) within a codified framework of authority; to that degree, those phenomena are being operationalized by the state. Each of these sets of mobilizations

seem, on their own, to provide standardized tools with which state officials should be able to deal with real, complex occurrences so as to produce reliable outcomes; they seem each to constitute projects of legibility. To put it another way, one intended purpose for the legislation is to facilitate the work of state officials in deciding what is and what is not an emergency. A project of legibility targeting emergencies is underway. However, I want to point to a problem that presents itself with respect to the legislation which was not raised in Scott's work or the SSK material.

The attempt to render 'emergencies' into an easily manipulable object is undermined by the multiple and contradictory mobilizations of the object. On its own, each mobilization serves to simplify complex sets of real events into a manageable category; a state official can employ one of these Acts to react in ways which are standardized and codified to an 'emergency'. But because the mobilizations of the category 'emergency' vary *across* the Acts, the choice of *which* Act to employ for any set of real-world events is complicated. Any attempt to classify a given event as one kind of emergency leaves openings for criticism that the event was 'more truly' another kind of emergency. As a result, looking at the legislative discourse as a whole one can see the object 'emergency', having been mobilized, is simultaneously being obfuscated (rather than rendered increasingly legible) with the invocation of the legislation.

I present here a brief account of one such occasion of obfuscation. During the 1990 events which came to be known as 'The Quebec Oka Crisis', the National Defense Act (NDA) was invoked by the Quebec Premier, a decision later lauded by the Prime Minister. Subsequently, in Parliamentary Debates, Opposition MPs criticized the

application of that Act to that event. After providing a short narrative, largely based on the article “The Oka Crisis” (Austin and Boyd 1993), to situate the reader, I will review some of these debates.

The Oka Crisis

A narrative

The Mohawks of Kanesatake occupy land in the town of Oka, Quebec, which is not far from Montreal and is not an official reserve. In the spring of 1990, Oka’s municipal government announced its intention to purchase land in order to expand a golf-course. The Mohawks argued that the land belonged to them, and eventually armed themselves and set up manned roadblocks in order to prevent the local authorities from entering or taking possession of the land. Negotiations started and stopped throughout the spring, and on June 11, Oka’s mayor called in the Sureté du Québec, the provincial police, to remove the barricades. After failed negotiations that morning, shots were fired and an SQ officer was killed. Hearing about the exchange at Oka, Mohawk Warriors, living on the Kahnawake reserve 29 km southwest of Montreal, blockaded a highly-trafficked Montreal bridge. The SQ reacted by dispatching more officers to block all access to the Kahnawake reserve. For the next month, the SQ remained deployed in both areas, facing off against masked and armed Mohawks across two separate demilitarized zones. Simultaneously, municipal, provincial and federal officials engaged in highly publicized formal and informal debates on who had jurisdiction over these areas and the next steps to take. One key issue in the debates was that Parliament was out of session, and Prime Minister Brian Mulroney gave no indication that it would resume until the intended date

in September. On August 5, Quebec Premier Robert Bourassa gave the Mohawks a 48 hour deadline to negotiate a settlement; on the 8th, he invoked the National Defence Act and the Attorney General of Quebec made a request directly to the federal Chief of Defence Staff for military support. On August 20, Canadian military forces were deployed to Oka and Kahnawake; the Quebec Premier stated that they were not there to attack, but to relieve the SQ officers and “maintain an atmosphere of calm” (Austin and Boyd 1993, 57). On the 29th, after some negotiations, soldiers and Mohawks worked together to dismantle the blockades on the Mercier bridge. By September 2, all of the barricades on the bridge and in Kanesatake were dismantled; Parliament resumed session on September 24.

Over the next few months the invocation of the NDA by the Quebec Premier became a hotly debated topic in the federal Parliament. I will proceed to review some of the arguments made by various MPs in order to illustrate the confusion which resulted from the attempt to force this real-life event into the insufficiently-developed framework of ‘emergencies’ within federal legislation.

The Parliamentary Debates

Oka was the main topic of discussion on the first full day of activity for the second session of the thirty-fourth Parliament. Ethel Blondin, the Liberal MP for the Western Arctic riding of the Northwest Territories in 1990, began her critique by referring to “a copy of a speech delivered by the Prime Minister on August 18... where he called this an armed insurrection. If it is an armed insurrection, what the government should have

invoked was the Emergency Measures Act¹⁴, which would have had the House reconvene after seven days... The National Defence Act is used as a shield to circumvent the parliamentary process” (House of Commons Debates 1990, 13279). MP Audrey McLaughlin, the NDP MP from the Yukon, Yukon riding, took up the theme: “I think it has come as a great surprise to Canadians to learn that under the National Defence Act a premier can call in the Armed Forces against Canadian citizens without the involvement of Parliament” (House of Commons Debates 1990, 13286). Ian Wadell, McLaughlin’s NDP colleague from Coquitlam, B.C added his opinion:

The Prime Minister of Canada and this government used the Defence Act, not the Emergency Measures Act, the Defense Act. In my view that was unconstitutional and illegal. The Defense Act was not made for that purpose. The Defense Act, in my view, is made for a riot or disturbance where the provincial premier could call in the army for a short period... Why did the government not use the Emergency Measures Act which is the reform of the War Measures Act, which is surely for an insurrection or something like this that happened in Oka... Because they would have to recall Parliament and because there are certain civil liberties protections (House of Commons Debates 1990, 13380).

These critiques seem designed to attack the Prime Minister for not having reconvened Parliament to allow the federal government to react to the events at Oka. While these critiques reveal undercurrents of partisan politics, they also pick out the overlapping and confusing uses of ‘emergency’ and ‘insurrection’ in the legislation. Kim Campbell, the Conservative MP from Vancouver offered this defense of the provincial use of power:

I categorically refuse to equate the confrontation in Oka to pure and simple civil disobedience. Weapons are not the tools of civil disobedience... The people concerned used very powerful arms to resist the police... That explains why, on August 27, Premier Robert Bourassa, in accordance with the powers conferred on the provinces by the National Defence Act, asked the Armed Forces to remove the barricades... Under Canadian law, the Armed Forces are obliged to assist in the enforcement of the law when provincial law enforcement agencies are unable to

¹⁴ The name of the Emergencies Act at that time.

prevent, suppress or control riots, insurrections or other disturbances of the peace... I would like to remind hon. members that the Government of Canada has conscientiously avoided jeopardizing the efforts of the Government of Quebec to negotiate a solution to the situation at Oka. At the same time we have used our best efforts to assist in the negotiations (House of Commons Debates 1990,13385).

This defence of the invocation of the National Defence Act suggests that the matter was a provincial one, and so not only did the federal level act correctly by staying out of the decision to use the army, but so too did the Quebec government, by using the legal means necessary to keep the federal level out of that decision. This rebuttal responds to the partisan attack on the Government, but does not address the problem of overlapping uses of 'emergency'.

MP Ian Waddell returned to the issue on October 15 during Question Period: "this Parliament and this Government abolished the War Measures Act and replaced it with the Emergency Measures Act, which protects civil liberties and imposes strict parliamentary control. Why didn't the government invoke the Emergency Measures Act this year, when it called in the army once again in Quebec" (House of Commons Debates 1990, 14143)? The Prime Minister responded to the first part of the statement, saying that the War Measures Act had been changed after the FLQ crisis in 1970, when Parliament voted to mobilize the Armed Forces in response to terrorist bombings, adding that "what happened in 1970 was both disastrous and unjust, and we did not want this to be repeated." The MP retorted that "20 years after the FLQ crisis, the army is once again in Quebec, and this time we do not even have a parliamentary vote" (House of Commons Debates 1990, 14143). The Prime Minister continued his response by arguing that the federal government was not the party that had decided which act to invoke: "The

government of the province of Quebec, as it happened, asked under the National Defence Act for the assistance of the army of Canada in a particular circumstance this summer. The Armed Forces, having been satisfied that the criteria were fulfilled, went to Quebec to fulfill that mandate” (House of Commons Debates 1990, 14143).

Neither of these sets of debates resolves the discrepancy which underlies the contested act or the overlapping mobilizations of ‘emergencies’ in the legislation; in both cases, partisan sophistry takes over. Nevertheless, these debates serve to illustrate that state officials working within the legislative discourse cannot easily use the legislation to classify real-world events reliably as ‘emergencies’; that object has not been rendered fully legible within that discourse. The state legibility project concerning ‘emergencies’ has yet to render these complex, real-life events fully legible. Put another way, Canadian legislation would not prove particularly helpful in answering the question, ‘what is an emergency?’.

From Emergencies to Disasters

In the next chapter I move from ‘emergencies’ in the legislative sphere to ‘disasters’ in the administrative discourse. I choose this textual transition point between the two discourses to present the Oka Crisis as a good example through which to discuss ‘emergencies’ in the legislation and ‘disasters’ in the administrative policy. As outlined above, the Emergency Preparedness Act sets out the ‘cascading-up’ processes around which emergency response plans and financial aid revolve. In the next chapter I specify that the administrative policies used by the Canadian Government to judge events as ‘fundable disasters’ derive their legal authority from the Emergency Preparedness Act.

As such, all events which receive disaster funding have also been classified as a ‘provincial emergency’, as specified by the text of that act. However this does not mean that the event also qualified as a ‘national emergency’, which is the kind of ‘emergency’ mobilized in most of the legislation discussed above. It is important to note that not all events declared ‘national emergencies’ receive disaster funding. Likewise, not all events which receive disaster funding were declared anything more than a ‘provincial emergency’; Oka is one exception. The application of the National Defense Act to the events at Oka classifies Oka as a kind of ‘national emergency’. Oka has also been included in the federal category ‘disaster’, which I take in the next chapter to be defined by federal compensation to provinces for certain kinds of damages caused by events directly named ‘disasters’¹⁵. I am taking ‘disasters’ to be a sub-group of the category ‘emergencies’ based functionally on the language of the Emergency Preparedness Act, and conceptually on ‘disasters’ having been more clearly defined than ‘emergencies’, which thus remains the broader category.

My goal for this chapter was to portray the state project of making ‘emergencies’ legible within legislative discourse as underway, yet deficient. The overlapping uses of the key object ‘emergencies’ in that discourse undermine attempts to render that object manipulable through the methods of reduction and simplification introduced in chapter 1. In the next two chapters I will argue that the key object ‘disasters’ has been rendered much more manipulable at the level of administrative policy, by interrogating empirical

¹⁵ This disaster funding is apart from other federal monies spent on the Oka Crisis, such as payment of military or police forces.

material from that discourse which illustrates the importance of immutable mobiles to projects of legibility.

