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A New Case Study for Classification Theory

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Résumé de l'article

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Sorting Out Disasters: A New Case Study for Classification Theory

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With their book Sorting Things Out: Classification and its Consequences, 1 Geoffrey Bowker and Susan Star demonstrate that studying classification as social practice provides opportunities for critical insight into the ways in which classification affects everyday realities. Through a series of theoretical and empirical discussions, they highlight just how deeply embedded classifications and standards are in our everyday lives

^{1.} Geoffrey C. Bowker and Susan Leigh Star, Sorting Things Out: Classification and Its Consequences (Cambridge, Massachusetts: MIT Press, 1999).

and the effects, often unnoticed, these systems can have. Numerous empirical cases bolstering the theoretical discussions illustrate the ways in which classification has, to use the authors' well-chosen term, "torqued" human lives to painful degrees (the discussion of South Africa under apartheid is especially powerful).

The analysis developed by Bowker and Star revolves around a conceptual dichotomy between 'formal classification' and 'informal classification.' Formal classification involves systems, schemes or standards, most often bureaucratic, which are ubiquitous to the point of near-invisibility and yet shape the actions of individuals operating within them. Informal classification is the label used by the authors to designate the ad hoc, non-standardized classification practices performed by individuals in response to the demands and constraints imposed on them by formal classification schemes. This dichotomy provides significant theoretical purchase upon the instances of real life classification taken up in Sorting Things Out. However, as I argue here the 'adversarial' relationship the authors posit between the two sides of the dichotomy can be reformulated and made sensitive to more than one kind of relationship between formal and informal classification. To refine Bowker and Star's conceptual tools I rub them against fresh instances of classification not considered in the book: the processes through which the Canadian Government evaluates and responds to requests for financial aid from citizens claiming to have been the victims of events popularly thought of as disasters. Disasters are fertile, unexplored sites for sociological analyses as they inevitably trigger classification questions such as 'was that a disaster?' or 'does this event merit disaster funding?' I draw on data gathered from Canadian legislation, federal policy documents and interviews with Canadian government officials, to highlight instances in which formal and informal classification do not have an adversarial relationship, as asserted by Bowker and Star, but a complementary one.

Classification Divided: Formal vs. Informal

Bowker and Star take a dichotomized model of classification as their conceptual point of departure. On one side of the divide we are presented with informal classification as everyday activities performed by people, referred to alternately as 'human,' 'ad hoc,' 'folk,' 'vernacular,' 'local,' and 'of limited duration.' On the other side, the authors posit formal classification as bureaucratic, standardized and systemic (as well as scientific, discussed below). A central thesis is that as people engage in everyday, informal classification activities (sorting the mail, planning our day, selecting our groceries, etc.), "we rub these ad hoc classifications

against an increasingly elaborate large-scale system of formal categories and standards." This fully captures the dichotomy, projecting an image of 'human' classification being rubbed 'against' formal, systemic classification as if it were a wall. 'We' perform informal, ad hoc classification, but we do not perform formal, systemic classification—rather, we perform 'up against' it.

Informal classification processes are also called 'work-arounds' as they are consistently presented as subversive of formal classification systems. Work-arounds are portrayed exclusively as a feature of informal classifying, exogenous to formal classifying. For example, in discussing work-arounds and standards the authors argue, "imposed standards will produce work-arounds. Because imposed standards cannot account for every local contingency, users will tailor standardized forms, information systems, schedules, and so forth to fit their needs." Bowker and Star argue that formal classification systems cannot in practice be sufficiently tailored to successfully respond to all possible local, real conditions presented to them. In response, people inevitably develop their own classifying techniques that inevitably operate through some subversion of the formal scheme.

Throughout their case-studies, whether discussing nurses' work in hospitals, medical classification of diseases or life in apartheid South Africa, Bowker and Star repeatedly show fractures developing between formal and informal classifying, and show that the people who must navigate these fractures do so through the development of their own informal work-arounds. These treatments, however, do not address, either empirically or theoretically, instances in which informal classification, rather than being an outside response intended to subvert a formal classification system, is actually demanded by a formal system, thereby buttressing it. Explicating such a relationship of 'reinforcement' between formal and informal classifying would still depend on the conceptual dichotomy developed by Bowker and Star, but would also strengthen it by mapping a new complexity into the relationship between its parts.

I present such a case study in the next section, in which I discuss the classification of disasters, for purposes of financial compensation, by the Canadian Government. Disaster funding presents a new and useful empirical avenue into analyses of classification as social practice for a variety of reasons. Canadian federal disaster funding offers empirical data, in the form of federal and provincial legislation, policy, insiders' documentation and personal communications, yet untapped by social

^{2.} Ibid., 6.