Chapter 3. The Administrative Level

In the previous chapter I reviewed the Canadian legislation that mobilizes the concept ‘emergency’ in some way. My goal was to illustrate the overlapping and contradictory mobilizations of the object within legislation, in order to support my contention that these undermine the ongoing state project to render emergencies into more manipulable objects. Supported by review of Parliamentary debates in which MPs criticized the application of legislation to a real-life event, I concluded that emergencies have not yet been made entirely legible within legislation. I argue here that disasters have been made more fully legible at the level of Canadian Government administrative policy and practice, where a new object category, the ‘fundable disaster’, is under construction. My goal in this chapter is to show that the state has done work to make disasters legible at the administrative level. I do this by arguing that two key documents involved in the classification of events as ‘disasters’ act as immutable mobiles that allow state administrators to render complex, real-life events into, to invoke Latour, flattened, easily combinable and tractable objects. These documents support the development of a new administrative object, the ‘DFAAable disaster’¹⁶, which is more easily manipulable than either a ‘disaster’, or an ‘emergency’.

¹⁶ That object has no official status, and it is not named in any document— only the term ‘disaster’ is used in the DFAA (defined in the following section). The term ‘DFAAable’ comes from my source at OCIEP who uses it to refer to the kinds of disasters which, in the view of OCIEP officials, ‘should’ get DFAA funding. I am using it to refer to the officially unnamed object which would, once fully stabilized, represent the *only* kinds of events which possibly *could* receive funding.

OCIPEP

The Office of Critical Infrastructure Protection and Emergency Preparedness (OCIPEP) is the government agency operating within the Department of Defence that is “the government’s primary agency for ensuring national civil emergency preparedness, encompassing the existing functions of Emergency Preparedness Canada” (OCIPEP website: Who We Are, 2002). Emergency Preparedness Canada (EPC) was the name for the institution until February 5, 2000, and I will refer to it by both names, depending on the time-period in question. OCIPEP continues to act as a clearing-house for the various projects, implemented under the Emergency Preparedness Act, dealing with disaster preparation, mitigation and response. As such, OCIPEP is not an emergency response organization that is only activated with the declaration of a national emergency, but an administrative body that has ongoing responsibilities.

OCIPEP officials are the state representatives who are most directly responsible for interpreting and administering federal policies on financial aid for provinces struck by disasters. The main policy set involved is the Disaster Financial Assistance Arrangements (DFAA), the Cabinet-approved set of guidelines that are used as the basis for judging the eligibility of provincial requests for financial aid for damages due to disasters. This section consists of a critical review of the DFAA in which I argue for its status as a developing immutable mobile. OCIPEP officials also use another document in their day-to-day work of evaluating requests for disaster funding: a spreadsheet referred to as the ‘Working Document’, which contains very limited and specific information on all the events that have received funding since the creation of the DFAA in 1970. In the

latter section, I elaborate on the uses of this Working Document in order to argue that it acts as a more stabilized immutable mobile than the DFAA. I also manipulate the data from the Working Document in order to illustrate how this context-stripped data could be used to present statistical results unintended by the state officials who created the Working Document.

I will proceed first to review some of the history of the DFAA, as well as the processes it established for financial disaster aid and the ways in which the document and the processes constitute the object ‘disaster’. I will be drawing principally on two sources for this section. The first is a document called “Disaster Financial Assistance-Manual to assist in the interpretation of federal guidelines” (EPC 22/88, 2001). Chapters I, “*Basis of the Arrangements*” and III, “*General Administrative Procedures*” are the original pieces of policy approved by Cabinet members in 1970, and are generally considered by those who use the document to constitute the Arrangements themselves. The other four chapters, added at various times after 1970, are designed to aid in the interpretation of the original guidelines. In the text I will refer to chapters I and III as ‘the DFAA,’ and to the complete set of guidelines as ‘the manual.’ I will also be drawing upon interviews conducted with a source, working at OCIEP, who shall remain anonymous.

The DFAA’s history

Before 1970 there were no guidelines in place to standardize federal disaster financial assistance. Without the coordination of a central office like OCIEP, requests for assistance flowed through any number of different provincial and federal offices,

administrators, ministries and ministers. Money transfers could be labeled as just about anything and cost-sharing between provincial and federal governments varied from case to case. My OCIEP source credits a small group of federal ministers with the creation of what was to become the DFAA in order to deal with three separate and significant provincial requests for aid in 1970. The guidelines were drawn up by politicians and administrators; there were no consultations with engineers, social scientists or any other group involved in the study of disasters. This version of the DFAA's history is a good example of how "the teller transforms a localized, heterogeneous, and material set of circumstances (in which social factors are clearly visible) into the sudden occurrence of a personal and abstract idea which bears no trace of its social construction" (Latour 1979, 170). It is the only history which I could unearth: research into publicly accessible documents such as Parliamentary Debates and Journals yielded no mention of the creation or implementation of the DFAA. The DFAA has the official designation of 'Cabinet approved guidelines', which can be developed internally by the state Executive without Parliamentary approval. No doubt, personal interviews with the Ministers involved in the creation of the DFAA would allow an observer to reconstruct a history which would foreground the 'heterogeneous circumstances' which were involved. I may only be left with the myth and the product of those negotiations, but I can follow Star's warning: "Because formalisms tacitly encode biases (what gets left in as important and what gets put out as unimportant), and because ad-hoc work-arounds are not documented or well understood, we know that they reinforce, in invisible ways, the prejudices of their designers" (Star 1995, 101). I am looking at the prejudices

which were, along with the rest of the choices made by those early actors, reified (often unintentionally) in the DFAA.

Those involved in their creation intended that the guidelines operate as a short-term quick-fix to the immediate problem of three simultaneous major disasters, and as a possible first step towards a more permanent program, not a long-term solution to the issue of disaster aid. Nonetheless, the text created in 1970 is now chapter III in the DFAA manual, and is considered by those who use the “Manual to assist in the interpretation of federal guidelines” to be the core of the DFAA. The manual has grown in length since 1970 and the additions will be shown below to operate differently than does chapter III.

According to my informant, the original intention behind the guidelines was to ensure equitable treatment of requests for disaster aid, equity being based ideally on the severity of the effects of a disaster and not on the province’s political clout. This goal makes an appeal to objectivity: by writing down the processes by which disasters are evaluated, those processes should become standardized, ensuring that all applications will be placed on equal footing. This has the appearance of removing, or at least reducing, the uncertainties arising from the realities of case-by-case judgments, such as different standards being applied by different people with different opinions. In the next section I will demonstrate that the codification of disaster policy into written form had an alternate effect: rather than operating as a reliable disaster-classifying machine, the DFAA serves as the (albeit fuzzy) goal over which state officials negotiate. The DFAA is simultaneously the set of rules which defines how the players may or may not interact,

and the mould into or out of which they are trying to force their disaster. The DFAA has simplified disaster aid negotiations, not by eliminating the need for them, but by shaping them.

The DFAA's present

I have several goals in this lengthy section. I will begin with a selective content review of the manual; this will allow me to argue that the manual is an immutable mobile which transforms reality into a legible object more effectively than did the legislation, but which is nevertheless incomplete and, as of yet, not fully reliable. I will supplement this portrayal of the manual by referring to the ad-hoc processes which are essential to the everyday workings of disaster funding, but have not yet been codified in the manual. This will include emphasis on the roles played by key individuals who are responsible for subjective interpretations of the codified manual. I will end this section by discussing OCIPPEP's future plans for the manual, in order to illustrate that this project of legibility is still a work-in-progress.

Getting DFAA funding- the manual

Imagine a law-giver whose only concern was to respect land practices. Imagine, in other words, a written system of positive law that attempted to represent this complex skein of property relations and land tenure... The mind fairly boggles at the clauses, sub-clauses, and sub-sub-clauses that would be required to reduce these practices to a set of regulations that an administrator might understand, never mind enforce. And even if the practices could be codified, the resulting code would necessarily sacrifice much of their plasticity and subtle adaptability. The circumstances that might provoke a new adaptation are too numerous to foresee, let alone specify, in a regulatory code. That code would in effect freeze a living process. Changes in the positive code would represent at best a jerky and mechanical adaptation... Administratively, of course, such a cacophony of local property regulations would be a nightmare. The nightmare is experienced not by

those whose particular practices are being represented but by those state officials who aspire to a uniform, homogenous, national administrative code... [they] cannot be expected to decipher and then apply a new set of property hieroglyphics for each jurisdiction (Scott 1998, 35).

Scott's hypothetical about land-practices is an appropriate description of the reality of Canadian Government disaster aid. The DFAA manual is the result of an attempt to codify responses to the 'living process' of disasters, and it is Scott's 'nightmare' of clauses and sub-clauses made material.

The DFAA manual provides the guidelines that determine what kinds of requests are, to use my source's term, DFAAable: eligible for federal aid. Qualification is based on two criteria: first, a single formula used to determine the issue of 'financial hardship;' second, a long list of examples of what can and cannot count as 'eligible costs.' I deal with each in turn.

Chapter I, section 2 of the DFAA states that the "definition of what constitutes financial hardship to a province is implied in the formula for determining federal financial assistance." The formula is presented below in Table 1; 'financial hardship' begins after the province spends more than \$1 per capita.

Table 1 – Formula for determining federal financial assistance

Expenditures Per Capita of Provincial Population	Federal Share	Provincial Share
\$0 to \$1	0%	100%
\$1 to \$3	50%	50%
\$3 to \$5	75%	25%
\$5 plus	90%	10%

This formula also presents the sliding scale which determines the percentage of damages to be funded with federal money.

The question of eligibility is not so quickly dealt with as that of financial hardship; it is with eligibility that Scott's nightmare begins to take hold on the disaster funding process. Section 1 states that the purpose of chapter III, 'the DFAA', is "to provide guidelines... for determining those eligible costs which can be directly associated with a disaster/emergency and its immediate effects as a basis for cost-sharing arrangements between governments." The "*Categories of Eligible Costs*" section includes three sub-sections: some eligible costs arising during the "*Immediate Disaster Period*" include rescue or transportation of people or livestock, emergency provision of essential community or medical services, and special security, communications or situation control headquarters. "*Post Disaster assistance for individuals*" can include restoration, repair or replacement of primary residences, furnishings and chattels of an essential nature and assistance in the restoration of small businesses that were the owner's source of livelihood. The list of eligible claims for "*Post Disaster assistance in the Public sector*" is longer and deals with issues like clearance of debris, construction of protective health and sanitation facilities and repairs to public property including roads, dykes, utilities, buildings and equipment. Section 13 lists exclusions to eligible damages, some of which are: damages recoverable by insurance or provided for in part or in whole in any other government program; damages which are an ordinary risk of a trade; damages to the property of a large business, or to property to which financial assistance was already made available for preventative reinforcement. This list is followed in section 14 with references to the behaviour of individuals or organizations which "should be borne in mind... in determining the levels and types of costs for which assistance is to

be made available,” such as the taking of reasonable precautions if time was available, response to warnings given by the authorities and the availability of insurance coverage at reasonable rates¹⁷.

I have summarized *some* of the details of ‘eligibility’ from the DFAA. Section 4 of chapter III, written in 1970, specifies that the original guidelines

are meant for application to all types of disasters and to varying circumstances across the country. *They have been developed, therefore, using general terms accompanied by examples of intent where necessary.* It should not be constituted that the omission of any item or contingency means that it need not be considered at the time of a disaster. Each event will require an analysis of its own special requirements and government policy to deal with them.

The rest of the manual was added over time in order to include examples of decisions made regarding specific events which could be used for future reference. Accordingly, the current version of chapter III ends with the note that “the remaining chapters provide interpretations of the guidelines which have evolved in the course of their application to actual events and provide additional guidance to administrators of these arrangements.”

The three interpretation chapters which follow read as a loosely organized collection of examples, mostly meant to point out many specific details which have been judged *non-DFAA*able. For example, in chapter III, a total of two lines of text are devoted to the matter of outside insurance coverage; in chapter IV, “*Interpretation-General Principles*,” 18 lines are used to discuss insurance in questionable cases. In III, the “*Categories of Eligible Costs*” section devotes roughly a page and a half each to the categories of public and private sector damages. Chapter V, “*Interpretation- Public*

¹⁷ I will mention here, as I did with respect to the legislation in the previous chapter, that the DFAA would provide fertile ground for an analysis of the processes through which individuals are made to govern themselves through responsabilization.

Sector,” is five pages long; chapter VI, “*Interpretation- Private Sector*,” is seven.

These pages do not paint a detailed picture of a single kind of DFAAable disaster; rather they collect individual details of separate situations into lists of many different examples of non-eligible claims.

One clear and relevant exception comes in chapter V, section 12, regarding the eligibility of forest fires: “the purpose of the arrangements is to assist individuals and governments to restore essential public and private property to its pre-disaster condition. Damage to forests is not, therefore, considered eligible.” I return to the eligibility of forest fires in another section below.

Callon (1991) introduces some terminology which is useful for my discussion of the DFAA:

Normalisation makes a series of links predictable, limits fluctuations, aligns actors and intermediaries, and cuts down the number of translations and the amount of information put into circulation. It operates by standardizing interfaces— that is by standardizing and constraining actors and intermediaries (Callon 1991, 151).

Normalisation is a necessary part of any state project which takes as its goal the fitting together of reality with a formal manipulation scheme such as a classification system.

The obvious role of the complete DFAA manual is to list criteria which clearly delineate the category under construction— DFAAable disasters— and thus reduce the number of events which may receive federal funding. The manual describes some of the interactions between the various federal and provincial officials, and in doing so standardizes them (more on these interactions below). Callon specifies that

with normalisation or standardisation comes the possibility of quantification. Minimally, norms for interfaces require at least one pertinent variable which may take one of two possible values— for instance, good or bad, or pass or fail. But

they can extend to fine tuning between multiple continuous variables by way of upper and lower threshold limits (Callon 1991, 151).

The manual contains a clear set of minimum and maximum thresholds of disasters as represented by dollars in the sliding scale used to determine federal financial involvement. But Callon also says that “the more precise and quantified these standards, the more a successful translation becomes irreversible” (Callon 1991), and it is here that we can begin to pull out the DFAA’s short-comings as a state project, or a project of translation. While the DFAA quantifies disasters more carefully than the legislation reviewed in the previous chapter, the written guidelines fail to provide a sufficiently precise definition of a disaster for this translation to have become irreversible. The gaps left in the positive criteria are not sufficiently supplemented by the negative examples to result in a clear object. There has been work done to standardize Canadian Government responses to disasters, but the work is not completed to the point of being irreversible. Law uses the term ‘punctualisation’ similarly to Callon’s ‘irreversibility’, and I will discuss Law’s work with reference to some of the interactions among state agents who work with disaster claims.

Law’s discussion of the irreversibility of networks provides another way to consider the DFAA and disaster response as incomplete parts of a larger project of translation. He argues that “[w]hen a network is strongly convergent and irreversibilized, it can be assimilated to a black box whose behaviour is known and predicted independently of its context” (Law 1991, 153). The output of DFAA claims cannot be black-boxed to the degree of being easily predictable: First, as discussed above, the gaps in the manual render the ‘DFAAable event’ fuzzy at best. Second, as I

am about to show, the evaluation process for claims involves multiple human actors continuously using their own judgment to interpret reality vis-à-vis the manual. The case studies I review in the next chapter will illustrate the unpredictable outcomes of some of these interpretations. Law goes on to explicate that the network “may then link itself to one or more ‘external’ actor-networks with which it exchanges intermediaries. Under such circumstances it is *punctualised* in these other networks... the process of punctualisation thus converts an entire network into a single point or node in another network. But this may be repeated indefinitely” (Law 1991, 153). Despite the lack of a clear definition of the central object (the DFAAable event), of a black-boxable classification system for disasters and of an irreversible process of evaluation, the network that is composed by OCIPEP officials, documents and procedures is indeed punctualised in the large techno-economic network¹⁸ which involves all the various federal and provincial officials, private industry members and the public in the huge process of securing disaster aid. I will begin to illustrate this in the next section; first, I will review some of the details provided to me on the day-to-day functioning of OCIPEP officials who evaluate DFAA claims which are not discussed in the manual, before I return to Callon and Law and their theories about actors.

Getting DFAA funding- the ‘reality’

The “*General Administrative Procedures*” section of the DFAA starts with the following:

When a disaster occurs, it is usually apparent within a few days, as to whether it will qualify for federal assistance. If the disaster appears to be sufficiently severe,

¹⁸ Defined in chapter 1 as “a coordinated set of heterogeneous actors which interact more or less successfully to develop, produce, distribute and diffuse methods for generating goods and services” (Callon 1991, 133).

and if the province affected wants federal financial assistance, then a request must be made by the province. This usually takes the form of a letter or Telex from the provincial Minister responsible for emergency measures to the federal Minister Responsible for Emergency Preparedness.

This Minister is currently the Minister of National Defence (MND). The manual goes on to specify who may serve on the appraisal teams which review all claims, and then the kinds of damages which may be DFAAable. But there are a number of steps involved in the DFAA process which come between the provincial request and the mobilization of federal appraisers which are not mentioned in the manual. I will review these here as they were related to me by my source at OCIPEP.

Within OCIPEP, officials working in the department of Financial Assistance Programs are most directly involved with federal responses to provincial aid requests. At the time I conducted my main interviews, the in-house staff of that department consisted of one person, the Director. There are also ten OCIPEP Regional Directors who are each assigned to work with a particular province; the DFAA defines Regional Directors as “the federal official who initially provides liaison with provincial officials in responding to the immediate effects of a disaster... [and] co-ordinates federal participation in damage assessment and in the review of provincial requests for assistance.” While the DFAA specifies that a request should take the form of a letter to the MND, in reality the formal letter is usually only sent after there have already been discussions between provincial ministers, that province’s Regional Director and the Director as to the likelihood of DFAA eligibility. At this early stage there are no detailed audits; rather, the eligibility of the event is judged at the administrative level of the federal government, based on the type of event and preliminary estimates of levels and kinds of damages.

The evaluation which goes on at the Director-level is critical in the development of the event as a DFAAable disaster. Auditors are brought in later in the process to review provincial claims in detail. But before the auditors can be brought in, the decision must be made that the event seems likely to qualify for DFAA funding. This decision is made at the administrative level, usually based on the Director's interpretation of DFAA guidelines. These evaluations are quick, intended to ensure that the financial threshold has been crossed and that there are no obvious reasons to reject DFAA funding. According to my source, once the initial approval is given at the Director-level the rest of the official process usually leads to funding approval:

The Director responds to a provincial request by phone and then in writing, in order to inform the province that *he* will recommend to the MND that a formal request be submitted. OCIEP requests a standardized form be prepared by government lawyers for submission to the MND. Preparation involves inserting names, dates and dollar amounts for the event in question. The MND usually accepts the recommendations of OCIEP and passes the request on to the Office of the Privy Council. DFAA payments are authorized by the Special Committee in Council (SCC), a subgroup of ministers from Cabinet and the Privy Council. The SCC meets weekly to discuss all pending requests; the meeting at which that DFAA request is tabled is attended by the OCIEP representative who has followed the case— usually the Director— in order to answer any questions the SCC members may have. While there are often requests for more information about the event, the MPs usually follow OCIEP recommendations and approve requests submitted to them. A Special Order is issued in the name of the

Governor in Council, “pursuant to paragraphs 9 (c) and (d) of the Emergency Preparedness Act... [declaring] a certain provincial emergency to be of concern to the federal government and authorizing the provision of financial assistance in respect thereof.” A letter attached to the Special Order specifies the event to which the order applies, and copies of these documents are sent to the province to confirm DFAA approval. At that point the Assistance department is ready to receive preliminary cost estimates and authorize payments.

OCIPEP breaks down payments into two types: according to the DFAA, an *Advance Payment* “of a portion of the federal contribution may be made as soon as the estimates and expenditures sufficient to justify an advance payment have been compiled.” Advance Payments are made after the Special Order is issued but usually before a detailed audit is completed; they are negotiated between the provincial legislature and the Director-level of OCIPEP, and they can be issued repeatedly until a total amount of funding is agreed upon by the province and OCIPEP. Advance payments can be small or large amounts; in some cases the Advance payments constitute the bulk of the money administered, all before audits have been completed.

The second type of payment, *Final Payment*, is issued after a detailed audit has been completed and the province and OCIPEP have agreed that no new claims will be submitted; the last payment is made and the ‘account’ is closed for that event. The total amount is usually based on a detailed audit of all claims submitted by the province, which includes all provincial, municipal and individual level damages considered DFAAable. The DFAA stipulates that “[a]udits will be conducted by the Audit Services Bureau of

Supply and Services Canada;” my source has informed me that the Director prefers to use the same auditors repeatedly because they develop a familiarity with DFAA guidelines that makes them more reliable and autonomous in their decisions regarding ‘gray-area’ claims.

I will discuss two ways in which these processes are important to my argument about the classification of events as disasters. First, the inclusion of audits and auditors in the evaluation processes speaks to the advanced state of one aspect of the legibility project. As Callon explicates,

the use of economic tools is only possible *after* the translators have consolidated their networks, managed to mobilize them, and inserted them into performing networks. Such tools then record the equivalences that were successfully imposed and may be used to calculate their relations. It is thus blind to almost all of the processes by which networks are generated and maintained (Callon and Law 1989, 76).

Second, the version of events described by my source emphasizes the essential portion of the classifying work that happens outside the space formally designated for that work.

Whereas the DFAA highlights the involvement of Ministers in the evaluation process (the MND, provincial ministers, the Privy Council), a look at the everyday reality of disaster aid reveals the importance of the administrative work that lays the foundation for and often determines the course of the official processes. The administrative-level work is standardized, demonstrating characteristics of a normalized process which is part of a state project of legibility. This is evident in the non-codified but regularized flow of interactions from provincial ministers to the Regional Directors, to the Director and then to the Privy Council, as well as in the existence of standard forms which are filled out with specific details from a given event. At the same time, though, this work is ad-hoc

because it takes place outside the codified parameters set up by the DFAA. In chapter 1, I positioned myself somewhat outside Bowker and Star's methodology, because they focus on classification schemes in the form of master documents, and discuss work-arounds as exceptions to an otherwise methodical process. Having reviewed some of the key empirical material, I want to re-emphasize that the general classificatory activities (individual assessment, group communications, negotiations, meetings, etc.) which underlie financial disaster aid *are mostly ad-hoc and non-codified, and yet they follow standardized patterns*. Looking exclusively at the codified material does not reveal the entire story of complex and heterogeneous interactions that make up this techno-economic network. I will briefly review some theory which provides another way to view this 'double-nature' of disaster relief activities before moving on to discuss possible future changes to the DFAA manual.