^{3.} Ibid., 158.

scientists seeking to study questions of social practice through the lens of classification theory. By applying Bowker and Star's conceptual tools to the case of Canadian disaster funding, I show that, in practice, informal classification is not limited to a subversive and reactive role with respect to formal schemes. In this instance, formal classification actually calls for the performance of informal classification by those individuals working within its bureaucratic frameworks.

Given Bowker and Star's linking of formal classification with bureaucratic systems and schemes, I place federal legislation and written policy concerning disaster funding on the formal side of the divide. Given their linking of informal classification with everyday human activity and work-arounds, I place the everyday activities of federal administrators and the ways in which they have tailored legislation and policy to aid their own tasks on the informal side of the divide.

Classifying Disasters: Formal Classification

The Legislation

Canadian legislation does not take up questions of financial compensation for disasters in any detail; for this one must examine federal policy, which I discuss below. However, there are two pieces of legislation, The Emergencies Act (R.S.C., 1985, c. 22 (4th supp.)) and The Emergency Preparedness Act (R.S.C., 1985, c. 6 (4th supp.)), from which all policy and procedures involved in federal and provincial disaster response derive legal authority; I begin by reviewing these.

The Emergencies Act defines a 'national emergency' as "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). The Act distinguishes four types of national emergencies, and a Public Welfare Emergency is defined as "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)⁴.

That is the extent to which the text of the Emergencies Act deals with disasters or federal disaster response, but a Government of Canada Fact Sheet, an online information document without any official status called 'Canada's Emergency Management System', specifies that:

Emergency management in Canada is based on the following principles: It is up to the individual to know what to do in an emergency. If the individual is unable to cope, governments respond progressively, as their capabilities and resources are needed. Most local emergencies are managed by local response organizations, which are normally the first to respond. Every province and territory also has an Emergency Measures Organization (EMO), which manages any large scale emergencies (prevention, preparedness, response and recovery) and provides assistance and support to municipal or community response teams as required. ⁵

This model, where aid is requested from below to the next higher level, rather than offered down, is how Canadian disaster response flows across all levels of government; federal officials call it the 'cascading-up' model⁶. Payments are made following the same scheme in reverse: federal payments are received only by provincial governments, who transfer the funds out to municipalities that have the responsibility of distributing payments to individuals and households.

The second relevant piece of legislation, the Emergency Preparedness Act, lists Ministerial responsibilities "for advancing civil preparedness in Canada for emergencies of all types, including... the development and implementation of civil emergency plans." Included in these duties are "the provision of assistance, other than financial assistance, to a province during or after a provincial emergency; and to provide financial assistance to a province when authorized pursuant to section 9" (s.5, 2b and 2c). The relevant portions of section 9 read as follows:

^{4.} Of the four types of national emergency outlined in the Emergencies Act, this is the only one relating to disasters. The other three types distinguish different kinds of human-caused emergencies.

^{5.} Canada's Emergency Management System, 2004, http://www.ocipep.gc.ca/info_pro/fact_sheets/general/PDF/english/EM_can_emerg_man_sys.pdf (March 2006), Critical Infrastructure Protection and Emergency Preparedness, Government of Canada. This web-page has recently been archived because of oranizational adjustments within federal disaster response.

^{6.} 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.

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 assistance.

Disasters need not be so severe as to be declared a 'national emergency', pursuant to the Emergencies Act, in order to invoke federal financial aid. All that is required is that the event be evaluated as serious enough to 'be of concern to the federal government'. The criteria for making that determination are not elaborated within any Canadian legislation—to find those one must turn to federal policy. The office of Critical Infrastructure Protection and Emergency Preparedness is the only federal office officially responsible for utilizing disaster-funding policy.

The Federal Office Responsible for Disaster Classification

Until 2003, all disaster preparedness and financial aid duties were the responsibility of offices within the portfolio of the Ministry of Defense. In 2003 a new federal department with its own Minister was created. called Public Safety and Emergency Preparedness⁷. This department now handles disaster preparedness duties through an office currently designated Critical Infrastructure Protection and Emergency Preparedness (CIPEP). CIPEP derives its legislative authority and mandate from the Emergency Preparedness Act and has a variety of responsibilities which are summed up as two "key mandates": (1) "to provide national leadership in a new, modern and comprehensive approach to protecting Canada's critical infrastructure" and (2) "to be the government's primary agent for ensuring national civil emergency preparedness—for all types of emergencies."8 CIPEP is not an emergency response organization that is 'activated' upon declaration of an emergency or disaster, but an administrative body that has ongoing responsibilities to ensure the 'emergency preparedness' of all federal-level government organizations and the public at large. All provincial requests for disaster funding are made directly to CIPEP, and it is CIPEP officials who use disaster-

^{7.} Despite having its own Minister, Public Safety and Emergency Preparedness is referred to within federal discourse as a department and not a Ministry.