Callon's discussion of technology and networks returns us to the issue of perspective raised above.

Forms of talk treating technology as an uncontrolled and autonomous force— as an actor in its own right— gained ground over those treating it as an instrument or tool. Thus quite minimal changes may transform intermediaries into actors, or actors back into intermediaries. It is a question of where the buck stops. Either you focus on the group itself, and go on further, in which case you have an actor. Or you pass through it into the networks that lie beyond, and you have a simple intermediary (Callon 1991, 142).

In my analysis, the administrative-level can be taken as either actor or intermediary by shifting the focus from the importance that level plays in the actual classifying work, to the position taken by that level in the larger techno-economic network which authorizes disaster aid payments. But it is Law who provides a way to take an even closer look at

the process, when he discusses the ways in which individuals are heterogeneous power agents. Law begins by reviewing Barnes's attempt to dichotomize power roles:

For Barnes, then, the powerful (whom he calls 'powers' or 'power holders') concentrate not only capacity for action, but discretion in its use. They hold the potential not only to act (which we all have) but the potential to choose between lines of action. Barnes' 'powers' are thus to be distinguished from agents—he calls these 'authorities'— which switch routines on and off without having discretion: "Authorities may be considered, in the first instance, as mere relays in developed systems of control. They direct routines in response to external signs or instructions (Barnes, 1988:73)." Barnes' distinction between powers and authorities is important. It fits, for instance, with the kinds of distinctions that we routinely make between representatives and delegates, or between policy-makers and mere functionaries (Law 1991, 171).

But Law goes on to critique Barnes for over-simplifying discretion: If the discretion comes from within an agent then the agent is a power, and if it is external to the agent then he is only an authority. Law wants to maintain the observer's ability to distinguish different kinds of power while losing the precise, essentialist distinction which Barnes is proposing. Law introduces the concept of heterogeneity so as to emphasize that "agents are typically treated and experienced as powers from some points of view, whereas they look like authorities from others. Accordingly, the distinction (or continuum) is best treated as a *relational* matter" (Law 1991, 171). This perspective allows me to discuss the players involved in the disaster classifying work as powers and authorities, or, in Callon's terms, both networks and nodes; this allows a more complete understanding of the different (heterogeneous) nature of the roles that even individuals play in complex, large scale negotiations. Officially, the Director of Financial Assistance Programs at OCIPPEP is an authority, an agent, a node; he is a relay in a larger system. That relay may be unavoidable for all those entering the system, but according to the DFAA's text, that

relay does nothing more than “direct routines in response to external signs.” But when one considers that in the everyday reality of disaster relief negotiations, a) cases which are rejected by the Director do not reach the higher powers; b) almost all cases approved by the Director get funding; and c) *the ‘powers’ act based primarily on the recommendations of the ‘authorities’*, we see the relay as something much more important. Law’s prescription of maintaining a relational perspective is key to grasping fully the complexity of the role played by the Director and the influence that he has in the larger processes.

The DFAA’s future

Bowker and Star state that “[o]bjects exist, with respect to a community, along a trajectory of naturalization. This trajectory has elements of both ambiguity and duration. It is not predetermined whether an object will ever become naturalized, or how long it will remain so; rather, practice-activity is required to make it so and keep it so” (Bowker and Star 1999, 299). My goal has been to show the DFAA guidelines as one part of an ongoing state project of legibility; further, to show that the complexity of the classifying work going on within that project cannot be fully accounted for by referring exclusively to the DFAA manual, since the involvement of state officials is at least as important. In this section I will discuss some changes being considered by OCIPEP for the guidelines, in order to support my portrayal of the guidelines as a work-in-progress intended to create manipulable objects called ‘DFAAable disasters’.

According to my OCIPEP source, there have been numerous attempts to institute changes to the DFAA guidelines (Chapters I and III of the overall manual) since 1970,

and none have succeeded¹⁹. Changes proposed by OCIEP tended to be put on the ‘backburner’ by Cabinet as other matters superceded them. After the Oka Crisis in 1990, the Treasury Board requested that eligibility requirements be ‘tightened’ so that events like the standoff would not qualify. Although the request was formulated as a few sentences in a long Treasury report, OCIEP officials were quickly put to work on making changes²⁰. Nevertheless, changes were not made to the text of the guidelines at that time.

At some point in time OCIEP considered revising the financial hardship threshold to account for inflation, by raising it from \$1 per capita to \$4. Provincial legislatures reacted to that possibility by placing DFAA revisions high on their list of important matters to discuss at a Provincial Ministers’ meeting in 1998. Their goals were, first, to prevent that change and, second, to find ways to involve themselves in any changes that might be made in disaster funding policies. My source attributes that provincial meeting as the drive behind the current ‘overhaul’ of DFAA guidelines.

This overhaul has been going on for roughly one year and has involved OCIEP in discussions with the provinces as well as other Canadian ministries and offices. There are two key issues at stake: first, some change to the financial hardship formula to deal with inflation. Second, and more relevant to my argument, OCIEP wants to change the DFAA by including a definition of a disaster which will serve to clarify the kinds of events which will and will not be eligible for funding. The inclusion of a definition is

¹⁹ This concerns changes specifically to the guidelines, chapters I and III. As discussed above, there have been many changes made to the manual, in the form of examples added to the Interpretation chapters.

²⁰ Treasury Canada has played this influential ‘policing’ role a number of times with respect to disaster funding. I will discuss another occurrence in a case study in the next chapter.

seen as a potentially effective way, following the request made by Treasury in 1991, to ‘tighten up’ funding so as to avoid the inclusion of so-called questionable cases, such as the events surrounding Oka (discussed in the previous chapter) and salmon poisoning in New Brunswick (discussed in the next chapter). I will discuss some issues wrapped up in the development of such a definition presently.

OCIPEP wants to codify what my source calls *unpredictability* into the guidelines. Informally, OCIPEP officials consider DFAA funding as meant to aid provinces when they are struck by events which were unpredictable, with little or no time available for preparation, such as sudden earthquakes or storms. Two examples of events which fail the unpredictability criteria were cited by my source: the computer problems forecast around the millennial calendar change, and a flu pandemic being predicted currently by Health Canada. In both cases there is and was enough time for those who could be immediately affected to take precautions necessary to avoid financial hardship, and so these would generally be ruled as non-DFAAable disasters. While unpredictability is already an important informal criterion active in the ad-hoc classification work surrounding disasters (as illustrated in the next chapter), the current drive is to create a definition of a DFAAable event which would codify and formalize unpredictability as a key component.

The inclusion of a precise definition of a DFAAable event would also allow a shift from funding based on the effects of an event, to funding based on the event itself. In the last paragraph I wrote that the millennial calendar change and the flu pandemic would ‘generally’ have been ruled non-DFAAable. However, my source stipulated that

within the damages caused by any event, there can be eligible and ineligible damages.

He referred to the example of forest fires, which are categorically excluded *as an event* from DFAA funding. Nonetheless, evacuations due to those same fires are considered DFAAable because, to paraphrase him, evacuations are the kind of cost which could result from any other kind of disaster; there is no mention of this distinction in the manual. The ideal definition of a DFAAable event would codify this flexibility, maintaining an emphasis on *events* but allowing for certain kinds of general *effects* to receive special consideration.

Codified flexibility is the desired end for any document which is intended to govern responses to reality, such as the DFAA manual. Codifying what are currently ad-hoc, local and subjective interpretations would represent a further step in the process of creating a reliable, effective tool for classifying disasters; it would be the next step in forming, out of the general category ‘disasters’, a new, more manageable object called ‘DFAAable disasters’. A definition which could effectively define the object would remove the need for negative examples in the DFAA, as it would positively classify all potential events as either inside or outside the new category; thus, it would move state officials out of Scott’s nightmare situation. But Bowker and Star provide the following warning when they define and state the ideal characteristics of a classification system:

A ‘classification system’ is a set of boxes (metaphorical or literal) into which things can be put to then do some kind of work— bureaucratic or knowledge production. In an abstract, ideal sense, a classification system exhibits the following properties: 1. *There are consistent, unique classificatory principles in operation...* 2. *The categories are mutually exclusive...* 3. *The system is complete...* the ideal classification system provides total coverage of the world it describes... No real-world working classification system that we have looked at

meets these ‘simple’ requirements and we doubt that any ever could (Bowker and Star 1999, 10).

The DFAA overhaul outlined above is intended to accomplish all three requirements, and that seems unlikely. Implementation of any one or few of the changes is perhaps more likely, and would represent an advance in the long, winding path which is being taken in this project of legibility. As in 1970 there has not been much discussion between OCIEP and researchers outside the government on this ‘upgrade’ project, although the provinces are being encouraged to consult as widely as possible before coming to OCIEP with requests and suggestions. The Research division of OCIEP has not been consulted much, although my source predicted that they would be included in the effort to come up with a definition. He pointed to the members of the department-director level of OCIEP as the likely authors for final text of the new DFAA, with some involvement of OCIEP’s Policy division.

This concludes my analysis of the DFAA manual, although I will refer to it in the next chapter, when I examine two events which received DFAA funding. In the remainder of this chapter, I will interrogate another key OCIEP document for its usefulness in the legibility project, and compare it to the manual.

The OCIEP ‘Working Document’

The ‘Working Document’ - an effective immutable mobile

The DFAA manual is one of the key documents involved in the ongoing attempt by the Canadian Government to make disasters legible. As Cabinet-approved guidelines which

define official procedures for disaster relief, it is the most obvious example of what SSK theorists call immutable mobiles, which

are representations, such as maps, that have the properties of being, in Latour's words, "presentable, readable and combinable" with one another. Such representations also have "optical consistency," that is, visual modularity and standardized interfaces. They are often flattened to make them tractable in combination. They have the important property of conveying information over a distance (displacement) without themselves changing (immutability) (Star 1995, 91).

The DFAA guidelines are meant to redress disasters as standardized events by defining them in terms of specific criteria related to property damage and cost; this is intended to make disasters easily combinable with government activities related to disasters. But, as I argued above, the DFAA has many gaps which are filled by ad-hoc negotiations and decisions, and these gaps weaken the DFAA's status as an immutable mobile. The DFAA is not irreversible and fully integrated into other networks of relations; it is contentious and, as the case studies in the next chapter illustrate, reversible. However, my source has provided me with another document which, I will argue, is a better immutable mobile with regards to disasters and disaster aid. OCIPEP keeps a spreadsheet called the "Office of Critical Infrastructure Protection and Emergency Preparedness Working Document" which contains information on every event for which a DFAA request was submitted. This spreadsheet is used for quick reference by OCIPEP administrators and has no official status. It is often used on its own, but it is also a kind of index for a large collection of files kept in the OCIPEP office; each file contains all the paper information (letters, e-mails, briefing notes both official and unofficial, press releases, etc.) collected by OCIPEP officials when they were dealing with a particular

claim. I will argue in this section that the Working Document— and by extension, the files— act to define the category which is the target of this legibility project by serving as a material list of exemplars of the category. They reify the object ‘DFAAble event’ by collecting together, under one roof, events which have been judged as a special sub-section of the larger category, disasters.