^{8.} CIPEP: Who We Are, 2004, http://ww3.psepc-sppcc.gc.ca/whoweare/index_e.asp (March 2006), Critical Infrastructure Protection and Emergency Preparedness, Government of Canada. This web-page has recently been archived because of oranizational adjustments within federal disaster response.

funding policy to evaluate those requests⁹. In these evaluations CIPEP officials do indeed engage in the kinds of informal, ad hoc classifying proposed by Bowker and Star; however, those practices cannot be considered completely subversive of, or exogenous to, the formal classification scheme within which they occur, as the authors propose. Rather, the formal classification scheme, in the textual form of a policy document called the DFAA, calls for the performance of informal classifying practices.

The Disaster Classification Policy

There is only one document officially recognized as policy that is involved in the processes through which CIPEP officials evaluate funding requests. This policy piece, "Disaster Financial Assistance—Manual to assist in the interpretation of federal guidelines," is a publicly available document containing Cabinet-approved guidelines created in 1970. Before 1970 there were no standardized guidelines in place for federal disaster financial assistance. Without the coordination of a central office like CIPEP, 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. 11

The creation of what was to become known to insiders as the Disaster Financial Assistance Arrangements, or DFAA, is credited to a small group of federal ministers seeking to deal with three separate and financially significant provincial requests for aid in 1970¹². Politicians

^{9.} Much of the information that follows about CIPEP officials and their everyday activities is based on interviews conducted by me with officials within the Canadian Government. These guides did not supply information that is restricted in any official sense; rather, they provided insiders' accounts of everyday, informal disaster classification processes that could not have been discerned with exclusive focus upon written material.

^{10. &}quot;Disaster Financial Assistance: Manual to assist in the interpretation of federal guidelines," EPC 22/88, 1970. Government of Canada Public Information Guide, http://ocipep-bpiepc.gc.ca/prg/em/dfaa/manual-en.asp (March 2006), Government of Canada

^{11.} Exhaustive research into publicly accessible documents such as Parliamentary Debates and Journals yielded no mention of the creation or implementation of this document. This is unsurprising as the Manual has the official designation of 'Cabinet approved guidelines', which can be developed internally by Executive officials without Parliamentary approval.

^{12.} No publicly available documents identify these three events. The first three events listed by the CIPEP Working Document (discussed below) as receiving DFAA funding

and administrators drew up the guidelines; there were no consultations with engineers, social scientists or any other expert groups involved in the study of disasters. Those involved in their creation developed the guidelines as a short-term quick fix for the immediate problems resulting from three simultaneous major disasters, and as a possible first step towards a more permanent program; the guidelines were never intended to serve a long-term solution to questions of disaster aid. Nonetheless, the text created in 1970 is now part of the larger 'Manual' that is considered by CIPEP officials to be the only policy set with official bearing on those evaluations.

The twenty-six page DFAA manual presents two principal criteria which CIPEP officials are expected to use to identify events that are, to use the insiders' term, 'DFAAable,' or eligible for federal aid. These two criteria are provincial financial hardship and eligibility. To qualify, an event must lead to damages the repair of which would constitute "financial hardship" to the province. Chapter one, section two 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, reproduced in Table 1, is a sliding scale where financial hardship begins after the province spends more than \$1 per capita on damages related to that disaster.

Expenditure 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%	

TABLE 1: Formula for determining federal financial assistance

Financial hardship is an effective tool for classifying disasters since it reduces questions of severity to a dollar figure and provides a clear boundary between qualification and non-qualification. It serves as a classifying tool by telling CIPEP officials the one quantifiable characteristic, out of a potentially infinite number of quantifiable and unquantifiable characteristics, on which they should focus.

are a 1970 flood in New Brunswick, a 1970 windstorm in Ontario and a 1971 hurricane in Nova Scotia.