Presented below as a model is the first entry from the WD:

Province	Event	Audited Total	Federal Share	Paid	Date	Account Closed	Remarks
NFLD-01	1973 Storm	\$1,400,000	\$435,000	\$435,000	Oct-73	X	A sudden severe storm struck the Atlantic provinces on June 17, 1973 causing extensive damage to fishermen's gear. Request for financial assistance from Premier, July 17, 1973.

Each event which has received DFAA funding since the guidelines’ inception in 1970 is included in the WD (as are some events which did not receive funding— discussed below). The *Audited Total* figure represents the total cost of DFAAable repairs, while the *Federal Share* is based on the sliding scale in the DFAA guidelines. The *Paid* column indicates the amount paid to the province at the time of that printing of the WD. The *Account Closed* column is checked off after the Final Payment is made. All dollar amounts are unadjusted for inflation.

In the previous chapter I described the ‘cascading-up’ principle which officially underlies disaster response in Canada: individuals request aid from their municipality, which may request additional aid from the province, which may in turn request federal support for large disasters. Once a request for financial aid has been approved at the

highest level, the same principle works in reverse; according to my source it is the provinces, and not the Canadian Government, which have the responsibility of supplying municipalities and individuals with financial aid after a disaster. In principle, the federal government does not distribute monetary aid to those ‘levels’, it only receives requests from and gives money to provincial governments. All of the dollar amounts in the spreadsheet represent funds transferred to provincial legislatures.

As I discussed in the previous section, current DFAA guidelines do not deal with kinds of disasters. Rather, they specify some of the kinds of damages which are (or are not) eligible as DFAA claims. In a given disaster some of the damages will, and others will not, qualify for DFAA funding. Nevertheless, as I discuss the data from the OCIEP Working Document in the following section, for the sake of clarity I will refer to all events for which any damage was judged DFAAable, and which thus appear in the document, as ‘DFAAable events’. When I discuss the cost of a disaster, I will be referring in fact to the cost of repair for DFAAable damages caused by that disaster.

In his analysis of cadastral maps as a tool and product of state legibility projects, Scott relates what he has discerned to be the process required to render reality manipulable:

The process by which standardized facts susceptible to aggregation are manufactured seems to require at least three steps. The first, indispensable step is the creation of common units of measurement or coding... In the next step, each item or instance falling within a category is counted and classified according to the new unit of assessment... [finally] each fact must be recuperated and brought back on stage, as it were, dressed in a new uniform of official weave— as part of “a series in a total classificatory grid”” (Scott 1998, 80).

Despite the fact that Scott's first two steps had to have been taken before the Working Document could be compiled, the substance (if not the temporal order) of all Scott's steps are reflected in the fields of the WD. The main unit of measure is dollars²¹; following DFAA guidelines, the specific unit is a ratio of cost-of-damages to population, where anything over 1:1 becomes part of the new category. Scott's second step is reflected in one of the manifest functions of the WD, namely, to track the number of events which have been allowed into the category. Since the DFAA was never applied retroactively, there was never any need to go back and count potential entries; the classification has been ongoing. My argument implies that the Working Document shines as an exemplar of Scott's third step: it *is* the 'new uniform of official weave' for disasters, outfitting them so they fall, one after the other, into a clean and orderly list of like events which make up a category.

To repeat a key point, Scott argues that:

The value of the cadastral map lies in its abstraction and universality... The completeness of the cadastral map depends, in a curious way, on its abstract sketchiness, its lack of detail- its thinness. Taken alone, it is essentially a geometric representation of the borders or frontiers between parcels of land. What lies inside the parcel is left blank- unspecified- since it is not germane to the map plotting itself (Scott 1998, 44).

To be of use as a tool in the project of making reality legible, an immutable mobile must include in its makeup areas which are blind to reality— this is the only way to make situations which always have some difference between them seem alike. Scott argues

²¹ One could mount the argument that another common unit of measure might be the kinds of damages funded, since in theory all of the fundable damages have something in common that all of the non-fundable damages do not. However, one way to phrase one of my central points is that the gaps in the text of the manual and the discrepancies which result from their interpretation make any identification of that commonality contentious, if not impossible. As such, I would reject that argument.

that the cadastral map has one blind-spot; I cannot be so precise with my two key documents, but I can contrast their ‘thinness’ and illustrate which one fares better. While both the DFAA manual and the Working Document act as kinds of reference guides, the DFAA includes a higher variety of kinds of information than the WD. Each entry in the Working Document has 8 fields of accompanying data. Were one to include a field for every specification in the DFAA, the fields would number in the hundreds or thousands. Above, when discussing the DFAA, I quoted Bowker and Star’s assertion that no classification system could ever fully describe the world it is meant to represent. I will refer to them again to add the point that “[s]ometimes the decision simply about how fine-grained to make the system has political consequences” (Bowker and Star 1999, 46). I have argued that the political consequences of increasing the ‘resolution’ of the DFAA manual have been to render it susceptible to interrogation, and interpretations of its text controversial, even reversible²². The Working Document presents the history of DFAA funding in a much less controversial form, a simple list of funded events: how can one question whether or not a case *was* included? To escape the projected appearance of objective reality, it is necessary to compare the Working Document with the files that it indexes. The files, containing far more information on each case than the WD, do allow for interrogation: they record the give-and-take among involved parties trying to secure an outcome which best suits their interests. An observer reviewing those files, confronted by the details of negotiation, would have a hard time not finding some subjective reasoning or decision to interrogate. But an observer scanning the data presented in the Working Document sees none of this; they are provided only with

²² As illustrated in the following chapter.

Scott's 'redressed' facts, the data that have been manipulated and stripped of all context which could point out the work involved in making them fit the category. The fields in the Working Document act like the borders on Scott's map: they present only the information which is useful to (and has been made useable by) the state. Any other information about the disasters has been left aside so as to leave the desired data uncluttered.

The 'Working Document' - a double-edged immutable mobile

The Working Document is a stable immutable mobile; while this kind of object relies on the creation of new facts, its usage also leads to new forms of understanding reality. I began chapter 1 by discussing Scott's conception of 'tunnel vision', and how this helps the state to develop knowledge which is unattainable by others without the same resources. One of his important points is that by "[c]ombining several metrics of aggregation, one arrives at quite subtle, complex, heretofore unknown truths" (Scott 1998, 81). This is a goal of any state project of legibility. However, I want to argue now that once reality has been compressed and simplified, there exists the possibility of subverting the intended project. Data which have been stripped of any contextual information can be manipulated in any variety of ways, some of which will lead to perspectives different from and possibly in opposition to the goals of those who did the initial stripping. To support my assertion, I have manipulated the data left in the Working Document so as to frame a potential argument that DFAA funding has been designed to favour Quebec at the expense of other provinces. I am not maintaining this to be the case. My goal here is to illustrate that information without context is a double-

edged blade: its malleability can simultaneously serve and undermine a cause, and as such *any* cause which employs such facts is inherently weakened by their use, and thus contentious.

The spreadsheet lists 122 events for which DFAA funding was requested. In 7 cases there are no amounts indicated for DFAAable costs and the *Remarks* field contains a note that “[f]ederal assistance will not be required as the DFAA threshold will not be reached²³.” This leaves 115 DFAAable disasters between 1970 and 2001, and the unadjusted total audited cost of these disasters amounts to \$1,601,553,019.

According to the evaluation process defined in the DFAA and described to me by my source, the federal government audits all DFAA claims, determines which are eligible for funding and then pays out an amount based on the sliding scale in the DFAA. However, as discussed above, Advance Payments are often made before the official audit is completed; in some cases large amounts appear in the ‘Federal Share’ box of the spreadsheet, while there is no amount in the ‘Total Cost’ box for that event (two examples are the \$320 million paid to Quebec for 1996 flooding and \$150 million paid to Ontario for the 1998 Ice Storm). In cases like these, the amounts paid out by the federal government are labeled in the spreadsheet as “Estimates only.” If one compares the totals of these two categories, the amount spent by the federal government (\$1,658,864,479) actually surpasses the total audited cost of the disasters by almost \$58 million dollars.

²³ The DFAA threshold, again, is based on damages exceeding \$1 per capita of the provincial population.

Table 2: Disasters by Province

Province	Cases	Audited Cost	Federal Share
Newfoundland	12	\$29,522,508	\$17,103,127
Prince Edward Island	5	\$2,658,054	\$2,735,764
Nova Scotia	5	\$9,563,800	\$6,163,350
New Brunswick	16	\$44,625,973	\$59,270,256
Quebec	12	\$854,002,897	\$968,374,766
Ontario	2	No Audit	\$150,075,000
Manitoba	16	\$285,914,521	\$263,588,596
Saskatchewan	8	\$ 24,442,980	\$14,567,496
Alberta	12	\$177,144,912	\$111,665,263
British Columbia	19	\$168,322,472	\$61,004,502
Northwest Territories	4	\$2,303,251	\$1,651,281
Yukon	4	\$3,051,651	\$2,665,078
Total	115	\$1,601,553,019	\$1,658,864,479

The OCIPEP Working document lists 115 events which have received DFAA funding since 1970. Table 2 shows that British Columbia is the province with the highest number of DFAAable disasters at 19, followed by Manitoba and New Brunswick each with 16. Quebec and Newfoundland both have had 12 DFAAable disasters, but Quebec has received more money than any other province for those disasters: 58% of all federal dollars administered through the DFAA have been given to Quebec.

Table 3: Disasters by Type

Type of Event	Cases	Audited Cost	Federal Share
Earthquake	1	\$37,970,666	\$20,891,999
Encephalitis	1	\$2,779,180	\$865,890
PCB Fire	1	\$26,931,008	\$11,897,256
Flood	77	\$717,665,082	\$809,096,892
Forest Fire	3	\$16,021,858	\$12,239,245
Ice/ Snow/ Sleet/ Winter Storm	8	\$603,473,179	\$672,278,794
Infectious Salmon Anaemia (ISA)	1	No Audit	\$13,000,000
Landslide	1	No Audit	\$1,250,000
Oka Crisis	1	\$70,880,629	\$50,650,929
Rain/ Storm	16	\$77,518,658	\$40,769,161
Tornado/ Windstorm/ Hurricane	5	\$48,312,759	\$25,924,313
Total	115	\$1,601,553,019	\$1,658,864,479

Table 3 presents a breakdown of all DFAAable disasters by type of event. Each event in the database is labeled, and I have used these labels to create the categories of events. In cases where I collapsed fields into one category, all of the original event types are reflected in the new category label.

66% of all DFAAable disasters have been floods, which have received 48% of the money paid out by the federal government through the DFAA. The next most highly-funded disaster types are Winter Storms, which have received 41% of all federal funding, despite only 8 occurrences²⁴ (7% of the total number of DFAAable disasters). The Quebec Oka Standoff in 1990, *a single event*, is the third-highest funded disaster-category in my table, having received 3% of all DFAA dollars²⁵. The combined dollars

²⁴ A value skewed by damages from the 1998 Ice Storm.

²⁵ Above, I discussed the importance attributed by OCIEP officials to the quality of 'unpredictableness' in DFAAable disasters. Oka is thus one of the especially controversial cases of DFAAable events, since it centered completely around intentional actions by involved parties. Oka could also have served as a case study for the next chapter, since I was selecting events in which infrastructural inversion occurred due to the especially tough fit between reality and the formal classifying system. However, most of the documents in the OCIEP file for Oka require a security clearance higher than the one I obtained.

spent on all remaining categories of disasters in my table is around \$127 million, or 8% of the total DFAA payouts.

Table 4: Floods by Province

Province	Cases (Floods)	Audited Cost	Federal Share
Newfoundland	5	\$11,543,334	\$7,044,559
Prince Edward Island	1	No Audit	\$600,000
Nova Scotia	0	-	-
New Brunswick	11	\$36,620,473	\$36,454,542
Quebec	6	\$100,803,817	\$355,625,848
Ontario	0	-	-
Manitoba	14	\$265,556,589	\$250,489,782
Saskatchewan	8	\$24,442,980	\$14,567,496
Alberta	10	\$119,173,457	\$80,399,438
British Columbia	17	\$155,299,101	\$58,421,220
Northwest Territories	4	\$1,596,003	\$1,146,410
Yukon	3	\$2,629,328	\$2,347,597
Total	81	\$717,665,082	\$809,096,892

Floods have been the disaster most often funded under the DFAA. British Columbia has had the highest number of floods of all the provinces, roughly 22%, with Manitoba following at 17%. The floods in Manitoba have been audited as the most expensive: 37% of the total \$718 million in audited, DFAAable damages caused by floods happened in Manitoba. Based on the DFAA sliding scale, Manitoba should have received the highest percentage of flood-money from the federal government. However it is Quebec which has received the highest share of DFAA funding for floods: 44% of the money administered under the DFAA for flooding damages has gone to Quebec, despite Quebec floods accounting for just 14% of all audited, DFAA eligible flood damage. This is largely due to the previously mentioned 1996 Quebec flood for which the Government of

Canada has issued an Advance payment (before the completion of an audit) of \$320 million— almost half the cost of all DFAAable floods since 1970.

I have rearranged the figures provided by the OCIPEP Working Document in order to find what Scott called ‘heretofore unknown truths’. My hypothetical argument, that Quebec has received favorable treatment under the DFAA, likely fulfills the criterion of being ‘heretofore unknown’; I know of no sociological research performed with this data, and my source gave me no indication that government officials spend their time looking for new ways to use the Working Document data. And while I make no claim to ‘truth’ with this analysis, I propose that employing this data in a serious effort to compete in what Latour calls the ‘proof-race’— doing the fact-construction work discussed in detail in chapter 2: producing documents, enrolling allies, entering into negotiations, etc.— could result in some truth being constructed around it.

Conclusion

Latour says that “[n]umbers are one of the many ways to sum up, to summarize, to totalise— as the name ‘total’ indicates— to bring together elements which are, nevertheless, not there” (Latour 1987, 234). The Working Document uses numbers more effectively than the DFAA manual, and, as I have argued, does a better job of bringing together those absent elements into a coherent new whole, the DFAAable event. I have argued that the Working Document is a more successful immutable mobile than the DFAA; both are used by OCIPEP officials, and both are tools which serve to further the ongoing state project to make disasters legible. While the Working Document is fully punctualised and stable, use of the manual by individuals with subjective interests can

result in contentious and reversible results. In the concluding chapter I introduce one final immutable mobile which is more fully punctualised, and thus more reliable, than both the DFAA manual and the Working document, but which has no legislative or administrative status. I then discuss some of the reasons for which the greater flexibility allowed by the DFAA manual might be considered favorable within the context of government activities. In the next chapter I review two cases which highlight the ways in which local activities of involved actors affect disaster funding procedures.

Chapter 4. Getting DFAA Funding: 2 case studies

As mentioned in the last chapter, OCIPEP maintains a file on each case which receives DFAA funding. These files are collections of letters, e-mails, internal memos, ministerial briefing notes and other printed documents, and are kept in a filing cabinet at an OCIPEP office in Ottawa. My source provided me with copies of two of these files, each concerning a different event which received DFAA funding but which was in some way an 'odd case' requiring more than the usual amount of time invested in provincial-federal negotiations. As 'odd cases', they occasioned the infrastructural inversion which I discussed in chapter 1 as the aggravation of the fault-line between messy reality and a formal classification scheme; the inversion results in the (usually invisible, normalized) infrastructural work being foregrounded, and thus made observable. The difficulties which arose in these two DFAA cases were unusual in their severity, and resulted in a stretching of the temporal involvement of OCIPEP officials in the claims evaluations processes. Following Bowker and Star, I argue that rather than acting as exceptions to the general case of smooth-flowing DFAA processes, these extreme cases serve to highlight the negotiations which are part of every DFAA request, usually going on unrecognized in the background.

Accessing some of the documents included in these files requires advanced security clearance; my source indicated that the copies given to me were generally complete, but I may not have received some documents.

Case #1 – Infectious Salmon Anaemia

The first file concerns an outbreak of Infectious Salmon Anaemia (ISA) in New Brunswick's salmon farms in 1998. The earliest document in the file is a briefing note (April 21 1998) signed by high-ranking representatives of Fisheries and Oceans Canada, Emergency Preparedness Canada (which became OCIPEP in 2001), the Farm Credit Corporation and Environment Canada. The note points out that the salmon aquaculture industry employs almost 3,000 people and generates "\$11.5 million in annual government revenue, of which \$7.5 million is federal." The note goes on to explain that this outbreak of ISA is the first in North America and while there is no treatment, the virus can be contained. The eradication of existing salmon farms and destruction of most 1997 and 1998 salmon stocks is required, along with the implementation of new prevention and control programs to monitor future smolts. The note states that the "increasing peril of industry collapse due to disease spread... warrants federal support of a compensation package. Significant federal exposure to loss exists as a result of investment in the industry" at a projected total of \$75 million. The note concludes with the recommendation that when the official request for DFAA funding to control the ISA spread is made, the federal government respond positively.

The initial letter of request for DFAA funding, dated April 23 1998, estimates provincial damages from ISA between \$28.7 and \$50 million, surpassing the cost-sharing threshold specified in the DFAA. A briefing note prepared April 24 by the Executive Director of Emergency Preparedness Canada for the MND demonstrates early Director-level support for funding:

the response being prepared for your consideration will indicate that although the DFAA are not generally applicable to outbreaks of disease in foodstocks or plants, you are prepared to recommend that they be used in this instance because of the unanticipated and disastrous nature of the ISA epidemic, and on the understanding that New Brunswick will be putting in place measures to prevent a repetition.

A response letter (no date) from the MND (and Emergency Preparedness Canada) to the province includes part of this quote, specifying the special circumstances for approval but leaving out mention of future occurrences.

A separate note (no date) compares the ISA in New Brunswick to an outbreak of the scrapie disease in sheep flocks in Quebec. The intention of this note is to prepare the MND for questions in Parliament comparing the two cases, as the scrapie outbreak was refused funding. Two key differences between the breakouts are cited: First, DFAA funding is intended for damages which are not insurable or dealt with under any other federal program, and while scrapie infection is provided for under the Animal Health Act, ISA is not covered in any program. Second, “scrapie is a recurring disease. It is considered in the same light as the depletions of fishing stocks on the west coast... which are not disasters in terms of the DFAA because they are considered normal risks of the trade and are not of an unexpected or unforeseeable nature.” This outbreak of ISA is the first in North American fish farms, although the disease is a regular threat in some European farms. The argument presented in this note is thus that the ISA breakout qualifies as a DFAAable event because it could not have been foreseen; this argument is key to the larger legibility project going on.

A note from Emergency Preparedness Canada to the MND (October 19, 1998) takes up the argument of unpredictability in more depth, repeatedly emphasizing the

“unanticipated and disastrous” nature of the ISA breakout as reasons to support DFAA funding. Neither ‘unanticipated’ nor ‘disastrous’ appear in the text of the DFAA as qualifiers for eligible disasters, and yet they have become the two central criteria in Emergency Preparedness Canada’s push for funding for the ISA problem. The briefing refers more directly to the text of the DFAA by specifying that “the request conforms to the DFAA Guidelines– this is an extraordinary situation that imposes an undue burden to the provincial economy, the losses were not insurable, no other federal government program is applicable, the assistance will go to eligible recipients and the province is actually making the expenditures.” The stipulation concerning future occurrences is expanded: “the cost of preventing the disaster from re-occurring is the responsibility of the province alone. Of course, now that the threat of the disease is known, any subsequent outbreak would be difficult to categorize as an unforeseeable disaster.” This language makes a key point in regards to the development of a DFAAable object: the main difference between a disaster (any occurrence of ISA which drastically affects fish farms) and a DFAAable disaster (the first occurrence only) is a claim of unpredictability; DFAAable events are those which were not predictable. But the constructed nature of the unpredictability of this first outbreak becomes evident when one asks ‘since ISA is a well-known threat within the fishing industry and not a new disease, could not the Canadian industry have invested in preventative precautions?’. The feasibility of implementing all possible prevention programs in a given industry is not at question here; the important point is that this case illustrates that one, if not the. key factor which in practice, separates DFAAable disasters from non-DFAAable ones is itself subject to

argument, and completely susceptible to negotiation and subjective interests.

Unpredictability is, in the context of DFAA negotiations, a constructed fact. In this case the province was instructed to institute a Fish Health Recovery Fund in order to “reduce the chance of similar situations in the future, and provide compensation to those affected when they occur.”

The same note shows that despite Emergency Preparedness Canada’s immediate support of the provincial request, six months later DFAA funding had still not been authorized. This also provides one example of the impact of local political and economic interests on disaster relief processes. In one of the regular SCC meetings, Emergency Preparedness Canada members briefed the SCC in order to convey their certainty of the eligibility of the Anaemia outbreak for DFAA funding, according to the guidelines. However officials from the Treasury Board of Canada attended the meeting to advise committee members against approving funding²⁶. The note does not provide the Treasury representatives’ specific reasons, only their recommendations “that some other way be found to share in the cost,” and that the Canadian Government either call the outbreak a “normal risk of the trade,” or argue that the outbreak did not meet the financial burden threshold required by DFAA guidelines. Despite opposition from another powerful office, Emergency Preparedness Canada stood by the position that the outbreak was not a normal risk of trade and that it would exert a burden on the province beyond its coping capacities. There is little detail provided on what kinds of materials (graphs,

²⁶ As discussed in the previous chapter, Treasury Canada has made multiple requests to OCIEP for changes to the DFAA in order to reduce its scope and, as a result, DFAA payouts.

dollar estimates, lists of precedents) each side used to support its case, but Latour's

reference to scientists in laboratories creates a convincing metaphoric image:

inside these centres, specimens, maps, diagrams, logs, questionnaires, and paper forms of all sorts are accumulated and are used by scientists and engineers to escalate the proof race; every domain enters the 'sure path of science' when its spokespersons have so many allies on their side. The tiny number of scientists is more than balanced by the large number of resources they are able to muster (Latour 1987, 232).