The second principal criterion set out in the DFAA, eligibility, has the opposite effect. Rather than pointing to any clearly defined characteristics, the DFAA's presentation of 'eligibility' is, I argue, designed intentionally to leave that category vague and open to interpretation. Determining eligibility is made exceedingly complicated because the text of the DFAA makes no mention at all of kinds of disasters and at no point are disaster-types related to eligibility for federal funding. Instead, the DFAA provides long lists of examples of costs that are eligible for DFAA funding. The lists are too long to reproduce in full and too heterogeneous to be usefully summarized here. In most cases, however, the descriptions were left short and vague as with the following, each of which is a separate eligible cost: special security measures; special communications facilities; special registration and enquiry services. On the whole, the language used throughout the lists of eligible costs intentionally paints eligibility in very broad strokes. Most importantly, where examples are provided they are not intended to delimit categories, only suggest them. This intentional vagueness has led to difficulties for CIPEP officials in their day-to-day administration of disaster funding. As predicted by Bowker and Star, these officials have had to find their own ways to adapt.

Classifying Disasters: Informal Classification

The first work-around developed by CIPEP officials concerns changes to the text of the DFAA. All lists of eligible costs found in the DFAA were written in 1970—none have been added since. However, the text of the DFAA has roughly quadrupled since 1970 and almost all of the added text has been devoted to lists of ineligible costs. Chapter four, titled 'Interpretation—General Principles', specifies that "given that the aim of the federal arrangements is to provide basic assistance to restore public works to their pre-disaster condition and to facilitate the restoration of essential, personal property of private citizens, farmsteads, and small businesses, certain items are not eligible. These are covered in Chapter three, paragraph 13, of this manual and are further defined as follows"; the rest of chapter is a heterogeneous list of examples of costs with no common link among them. Chapters five and six, titled 'Interpretation-Public Sector' and 'Interpretation-Private Sector' respectively, also focus on very specific examples of kinds of costs that cannot receive DFAA funding. Again, the lists are too heterogeneous to be summed up here because they are a collection of real-life costs that were submitted for disaster funding in a piecemeal fashion after specific events. Any time a new kind of request was made that was not clearly dealt with in the text of the DFAA and a CIPEP official decided to refuse it, that determination

was recorded and eventually added to the text of the Manual. All of the text added to the original Disaster Financial Assistance Arrangements since 1970 was added in order to 'tighten' the broad categories designed into the DFAA. This tightening has been one kind of informal workaround developed by CIPEP officials in response to the openness of the original DFAA guidelines.

Examination of the second CIPEP work-around requires some explanation of the everyday practices involved in disaster classification. The DFAA provides the following instructions for starting the funding request process:

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, 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.

While the DFAA describes the request process as taking place between Ministers, in practice federal administrators do most of the work surrounding disaster-funding requests. The formal letter is usually only sent after there have already been numerous discussions between provincial officials, and administrators working in CIPEP's Department of Financial Assistance Programs: the Director, based in Ottawa, and ten Regional Directors, each based in one province.

The DFAA defines a Regional Director 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." The Regional Director is the first federal official to apply DFAA regulations to provincial claims. If a Regional Director judges that, based on early evidence, damages will qualify for funding she transmits to the CIPEP Director of Financial Assistance Programs certain key details, including examples of damages, estimates of damage dollar-value and a general label for the event that caused the damages. That last detail is important because, notwithstanding the 'tightening' of DFAA guidelines that has taken place since 1970, CIPEP officials continue to have difficulty working within the broad parameters of the DFAA. As a result, they have found a way unofficially to incorporate disaster type into their evaluations, with an informal work-around.

CIPEP keeps an electronic spreadsheet with no Government of Canada title or code that has as its electronic file name "Office of Critical Infrastructure Protection and Emergency Preparedness Working

Document." and is referred to by CIPEP officials as the "Working Document." The Working Document contains information on every event since 1970 for which a DFAA request was submitted. This spreadsheet has no official status and is not considered policy by those who use it. According to my guides, it was created by CIPEP officials as a way to quickly and easily access a written history of DFAA funding. Every time a provincial request for funding is made, a file is started to collect all the paper information (letters, printed e-mails, briefing notes both official and unofficial, press releases, etc.) involved in the evaluation of that claim. Insiders pointed to the general unwieldiness of these paper files as the reason for the creation of the Working Document, which reduces the complexity of each case to a more manageable set of variables. Table 2 is an abstracted model of one entry from the Working Document.

Province	Event	Audited Total	Federal Share	Paid	Date	Account Closed
NFLD-01	1973 Storm	\$0	\$0	\$0	Oct 1973	X

Remarks: 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.

TABLE 2: The Working Document

The 'Event' category is of immediate concern for my argument. Because the Working Document was originally designed to record past events and not for the evaluation of new requests, there was no reason not to include a simple description of the event that caused the damages. At the time, the 'Event' category was considered one indexing tool among many, all developed with the principal goal of facilitating research work. However, I found that CIPEP officials were in fact consulting the Working Document during the preliminary stages of DFAA requests precisely because of the facility afforded by the 'Event' field. I traced this change in working practices to the event commonly referred to as the 'Oka Crisis.'