Emergency Preparedness Canada enrolled enough resources to win out against Treasury in the end. Privy Council Order No.32, dated December 10, 1998, authorizes the provision of financial assistance in accordance with the Emergency Preparedness Act, to be administered through the DFAA. No mention is made in the order regarding future occurrences of ISA.

The most interesting part of the story told by this file happens after the Order in Council issued in 1998. Latour argues that "[t]he construction and dismantling of the same statement can be monitored by direct observation, so that what was a 'thing out there' can be seen to fold back into a statement which is referred to as a 'mere string of words,' a 'fiction' or an 'artefact'" (Latour 1979, 180). In this case, the ISA breakout was first constructed as a DFAAable event through work performed by Emergency Preparedness Canada officials; the 'thing out there' created was 'ISA breakout as DFAAable event'. Now we will see that same group (perhaps different individuals) do work to dismantle the new object, in order to reposition the ISA breakout outside the 'DFAAable event' category.

After 2 years of federal funding of activities to control the ISA outbreak, the provincial and Canadian governments agreed upon July 31, 2000 as a cut-off date. One e-

mail from the Emergency Preparedness Canada New Brunswick Regional Director (RD) specifies that while auditing had not yet begun, as of July 26, 2000, the province was estimating a total cost close to \$45 million, resulting in a federal share of roughly \$39 million. He emphasized that “these are still estimates, all be it reasonable ones at this stage of the project” (July 26, 2000). However, one week earlier, on July 19, the New Brunswick Minister of Agriculture, Fisheries and Aquaculture had sent a letter to the Canadian Minister of Fisheries and Oceans²⁷ officially requesting a DFAA extension: “While major advances have been made in recovering from the disease... full recovery has not yet been accomplished... [w]hile significant progress has been [made] through discussions with your Department, the industry and provinces on a National Fish Health Program... it appears that a program may not be in place by July 31, 2000.” The letter requested another \$5 million in DFAA monies to support eradication over the following year, without which a resurgence of ISA remained a danger. This was not a new or separate request for aid; the province stated that the job started with DFAA money two years previous was not yet finished, because the danger presented by that outbreak of ISA was still a reality.

Aware of the letter from the New Brunswick Minister requesting a DFAA extension, on July 19 the New-Brunswick Regional Director of Emergency Preparedness Canada sent a memo to the Executive Director General of EPC suggesting refusal for the extension request: “It has always been the understanding that this disease cannot be fully eradicated and that new industry practices, provincial regulations and an industry emergency fund would be established to keep this disease under control. Most of this has

²⁷ The letter was sent to the wrong Minister; the Minister of Defence is responsible for DFAA funding.

already been accomplished.” On July 24 the Executive Director General replied that she “was supportive of and agreed to not extending the deadline... [w]hat is needed now is an overview of the facts... that will give me solid background and rationale for why we won’t extend again.” This request for a ‘rationale’ *after the decision has been made* is important as it illustrates the constructed nature of the knowledge being invoked. The final communication in this collection is a Briefing Note for the Minister of Defence prepared by Emergency Preparedness Canada, dated July 26, 2000. The note recommends that the Minister support Emergency Preparedness Canada’s refusal to extend the DFAA, based on a brief review of some points of DFAA guidelines: the DFAA is designed to deal with the immediate after-effects of a disaster, not to act as an economic recovery program for industries until other provincial or federal programs are put into place. Emergency Preparedness Canada warns the minister that “[a]greeing to extend the DFAA in this circumstance would create a precedent for the arrangements to be looked to as ongoing support and financing for what should be normalized industry practice.”

This last statement includes both the main reason for shifting the ISA breakout back out of the DFAAable category, and the new language used to make the shift possible: The event which was initially called ‘unforeseeable’ and ‘disastrous’ is now being referred to as ‘normalized industry practice’ in order to place it outside the purview of DFAA guidelines. There is no discussion here of precisely when ISA controls became expected as ‘normalized industry practice,’ or why this continued threat of infection-spread is now treated as separate from the initial threat. The ‘why’ is found in the

concern expressed over the establishment of precedent, reinforcing the importance of precedent in the creation of the DFAAable category. In chapter 3, I discussed the importance of the OCIPEP Working Document in the project of legibility; that document reifies the category ‘DFAAable disaster’ as a codified list of all the cases which have been funded and so go to make up the category. Precedent is thus the main tool possessed by OCIPEP officials to hold the category together; the generalized attempts to define the category in the DFAA manual may be confused and imperfect, but the precedents laid out in the Working Document are final and specific examples of the DFAAable event in practice. As such, OCIPEP officials must be continuously on guard for the inclusion of an example in that Working Document which would stretch the category, and thus complicate rather than simplify future applications of the category to reality²⁸. OCIPEP officials saw the ISA breakout as one such example and so had to do work to shift the event partially back out of the DFAAable category. The contentious nature of the category under construction (the DFAAable event) is made clear by the work required to push a real-life event into it, and also by the work which can then push the event back out.

Case #2 – Flooding

The second file to which access was given to me by OCIPEP concerns flooding in areas of Manitoba and Saskatchewan in the summer of 1999. Farmland in both provinces was damaged and the provincial legislatures made simultaneous but separate requests for DFAA funding specifically to aid farmers. The federal government eventually agreed to

²⁸ Such as was shown in chapter 2 to occur with respect to the legislation and the Oka Crisis.

subsidize certain kinds of structural repairs but refused to fund farmland recovery programs, arguing that those damages were either insurable or covered under other federal-level programs and thus ineligible under DFAA guidelines. In an interview, my source added that the DFAA allows funding for flash-floods which strip away top-soil, leaving no plantable ground. In this case water came and stayed, swamping the farmland; despite the effect that nothing could grow, the land was still there underneath the water. This, like the temporal change used in the first case, provided OCIPEP with a route for arguing ineligibility under the DFAA. While Saskatchewan's government went along with that decision, two members of the Manitoba legislature maintained a long letter-writing campaign arguing that the DFAA was being misinterpreted to the misfortune of the province. Latour argues that the

sentence which threatens to dissolve all statements (and careers) takes the conditional form: "*but you might as well say that it is...*" and precedes a list of equally probable statements. The outcome of this formulation is often the dissolution of the statement in noise. So the objective of the game is to carry out all possible maneuvers which might force the scientist (or colleagues) to admit that alternative statements are not equally plausible (Latour 1979, 241).

That is the objective of the task undertaken by the Manitoba Ministers; I will refer to the file to describe their tactics and then argue one possible reason for their failure.

On June 9, Franklin Pitura, the Manitoba Minister of Government Services²⁹, sent a letter to the Minister of National Defense requesting "Federal/Provincial cost-sharing arrangements for disaster financial assistance (DFA), to cover eligible DFA costs incurred as a result of overland flooding and heavy rains;" a preliminary estimate of \$3.2 million in eligible but unspecified damages was included in this letter.

²⁹ Presumably, also the Minister who had been appointed as responsible for emergency preparedness at the time; those duties are not maintained by a dedicated Minister at the provincial level.

The first official communication included in this file from the MND to Manitoba is dated August 6, 1999 and informs the province that the MND intends to recommend to the Governor in Council that damage resulting from seepage and mould be covered by the DFAA, “as it was following the 1997 Red River Flood.” In response to the provincial request for DFAA funding to cover farmland damages caused by the flood, the letter specifies that “because provision is made in whole or in part under other government programs, in accordance with the guidelines such losses are not eligible under the [DFAA].” Comparing this argument to those presented in the first case study reveals how some arbitrary choices are normalized in the course of these negotiations: the issue of financial hardship for the province featured prominently in that first set of negotiations. However, it is dropped entirely from this set once another program is shown to exist which covers the damages, without any investigation into the real ability of the existing program to provide sufficient aid.

By February 2000, a new Minister, Steve Ashton, had been appointed as responsible for emergency preparedness for Manitoba. He took a new approach, stating in the first of a series of letters to the MND that “Manitoba maintains that the costs associated with weed control and the loss of fertilizers and chemicals constitute eligible items under Section 25 of the Disaster Financial Assistance, which states in part that ‘eligible costs shall include restoring farmland to workable condition... [and] restoration of farmland would include... restoration of fertility by manure or commercial fertilizer’” (February 10, 2000). The Minister chose to ignore the clause regarding outside coverage

and pointed to the exact match between the situations described as eligible in the DFAA and the situation in Manitoba.

There is no direct response to the Minister's letter from the MND in the file. A letter dated February 16, 2000— 8 months after the initial request— from the office of the MND to the Manitoba Minister includes copies of "Provincial Emergencies Financial Assistance Order No. 35³⁰." The accompanying letter indicates that the Order authorizes funding according to DFAA guidelines, and does not cover damages to farmland.

On February 24, 2000 the federal government announced a one-time \$400 million aid package for Manitoba and Saskatchewan farmers. A news release discusses that package as part of ongoing agriculture support programs, but the DFAA is not mentioned as one of these programs³¹. The press release does not refer to flooding, indicating instead that the assistance is "designed to help these farmers adjust to higher transportation costs as they face continuing low farm incomes." The next letter from the Manitoba Minister to the MND acknowledges "the much needed injection of funds," and then points out that "the package does not, however, address the effects of spring 1999 flooding in western Manitoba" (March 1, 2000). The letter repeats the earlier reference to section 25 of the DFAA and requests funding specifically aimed at restoring damaged farmland. The reply from the MND repeats that DFAA assistance does not cover damages covered by other programs or insurance, and refers to the specific issues raised

³⁰ The Order itself is dated October 21, 1999. I have been unable to ascertain the exact date on which the provincial legislature was informed of the Order's making. If there was a 4 month lag between the making of the Order and provincial notification, it would provide interesting grounds for investigation. However, that question is not critical to my recounting of the letter-writing campaign maintained by the Manitoba Minister.

³¹ As was discussed in the previous case study, OCIPEP officials are on guard against any establishment of precedent of the DFAA being used as a support program. This stance fits with the desire to encode 'unpredictability' into future versions of the DFAA, as discussed in chapter 3.

by the Manitoba MP for the first time by stating that “within the context of these conditions, the specific agriculture-related costs referred to in your letters, including weed control, loss of applied fertilizer and forage restoration, are not eligible under the DFAA” (March 29, 2000).

The final letter in the file is another from Ashton to the MND dated April 6, and it is odd that no letters follow because a seemingly important point is made in it. Restating his disappointment that the federal government has not authorized DFAA funding for flooding damages to farmland, he adds that “recently announced amendments to other agricultural programs do not offer specific relief to farmers affected by weed infestations, or losses of fertilizers, chemicals, hay or forage lands as a result of flooding disaster. I am advised that these losses are neither insurable, nor are they covered in whole or in part by other Federal Government programs.” No source is cited for this claim which, if validated conclusively would seem completely to subvert the Canadian Government’s argument for refusing DFAA funding.

In my discussion of the ISA poisoning above, I quoted Latour discussing how a small number of scientists may enroll a large number of allies, both human and material, in order to “escalate the proof race.” This is a sure tactic in the kinds of negotiations going on around DFAA funding, most specifically involving the use of documents such as the OCIEP files and Working Document which, as immutable mobiles, collect and compress volumes of information into a portable, manipulable set of data. In the case of the 1999 Manitoba flooding, the federal government made more effective use of this technique than did the Manitoba Ministers: The federal level referred immediately to the

language in the DFAA manual which supported the refusal of funding; the provincial level tried to counter by referring to other sections of the DFAA which seemed to support funding, and this manoeuvre failed. There are too many gaps in the DFAA for it to be used effectively as a tool to secure funding; it is unreliable and contentious, allowing for too many opposing and opposable interpretations. I propose that a more effective technique may have been for the provincial level to refer to the OCIPEP working document for support. There are 77 floods and 16 rain/storm events listed in the document. Had provincial officials been able to find evidence of past funding of similar events they would have had a much more reliable and powerful ally on their side than the DFAA; they would have had *precedent* working for them. I have not been able to gain enough access to these files to discern whether or not there is a comparable event, and it may be that the province did investigate that possibility and found no precedent. Regardless of these possibilities, the point is that the OCIPEP Working Document is a codified non-contentious representation of the category 'DFAAable disaster', and as such is a reified object which can be used in the negotiations which constitute DFAA funding routines. As an immutable mobile, the Working Document is the most highly developed part of the large, ongoing project to make disasters legible to the state.

Conclusion

My goal in this chapter was to review these two events in order to employ Bowker and Star's recommended methodology of investigating cases in which some infrastructural inversion has occurred. In both cases, I was able to support points I had made in earlier chapters regarding the gappiness of the DFAA manual and the involvement of subjective

interests in the negotiations which surround disaster relief funding. These cases illustrate that disasters are partially legibilized objects. There are standardized procedures in place to deal with them, but these systems cannot function as a reliable classifying machine: they are too dependent on ad-hoc interpretation and individual intervention. In my final chapter I will draw more detailed links between these case studies and the rest of this thesis in order to evaluate the effectiveness of my project and list some possible next steps.

One final Immutable Mobile

Before reviewing and tying together the threads of this paper, I will briefly discuss one final data-set from the Canadian Government discourse. I have left this last item of empirical analysis to the end for two reasons: First, this data set is neither legislative nor administrative, and as such I felt that it would have disrupted the themes of the other empirical chapters. Second, now that I have discussed those specific discourses, I will be able to demonstrate that the most highly developed disaster-related immutable mobile employed by the Canadian Government currently does no work which aids the state in advancing the project of legibility.

The Canadian Disaster Database

OCIPEP maintains a computer file generally called the EPC Disaster Database which is available to the public via the internet. This database contains information on over 800 events which have occurred throughout Canada since 1900, and they are in the database because they fulfill a very long set of criteria. A manual, written by Carol Tudor of the Office of the Senior Scientific Advisor of the Canadian Government, accompanies the database. The manual includes a section called “Definition of a Disaster” which begins with the statement that “for the purpose of a database, a clear definition of disaster is required to determine which events qualify for inclusion” (Tudor 1997, 2). Definitions are quoted from various dictionaries and disaster literature, and then factors such as number of deaths, dollar value of damages and media coverage are discussed briefly as possible criteria for “specific limitations on the definition” (Tudor 1997, 3) for the

database. After the assurance that the database is not meant to trivialize disasters, the document reads:

After much deliberation, the following definition was chosen: A disaster is an interruption in time and space of normal processes causing death, injury or homelessness, economic or property loss, and/or significant environmental damage. The interruption is beyond the coping capacity of the community and/or is beyond the assumed risk factors of human activity. Assumed risk is inherent in most human activity such as transportation and handling of dangerous goods. The interruption precludes war. The community is able to cope with an event if and only if (i) there is no requirement for assistance from outside the community, (ii) the community can assume the cost of the event, and (iii) normal community activity is not disrupted because of the event.

Some elaboration is added:

Note that with this definition, it is not essential that deaths occur in order that an event constitute a disaster. Also, there is no minimum economic loss to qualify the event as a disaster, as communities have different financial resources available for protection and recovery. The caveat of the community coping with an event is meant to override any preset dollar figures... Certain human activities involve levels of risk acceptable to society, but with possible loss of life or injury as a consequence. This factor results in a bias in the choice of events included in the database, where natural phenomena causing death or destruction are always considered disasters, while human-caused events are more strictly judged. Although the loss of life in one type of disaster is no more or less tragic than in another, there is an element of surprise or helplessness in natural events. Thus, human-caused events causing death or injury, namely transportation, civil unrest, mining accidents, fires, and hazardous chemicals, are not included in the database unless they were significant enough to disrupt a community (Tudor 1997, 4).

This is the most developed definition provided for a disaster which I have found in any Government of Canada document, and this stems only partly from the fact that it is one of the few documents to employ the object 'disaster'. As do all the various mobilizations discussed throughout this paper, it focuses on possible consequences of events, rather than event-types. However, adding new elements to the mix, the Database provides a

more precisely detailed definition of a disaster than any of the legislation, while accounting for more elements than the DFAA, which focuses on provincial financial hardship and property damage³². In referring to particular kinds of consequences (homelessness, injury, disruption, etc.) this definition is a strong positive one, unlike the DFAA guidelines which depend on negative examples. The added note concerning natural disasters versus human accidents allows the document to be reflexive, adding a level of *self-contained* precision which is unavailable in any of the other legislative and administrative tools. While this definition does leave the concept of ‘assumed human risk’ fuzzy, on the whole it stands as the most complete immutable mobile: unlike the DFAA, this immutable mobile *can* be black-boxed, and unlike the Working Document, it does not require constant manipulation to be useful as a tool for judging new, potential entries into the category.

As I mentioned above, the Disaster Database has no active role in any government process dealing with disasters; it is officially maintained solely for the purposes of researchers. No legislative or administrative document refers to this Database, and no state official is charged with taking its definition into account when dealing with disasters. There are likely a variety of reasons for this, but I submit that one possible reason is that the definition here is too precise, and not, in Scott’s terms, thin enough.

³² There are 548 events listed in the Disaster Database since 1970; the DFAA working document lists 115 cases which have received funding since its inception in that year. It would seem safe to assume that any event which was significant enough to receive DFAA funding will also be included in the database, what with the DFAA requirement for provincial financial hardship and the Database’s definition of a disaster as an event beyond the coping capacity of the community. However, while one of the odd DFAA cases discussed above (the Oka Crisis) is included in the Disaster Database, the ISA poisoning discussed in chapter 4 is not— another example of how DFAA guidelines have not yet been fully punctualised in larger techno-economic networks.

Scott emphasized that cadastral maps were useful to the state because they could highlight one chosen aspect of reality (divisions of land) while totally ignoring other related aspects (land type, flora, etc.). This allowed the state to focus on the bit of reality most suited to its needs (taxation), while disregarding other, less desirable matters. State projects will have as their goal matters which are of interest to the state, and it may be that the DFAA guidelines (as well as the open-ended definitions provided in the legislation) grant easier access to that goal than would the use of the Database's definition. The gaps in the guidelines supply the forms which must be taken by the ad-hoc negotiations to complete the classifying work; without those gaps negotiations would not be possible, and negotiation is one of the principal functions which state officials at that level undertake. Negotiations may also be valued because they maintain the appearance of a 'human factor' in the disaster-funding processes. Even though a black-boxed classification scheme—a fully reliable immutable mobile—would be a human creation, it may be that the removal of ad-hoc negotiation from the processes would lead too much to the appearance of an automated system with no potential for sympathy for the specifics of real-life events. This would suggest that the goal of state projects is not to create fully reliable immutable mobiles (as is the case, according to SSK researchers, with scientific projects), but rather to develop tools which aid state officials in rendering reality into manipulable data only to a certain point, beyond which space would be maintained for ad-hoc, 'human' interactions in order to ensure the inclusion of some local and subjective interests in the formalized proceedings. A possible next step in the study

of legibility projects could be to look for other projects in which key classification work is performed by systems which exclude human actors.

Concluding Remarks

Starting from my desire to investigate possibilities for knowing, I took the interrogation of common-sense perceptions of truth as an effective way to proceed with that investigation. I proposed that disasters appear obvious and real but are, at least in part, socially constructed objects. I reviewed sociological theory dealing with state projects of legibility and scientific thought that I found effectively to interrogate formalized truth claims which surround disasters, in order to reveal the constructed nature of that knowledge. I argued that, as part of the overall state project discussed by Scott, the Canadian Government is engaged in an ongoing project to render disasters into forms which are easily manipulated. I found that within the legislative discourse, that project is undermined by overlapping uses of the key object 'national emergency', whereas the project is more advanced at the administrative level, where two key documents operate to build the new object 'DFAAable disasters'. I then showed that while 'DFAAable disaster' is a more precisely constructed category than 'national emergencies' at present, it has not yet fully stabilized, and, as such, is contentious and has been 'un-made' through the work of state officials. Finally I argued above that it may be within 'state interests' to prevent immutable mobiles from becoming fully stabilized, because this would eliminate ad-hoc negotiations— which convey the appearance of sympathy and 'humane-ness' more than do fully automated classifying systems— from government classifying work.

I have illustrated some ways in which SSK theory can be used to enhance empirical studies taking place outside the laboratory. The concepts developed to explore the constructed nature of scientific truth claims can be used to supplement state-project work such as Scott's, which interrogates other kinds of formal truth claims but does not problematize the 'micro-processes' of everyday life to the same degree as SSK work. State-project theory like Scott's would also benefit from interrogation from perspectives such as that taken in Philips Abrams's "Notes on the Difficulty of Studying the State" (1988), which rejects the invocation of 'the state' as a unified, monolithic actor, and emphasizes the heterogeneous agencies, ideologies and actors which should not simply be grouped together as a unit.

As a gesture of thanks to the reader who has made it here, I end my paper with this true anecdote, in order to illustrate one last time the state of the disaster legibility project in the Canadian government: When I began researching the data provided by the federal government, one contact in the Research branch of OCIEP advised me that the Disaster Database was put together independently of any administrative functioning within the government, and that the data in it could not be taken to reflect government policy on disaster relief or aid. She specified that a more suitable place to look would be in the legislation, or at the ways in which DFAA payments are made. Later on in my research, another source working in the Payments department of OCIEP thought it important that I understand that for their purposes, the definition of a disaster was restricted to the workings of the DFAA guidelines. When asked, he answered that he did not think that the DFAA definition was an accurate indication of Government of Canada

policy towards disasters. He suggested, instead, that I investigate the Disaster Database maintained by the Research branch.

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