In the spring of 1990, Mohawks of Kanesatake armed themselves and set up manned roadblocks in order to prevent municipal authorities of the town of Oka, Quebec, from taking possession of land the Mohawks argued belonged to them. In June, after months of halting negotiations, Oka's mayor called in the Sureté du Québec (SQ), the provincial police, to remove the barricades. 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. 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. On the 29th, after some negotiations, soldiers and Mohawks began working together to dismantle the blockades on the Mercier Bridge, and by September 2 all of the barricades on the bridge and in Kanesatake were gone.

In the fall of 1990, the Ouebec government requested and received DFAA funding for certain damages caused during the Oka standoffs. While the event itself was clearly the result of intentional human action and thus not a 'disaster' as specified by the Emergencies Act¹³, officials working for Emergency Preparedness Canada (EPC, the name at the time for the office currently called CIPEP) determined that some of the damages, similar to those incurred by businesses during disasters, qualified for funding under DFAA guidelines of eligibility. A short time later, the Treasury Board of the Canadian Government contacted EPC to request that they 'tighten up' their evaluation scheme so as to disqualify similar future events from receiving funding. That request was enough to motivate EPC officials, from that point forward, to take closer account of the types of events that were behind any DFAA requests. The Working Document, with its easy-to-use 'Event' category, became a classification tool: officials began to compare requests for funding with the history of DFAA funding in order to verify some precedent for funding that type of event. No request for funding had been dismissed because of a lack of precedent; nevertheless, the Working Document and the 'Event type' category have become key elements in the classification of disasters.

The DFAA: Formal and Informal Instead of Formal/Informal

The DFAA begins with the statement "[t]hese guidelines are general in nature and each disaster raises questions relating to their interpretation. This manual is intended to aid in making such interpretations." According to my guides, defining the DFAA as an aid to interpretation rather than a classification system was a deliberate choice on the part of its original designers. Despite the desire for standards and increased

^{13.} As discussed above.

accountability, the federal officials who designed the DFAA felt it appropriate that disaster funding continue to be distributed on the basis of measurable impacts on lives, emphasizing human suffering over an abstracted typology of events. Their goal was to ensure the perpetual inclusion of a 'human element' in decisions of disaster funding, and they therefore intentionally eschewed the development of a rigid, restrictive disaster classification scheme in favour of a more open, suggestive scheme. As discussed, one way this was achieved was to avoid defining categories of eligibility in specific terms, leaving them instead broad or 'fuzzy' and including lists of examples to suggest rather than eliminate possibilities. Thus, Chapter three of the DFAA specifies "[t]hese 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" (emphasis added). Government of Canada officials would be able to use the DFAA to get a sense of kinds of costs that were considered eligible at the time, but could not use the DFAA to reject, outof-hand, new kinds of costs. If the text of the DFAA ended there, the work-arounds developed by CIPEP officials to tighten up its too-broad parameters would support Bowker and Star's model, as we would have a case of work-arounds designed to counter the apparently expansive spending scheme envisioned by the DFAA's designers and built into the formal scheme.

But the designers did more than leave the DFAA guidelines open to interpretation; they went so far as to include in the text of Chapter three the instruction that "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" (emphasis added). This phrase states definitively the necessity for human involvement in and careful consideration of every request for disaster funding, emphasizing the need for analysis of the DFAA policy in such matters. Despite its broad parameters, the DFAA was not intended as an indulgent catch-all; rather, it was designed with the express intention that ad hoc decision-making guided by it, and not rules codified within it, limit disaster funding. The DFAA actually calls for its own workarounds, which are therefore reinforcing rather than subversive of the formal classification system. This is a more nuanced relationship between formal and informal classifying than the strictly adversarial relationship presented in Sorting Things Out.

Conclusions: Reformulating the Dichotomy

Sorting Things Out presents to social scientists powerful conceptual tools with which to interrogate social practice through instances of classification. A subtle yet important addition to be made to Bowker and Star's tool-kit is the recognition that informal, human classification is not necessarily subversive of formal, bureaucratic classification systems. Simply accepting that relationship between formal and informal classification misses the complexities that can be coded into formal systems: if the formal system calls for informal classification as part of its operation, informal classifying will actually reinforce it. A more robust approach to the study of classification maintains the conceptually useful formal/informal divide, but does not presume the character of the relationship between the two sides of the divide. Those studying formal and informal classifying should avoid such assumptions and seek instead to develop understandings of formal and informal classification arising out of the real-life instances of classification under inspection.